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Learning How to Print in Colonial North India: The Nizami Press in Budaun and the First Urdu Manual on the Art of Lithography

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Abstract

This article centers on an Urdu-language manual on lithography, published in 1924 by the Nizami Press in Budaun (United Provinces), to explore how a Muslim printer-publisher in a North Indian *qaṣbah* tried to reform educational methods in his trade. It introduces the Nizami Press (est. 1905) and compares the manual with similar European and Indian instructional handbooks. How did Indian printers and publishers learn their craft? What were the tools and materials used for lithographic printing in colonial India? And given the popularity of lithography, why were such manuals rarely published in Indian languages? By examining the material and technical aspects of the lithographic printing process explained in the Urdu manual, this article engages with larger scholarly debates revolving around knowledge production, pedagogy, and technological developments in South Asia. Furthermore, it analyzes the manual's language to demonstrate how printers and publishers were engaged in discourses about nationalism, modernization, and social reform.

Keywords

print culture – lithography – colonial modernity – knowledge transmission – Urdu – *qaṣbah*

Introduction

The history of the book and the commercialization of print in nineteenth- and early twentieth-century South Asia has received increased scholarly attention in recent years. While previous research on print culture largely emphasized the role of Christian missionaries and the colonial state, newer scholarship has shifted the focus to Indian-owned publishing houses as principal agents in a rapidly growing market of regional-language print in a colonial setting. Few studies have, however, devoted much attention to material and techno-logical aspects of lithographic printing in colonial India or to questions about the ways in which printers and publishers learned their craft.[1]

The arrival of lithography[2] in South Asia in the 1820s, roughly two decades after its invention by Alois Senefelder (d. 1834) around 1796, represents nothing less than a watershed in the history of printing on the subcontinent. In con-trast to typography, which existed in South Asia in some form or another since the 1550s, the new print technology turned out to be far more significant, espe-cially for the effects it had on vernacular-language printing. For Indian printers and publishers working in a multilingual landscape and with multiple scripts, lithography had the advantage over movable type that it was a less expensive, portable, and more user-friendly technology. Proving to be particularly well suited to reproducing the Perso-Arabic script while maintaining a visible prox-imity to the manuscript tradition, lithography became the preferred printing medium for Muslim communities in South Asia.[3]

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1   For an overview of recent scholarship, see Francesca Orsini, *The Hindi Public Sphere, 1920–1940: Language and Literature in the Age of Nationalism* (New Delhi: Oxford University Press, 2002); Abhijit Gupta and Swapan Chakravorty, eds., *Print Areas: Book History in India* (New Delhi: Permanent Black, 2004); Ulrike Stark, *An Empire of Books: The Naval Kishore Press and the Diffusion of the Printed Word in Colonial India* (Ranikhet: Permanent Black, 2008); Ryan Christopher Perkins, "From the *Meḥfil* to the Printed Word: Public Debate and Discourse in Late Colonial India," *The Indian Economic & Social History Review* 50, no. 1 (2013): 47–76; Francesca Orsini, ed., *The History of the Book in South Asia* (Farnham: Ashgate, 2013); Amanda Lanzillo, "Translating the Scribe: Lithographic Print and Vernacularization in Colonial India, 1857–1915," *Comparative Critical Studies* 16, no. 2–3 (2019): 281–300; Megan Eaton Robb, *Print and the Urdu Public: Muslims, Newspapers, and Urban Life in Colonial India* (New York: Oxford University Press, 2021); Cristina Pecchia, Johanna Buss, and Alaka A. Chudal, "Print Cultures in the Making in 19th- and 20th-Century South Asia: Beyond Disciplinary Boundaries," *Philological Encounters* 6, no. 1–2 (2021): 1–14.

2   Lithography takes its name from the Greek terms *lithos* (stone) and *graphein* (to write).

3   Cf. Stark, *An Empire of Books*, 45–49; Graham Shaw, *Printing in Calcutta to 1800: A Description and Checklist of Printing in Late 18th-Century Calcutta* (New York: Oxford University Press, 1981), 14–22; Graham Shaw, "Calcutta: Birthplace of the Indian Lithographed Book," *Journal of the Printing Historical Society* 27 (1998): 89–111; Francis Robinson, "Technology and Religious Change: Islam and the Impact of Print," *Modern Asian Studies* 27, no. 1 (1993): 229–251.

Thanks to a number of pathbreaking recent studies, we know that the spread of print into the interior regions of northern India set in rapidly with the increased availability of lithographic technology since the 1830s.[4] Yet, with few exceptions, scholars of Urdu print culture have rarely focused their attention on the role played by *mofussil* or borderline urban-rural contexts in the development of print and an Urdu reading public.[5] As a result, the influence of small-town or *qaṣbah*-based printers and publishers on culture and politics across North India has not yet been sufficiently explored. For it was in *qaṣbah*s like Budaun that local Urdu publishing houses printed and disseminated pamphlets, newspapers, books, and journals that became increasingly influential beyond their immediate locality, especially in the context of emerging mass movements like the non-cooperation and Khilafat campaigns during the early 1920s.[6]

This article positions itself within an ongoing scholarly debate revolving around processes of the colonial encounter, the production of knowledge, and the emergence of a public sphere to explore some of the ways in which printers and publishers in early twentieth-century North India made use of and acquired knowledge about lithographic printing technology. It consciously ventures beyond large cities like Delhi, Lucknow or Calcutta and instead focuses on the operations and intentions of the Nizami Press and Book Agency in the *qaṣbah* of Budaun (pronounced *Badāyūn*), established in 1905 by Niẓāmuddīn Ḥusain Niẓāmī Badāyūnī (1872–1947).[7] It examines how this *qaṣbātī* Muslim with no prior relationship to printing became a successful printer and publisher of Urdu books and how his son, Muḥammad Aḥīduddīn Badāyūnī (1893–1979), was able to learn the profession via newly established schools and imperial networks. By contrasting the professional development of these

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4   Colonial legislative reforms such as the removal of restrictive press and print laws through the Press Act of 1835 considerably enhanced the spread of Indian press ownership. Among the social groups that came to dominate the nascent print industry in North India were Brahmins, Muslim *ashrāf*, Kayasthas, and Khatris. Cf. Stark, *An Empire of Books*, 29–106; Ulrike Stark, "Letters Beautiful and Harmful: Print, Education, and the Issue of Script in Colonial North India," *Paedagogica Historica* 55, no. 6 (2019): 837f.; Shaw, "Calcutta: Birthplace of the Indian Lithographed Book," 89f.

5   Among recent exceptions in this regard are Robb, *Print and the Urdu Public*; Abhijit Gupta, *The Spread of Print in Colonial India: Into the Hinterland* (Cambridge: Cambridge University Press, 2021); and M. Raisur Rahman, *Locale, Everyday Islam, and Modernity: Qasbah Towns and Muslim Life in Colonial India* (New Delhi: Oxford University Press, 2015).

6   Cf. Rahman, *Locale, Everyday Islam, and Modernity*, 116ff.; Robb, *Print and the Urdu Public*; Stark, *An Empire of Books*, 164–224. For more on the Khilafat Movement, see Gail Minault, *The Khilafat Movement* (New York: Columbia University Press, 1982).

7   Cf. Shams Badāyūnī, *Niẓāmī Badāyūnī aur Niẓāmī Press kī adabī k̲h̲idmāt* (New Delhi: Ghalib Academy, 1995), 331.

two generations of printers, this article demonstrates how debates about technological development, modernization, pedagogy, and educational reform in small towns like Budaun were intricately connected with the debates and developments in the larger world of colonial India and the British Empire.

The centerpiece of this article is an exploration of a previously neglected text that appears to be the first manual on lithography in Urdu, written and published by Aḥīduddīn Badāyūnī in 1924.[8] In my close reading of this text, I am guided by three main questions: What were the tools and materials available for lithographic printing in North India? How did lithography evolve since its introduction on the subcontinent? And given the popularity of the printing technique at the time, why were manuals about lithography so rarely published in Indian languages?

By comparing the text with manuals on lithography published in Europe, I draw attention to the ways in which the technology was adapted according to local needs and the availability of resources in colonial India. In doing so, I highlight material and technical aspects of the lithographic printing process that were unique to North India in the early twentieth century. By also comparing the text to Urdu scribal and calligraphic manuals, I contextualize Aḥīduddīn's efforts within a growing Urdu print economy and a larger trend among Indian publishers towards communicating knowledge about new technologies and industrial practices via publications in vernacular languages. Finally, I draw attention to the audience the manual seeks to address and the language its author employs to show how Indian printers and publishers were deeply engaged in discourses about nationalism, modernization, and social reform.

Two Generations of Publishers in the *Qaṣbātī* Context

The *qaṣbah* of Budaun lies about 150 miles southeast of Delhi, in relative proximity to Aligarh, Rampur, and Bareilly. It rose to prominence in the twelfth and thirteenth centuries as an important outpost of the Delhi Sultanate, especially under the governorship of Shamsuddīn Iltutmish (d. 1236). Budaun is the birthplace of the famous Chishti Sufi saint Niẓāmuddīn Auliyāʾ (d. 1325) and over the centuries it became an intellectual center attracting writers, poets, and Sufis from across and beyond the subcontinent. It is certainly no coincidence that Budaun's residents liked to call their city *Madīnah-yi Auliyāʾ*

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8 Cf. Aḥīduddīn Badāyūnī, *Līthūgrāfī: Fann-i ṭabāʾat par Urdu meṉ kār āmad aur pehlī kitāb* (Budaun: Nizami Press, 1924).

("Medina of the friends of God") or *Badāyūṉ-i Sharīf* ("Budaun the Noble"). In M. Raisur Rahman's words, the many Sufi shrines (*dargāh*s), mosques, tombs, madrasas, and *havelī*s (mansions) reflective of the Muslim past and presence in Budaun "tell a grand story of the *qaṣbah*'s history."[9]

What is a *qaṣbah*?[10] As an administrative and cultural unit in South Asia, the *qaṣbah* (from the Arabic root *qaṣaba*, "to divide" or "to cut up") came to denote "a township," "a large village" or "a small town (particularly when inhabited by decent people or families of some rank)" in Urdu.[11] Suffice to say here that the origins of *qaṣbah*s on the subcontinent generally appear to lie in a market town or regional center for agricultural areas. Agriculture and manufacturing provided the main source of many residents' livelihood, and local (Muslim) elites tended to derive their power and influence from land ownership. In a sense, *qaṣbah* culture and identity were shaped both by its artisanal and occupational classes as well as by peripatetic administrators, intellectuals, and Sufis. A migratory lifestyle and a fair amount of commodity exchange, both between different *qaṣbah*s and between the *qaṣbah* and the city, was therefore the norm for many *qaṣbātī*s.[12]

In 1801, Budaun passed into British colonial hands and gradually underwent several structural changes. By 1906, the *qaṣbah* was connected to other cities via a modernized postal system, the telegram, new roads, and the railways. Budaun was now the name of both a district belonging to the Rohilkhand division of

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9   M. Raisur Rahman, "*Qaṣba*s as Place," *Journal of the Economic and Social History of the Orient* 58 (2015): 688. For a more detailed history of Budaun, see Rahman, *Locale, Everyday Islam, and Modernity*, 65–75.

10   Scholars of South Asia have defined the word *qaṣbah* in several ways. Cf. C.A. Bayly, *Rulers, Townsmen, and Bazaars: North Indian Society in the Age of British Expansion, 1770–1870* (Cambridge: Cambridge University Press, 1983), 352; Ravinder Kumar, *Essays in the Social History of Modern India* (New Delhi: Oxford University Press, 1983), 35; Mushirul Hasan, *From Pluralism to Separatism: Qasbahs in Colonial Awadh* (New Delhi: Oxford University Press, 2004), 213–225; Rahman, *Locale, Everyday Islam, and Modernity*, 27–50. For studies addressing the contributions of *qaṣbah*s to pan-regional educational projects, see Gail Minault, *Secluded Scholars: Women's Education and Muslim Social Reform in Colonial India* (New Delhi: Oxford University Press, 1998); Barbara Metcalf, *Islamic Revivalism British India: Deoband, 1860–1900* (Princeton: Princeton University Press, 1982), 125–137; David Lelyveld, *Aligarh's First Generation: Muslim Solidarity in British India* (New Delhi: Oxford University Press, 1978); Francis Robinson, *The 'Ulama of Farangi Mahall and Islamic Culture in South Asia* (New Delhi: Permanent Black, 2001).

11   John Thompson Platts, *A Dictionary of Urdu, Classical Hindi, and English* (London: W.H. Allen & Co., 1884), 791.

12   Cf. Robb, *Print and the Urdu Public*, 2–5, 59–64; Ramnarayan S. Rawat, *Reconsidering Untouchability: Chamars and Dalit History in North India* (Bloomington: Indiana University Press, 2011), 95–103.

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the United Provinces, and a smaller administrative unit called *taḥṣīl* or *parga-nah*.[13] While British sources rarely make use of the term *qaṣbah* to describe places like Budaun, recent scholarship has demonstrated its continued relevance as an urban category for the late colonial period. As such, it was colored by a sense of distinctiveness and charged with new significance as a "home of authenticity."[14]

Niẓāmuddīn Ḥusain Niẓāmī Badāyūnī was born in 1872 into a family of the local *ashrāf* (Muslim gentry or "respectable" class) that traced its origins in Budaun to the thirteenth century.[15] He attended vernacular middle and high schools, learned some English, and studied Persian at home with his father Maulvī Faḵẖruddīn (d. 1920), whereby he developed a taste for poetry.[16] With the help of his future father-in-law, deputy collector Maulvī Ḥamīduddīn (d. 1896), he further improved his English and took an Anglo-Vernacular Examination in 1888. Having married Maulvī Ḥamīduddīn's daughter Ḥusain Banū (1874–1913) in 1893, he passed the entrance exam at Allahabad University and planned to continue his studies at the Muhammadan Anglo-Oriental (M.A.O.) College in Aligarh (est. in 1875 by Sayyid Aḥmad Ḵẖān). However, his

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13   Adopting former Mughal terms, the British separated larger districts into smaller administrative units called *taḥṣīl*s and *parganah*s. Typically, *qaṣbah*s served as the district's capital or center for revenue collection. Cf. H.R. Nevill, *Budaun: A Gazetteer* (Allahabad: Supdt., Government Press, 1907), 97–100; Badāyūnī, *Niẓāmī Badāyūnī*, 28–35; Robb, *Print and the Urdu Public*, 60; Rahman, *Locale, Everyday Islam, and Modernity*, 74.

14   Robb, *Print and the Urdu Public*, 5.

15   Genealogy and endogamy were important markers of the cultural identity and local distinctiveness among *qaṣbātī ashrāf*. The Niẓāmī family traced its origins to a common ancestor who had migrated to Budaun from Mecca in the thirteenth century. His descendants eventually became guardians of a local religious endowment (*waqf*) and held influential positions at the Mughal court. Cf. Badāyūnī, *Niẓāmī Badāyūnī*, 49ff.; Muhammad Aḥmad Kāẓmī, *Niẓāmī Badāyūnī: Ya'nī Sawāneḥ-i Ḥayyāt-i Maulānā Niẓāmuddīn Ḥusain Niẓāmī Badāyūnī* (Budaun: Nizami Press, 1949), 1f.; Rahman, *Locale, Everyday Islam, and Modernity*, 67; Robb, *Print and the Urdu Public*, 3; Margrit Pernau, *Ashraf into Middle Classes: Muslims in Nineteenth-Century Delhi* (New Delhi: Oxford University Press, 2013).

16   C.A. Bayly argues that literacy was the foundation upon which an ideal *qaṣbah* society could prosper. It seems, however, that the type of language skills necessary for upholding claims to higher status among *qaṣbātī ashrāf* changed over time. Persian had increasingly been pushed into the private realm as an effect of colonial policies in the region, beginning with the replacement of Persian with Urdu as the court and administrative language of the North-Western Provinces in 1837. Cf. Bayly, *Rulers, Townsmen and Bazaars*, 192; Stark, *An Empire of Books*, 12–21, 352.

stint at Aligarh was cut short when his parents summoned him home shortly after his arrival.[17]

Obliged to find work, Niẓāmī Badāyūnī followed his father-in-law to Shahjahanpur where he accepted a position as a copyist (*naql-navīs*) in the deputy collector's office, a service job he never really came to like, feeling that it did not sit right with his scholarly interests. Considering himself a man of letters, Niẓāmī Badāyūnī joined a local literary fraternity called the *Iḵẖwān al-Ṣafāʾ* ("The Brethren of Purity")[18] and, via correspondence, became a disciple of the famous Urdu poet Alṭāf Ḥusain Ḥālī (d. 1914). Gradually, he also began to set his eyes on journalism, writing articles for several regional Urdu newspapers.[19]

In 1903, Niẓāmī Badāyūnī resigned from his government job (by now as manager of copyists in a section of the Shahjahanpur Collectorate) and returned to his hometown. The reason for leaving was a dispute with the newly appointed deputy collector, a Hindu nationalist who wanted all record keeping done in Hindi and the *nāgarī* script instead of in Urdu and the *nastaʿlīq* script.[20] Back in Budaun, he started the Urdu newspaper *Ẕūlqarnain* (1903–1989) with Munshī Muḥammad Aḵẖa Jān Lakhnavī, owner of the Victoria Press and initial publisher of the paper.[21]

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17 Cf. Badāyūnī, *Niẓāmī Badāyūnī*, 51ff.; Kāẓmī, *Niẓāmī Badāyūnī*, 7f.; M. Raisur Rahman, "Beyond Centre-Periphery: *Qasbahs* and Muslim Life in South Asia," *South Asian History and Culture* 5, no. 1 (2014): 166; Anu Kumar, "New Lamps for Old: Colonial Experiments with Vernacular Education, Pre- and Post-1857," *Economic and Political Weekly* 42, no. 19 (2007): 1710–1716.

18 The *Iḵẖwān al-Ṣafāʾ* takes its name from an anonymous group of philosophers who resided in Basra (Iraq) in the tenth century CE. Some of the Shahjahanpur fraternity members are known to us by name, e.g., Maulvī ʿAbdulḥayy Badāyūnī (d. 1912) and Akbar ʿAlī, Ashraf ʿAlī Thānvī's younger brother. Cf. Nader El-Bizri, "Iḵẖwān al-Ṣafāʾ," in *Encyclopedia of Philosophy*, 2nd ed., edited by Donald M. Borchert, 575–577, vol. 4 (Detroit: Macmillan Reference USA, 2006).

19 Ḥālī, who was associated with the Aligarh Movement, had not only agreed to correct (*iṣlāḥ denā*) some of his poems but also encouraged Niẓāmī Badāyūnī to pursue a career in journalism. Cf. Kāẓmī, *Niẓāmī Badāyūnī*, 8f.; Badāyūnī, *Niẓāmī Badāyūnī*, 55f. Also see Christopher Shackle and Javed Majeed, *Hali's Musaddas: The Flow and Ebb of Islam* (New Delhi: Oxford University Press, 1997), "Introduction," 1–87.

20 This must be understood in the context of the Hindi-Nagari Movement, an expression of Hindu nationalism that viewed Urdu as a "foreign" language and as a symbol of Muslim rule. Cf. Christopher Rolland King, *One Language, Two Scripts: The Hindi Movement in Nineteenth Century North India* (New Delhi: Oxford University Press, 1999).

21 *Dhū al-qarnayn* (Ar.) literally means "he with the two horns" or figuratively "he of the two ages." It refers to a figure in the Qurʾanic accounts of Yājūj and Mājūj (Gog and Magog) and is commonly identified with Alexander. Cf. Kevin van Bladel, "The Alexander Legend

In 1905, Niẓāmī Badāyūnī set up the Nizami Press and Book Agency, became sole proprietor of *Ẕūlqarnain*, and continued its publication at his own press. Local vernacular newspapers were an integral part of a diverse and expanding Urdu public sphere and *Ẕūlqarnain* quickly became popular far beyond the locality. By 1912, its circulation numbers reached 300 copies. Besides covering general issues that were of interest to its Urdu readership, *Ẕūlqarnain* took inspiration from the Aligarh Movement and set out to promote social, economic, and educational reform agendas directed at India's Muslim community. With the intensification of the national and anti-colonial movement, the paper increasingly covered political debates, often in support of the Muslim League (est. 1906) but not openly advocating independence from Britain.[22]

Budaun had a thriving print culture, perhaps more so than other *qaṣbah*s, and the Nizami Press was initially but the latest addition to a substantial list of publishing houses that had been set up in the *qaṣbah* since the 1857 Uprising. These included the Maṭbaʿ-i Jebī (est. 1857), the Maṭbaʿ-i Faiẓ Baḵẖsh (est. 1874), the Maṭbaʿ-i Afẓal al-Muṭābiʿ (est. 1878), the Maṭbaʿ-i Nasīm Saḥar (est. 1878), the Maṭbaʿ-i Ṣubaḥ (est. 1881), the Amjadī Press (est. 1885), and the Victoria Press (est. 1898). All of them also published at least one Urdu newspaper. However, what distinguished the Nizami Press from these and other publishing enterprises in the region was the superior intellectual and technical quality of its publications, including a clearer script and better layout.[23] The Nizami Press therefore became an attractive publisher for both local Urdu writers and authors across the subcontinent. It gained support from prominent Muslim educators like Sayyid Rās Masʿūd (d. 1937), grandson of Sayyid Aḥmad Ḵẖān, and from institutions dedicated to the promotion of Urdu language and literature, such as the Anjuman-i Taraqqī-yi Urdū in Hyderabad.[24]

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in the Qurʾān 18:83–102," in *The Qurʾān in its Historical Context*, ed. Gabriel Said Reynolds (London: Routledge, 2008), 175–203.

22 Cf. Badāyūnī, *Niẓāmī Badāyūnī*, 293–327; Kāẓmī, *Niẓāmī Badāyūnī*, 22, 30–33.

23 According to Raisur Rahman, "Nizami Badauni […] used the best technology, good paper, and beautiful print at a time when most Urdu publishers got away with coarse paper and ordinary print." Rahman, *Locale, Everyday Islam, and Modernity*, 72. Also see Badāyūnī, *Niẓāmī Badāyūnī*, 55ff., 297–331; Kāẓmī, *Niẓāmī Badāyūnī*, 30–33. For more information on the 1857 Uprising, see Eric Stokes, *The Peasant Armed: The Indian Revolt of 1857* (Oxford: Clarendon, 1986).

24 The Anjuman-i Taraqqī-yi Urdū was established in 1903 as an organization for the promotion and dissemination of Urdu by the All-India Muslim Educational Conference in Aligarh. It shifted to the princely state of Hyderabad in 1913 where Rās Masʿūd was Director of Public Instruction between 1917 and 1929. He appears to have helped the Nizami Press secure a monthly donation of 100 rupees from the Nizam of Hyderabad. Cf. Rahman,

As a result, the Nizami Press grew steadily. In 1905, it had started out with only two hand presses. In 1907, two additional presses were acquired, and by 1920 their number rose to eight. For a *qaṣbah*-based press with around fifteen to twenty employees—including a press manager, a clerk, a cadre of both local and migrant calligraphers (*ḳhūshnavīsoṉ*) and copyist scribes (*kātiboṉ*), a lithographic stone corrector (*muṣaḥḥiḥ* or *sang-sāz*), pressmen, assistant pressmen, a proof reader, a book binder (*daftarī*), and a peon (*caprāsī*)—this was quite substantial.[25] In comparison, the famous Naval Kishore Press in Lucknow (est. 1858) owned around 24 hand presses by its fourth year of existence and employed around 300 pressmen and workers. Despite its limited size, the Nizami Press was nevertheless able to produce an astonishing number of prints, reaching audiences far beyond its district. In addition to the newspaper *Ẕūlqarnain*, it published a wide array of Urdu books and poetry collections, such as a very popular *Divān-i Ḡhālib* ("Collected Works of Ḡhālib," printed in six editions between 1915 and 1928).[26]

Key to learning the ropes of the lithographic printing business were regular consultations with other printer-publishers. For that purpose, Niẓāmī Badāyūnī relied heavily on his master-disciple (*ustād-shāgird*) relationship with Munshī Raḥmatullāh "Raʿad" (d. 1921), owner of the Nāmī Press in Kanpur (est. 1880) and editor of the Urdu newspaper *ʿĀlam-i taṣvīr* ("Art World," 1886–1893). Munshī Raḥmatullāh had taught him to write like a journalist via correspondence and published some of his very first articles. Having set up his own press, Niẓāmī Badāyūnī reportedly travelled to Kanpur (roughly 140 miles

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Locale, Everyday Islam, and Modernity, 72f.; Kavita Datla, *The Language of Secular Islam: Urdu Nationalism and Colonial India* (Honolulu: University of Hawaiʾi Press, 2013).

25   Niẓāmī Badāyūnī managed the press himself from 1905 to 1915, after which he hired someone for the job. His son Aḥīduddīn Niẓāmī took over both ownership and management of the press in 1926. Among the most cherished employees at the press was Munshī Faiẓulḥasan Saharanpūrī, a scribe widely recognized throughout the region for his beautiful handwriting skills. Cf. Badāyūnī, *Niẓāmī Badāyūnī*, 335ff. For a description of similarly structured lithographic presses in the nearby princely state of Rampur, see Lanzillo, "Translating the Scribe," 294.

26   Shams Badāyūnī estimates that the Nizami Press printed up to five thousand Urdu books in total and around four hundred as publisher. Among its most popular series of publications were the *Niẓāmī Press kī ek Anna Library* (1909–1930), *Silsilah-yi Āṣafīya* (1921–1930), and *Silsilah-yi Kalām-i Asātiẕah-yi Urdū* (1924–1930). Cf. Badāyūnī, *Niẓāmī Badāyūnī*, 357–363, 385, 414–418; Stark, *An Empire of Books*, 169. According to Rahman, "Nizami Press emerged as the leading publisher of Urdu literature, integrating Badaun with cities, towns, and other qasbahs and broadening readership and intellectual communication among different social worlds." Rahman, *Locale, Everyday Islam, and Modernity*, 73.

south-west of Budaun) to see his mentor whenever he faced a problem with the lithographic printing process.[27]

Not untypical for educated *qaṣbātī*s of his generation, Niẓāmī Badāyūnī had applied his educational credentials and other acquired skills to other related professions before becoming a printer-publisher. To a large extent, his motivation to establish a press seems to have emerged from his journalistic endeavors. By contrast, the education of his son Aḥīduddīn Niẓāmī was much more streamlined to becoming a printer and publisher. Aḥīduddīn's biography is indeed exemplary of the kind of education, professional development, and mobility that the *qaṣbātī* milieu was able to facilitate during the late colonial period. As Raisur Rahman has laid out, the resources of *qaṣbah*s often came to rival those of larger towns due to the presence of wealthy landholders, educated elites, and, at some point, British colonial officers. This had the effect that by the early twentieth century, *qaṣbātī*s were able to attend "some of the most sought-after educational institutions in the region, including the College at Aligarh, St. John's College, Agra, and the madrasas at Deoband and Firangi Mahal."[28]

Born in 1893 in Budaun, Aḥīduddīn must have already learned a good amount of English in high school before continuing his studies at the Government Arts and Crafts School in Lucknow (est. in 1911). For in 1920, he received the opportunity to study "block making and photo lithography"[29] in London—courses that were neither available in Indian educational institutions at the time nor had they been accessible to his father's generation.[30] In 1924, Aḥīduddīn graduated with a diploma from the City and Guilds Institute London.[31] Upon his

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27   Munshī Raḥmatullāh also advised him on major publication projects like the *Dīvān-i Ġhālib* and connected him with influential intellectuals like Sayyid Rās Masʿūd. Cf. Badāyūnī, *Niẓāmī Badāyūnī*, 54ff., 415f. Also note that the famous Urdu writer ʿAbdulḥalīm Sharar (d. 1926), who thought that the quality of printing in Lucknow was on a sharp decline by the early twentieth century, praised Munshī Raḥmatullāh for ensuring that at least the printing presses in Kanpur remained in relatively good shape. Cf. Abdul Halim Sharar, *Lucknow: The Last Phase of an Oriental Culture*, trans. and ed. E.S. Harcourt and Fakhir Hussain (London: Paul Elek, 1975), 108.

28   Rahman, "*Qaṣbas* as Place," 689.

29   Badāyūnī, *Niẓāmī Badāyūnī*, 62. Badāyūnī also notes that Aḥīduddīn got married before his departure.

30   Niẓāmī Badāyūnī himself wrote about the various factors that transformed the character of Budaun during this time in a book titled *Badāyūṉ qadīm o jadīd* ("Budaun Old and New") and evaluated changes such as the government's educational reforms as positive. Cf. Niẓāmī Badāyūnī, *Badāyūṉ qadīm o jadīd* (Budaun: Nizami Press, 1920); Rahman, *Locale, Everyday Islam, and Modernity*, 74.

31   The City and Guilds Institute London was founded in 1878 with the purpose of developing a national system of technical education. It operated under Royal Charter since 1900. Cf.

return to India, he briefly took up work as manager of the Muslim University Press in Aligarh[32] but soon returned to Budaun to take care of the family press.

Being the holder of prestigious diplomas from both Lucknow and the City and Guilds Institute London, Aḥīduddīn was exceptionally well qualified for a job in the wider printing economy in British India beyond the *qaṣbah* context. Yet, instead of seeking employment in a larger city he chose to devote himself to expanding and improving his father's business. In 1926, Niẓāmī Badāyūnī transferred all rights of the press to his son. Influenced by the modernizing spirit of the Aligarh movement and the technological and scientific progress he had learned to value during his studies in London, Aḥīduddīn was concerned both with the well-being of the Nizami Press and, as we shall see, with the development of Indian society at large.[33]

A look at his publishing record shows that writing Urdu instructional books on technical subjects became one of the means by which Aḥīduddīn tried to promote his modernizing efforts: *Lithūgrāfī: fann-i ṭabāʾat par Urdū meṇ kār āmad aur pehlī kitāb* ("Lithography: A Pioneering and Practical Book in Urdu on the Art of Printing," 1924),[34] *Hindustān ke fann-i musawwrī kī tārīḵẖ* ("The History of Hindustan's Art of Painting," 1954), *Ramūz-i kitābat* ("The Secrets of Copy-Editing," 1973), and *Rehnumā-yi Lithūgrāfī* ("A Guide to Lithography," 1973). When Aḥīduddīn passed away in 1979 the Nizami Press fell into decline. And while his son Mūnis Niẓāmī initially tried to continue the editorship of *Ẕ̱ulqarnain*, both the press and the increasingly unprofitable newspaper were discontinued by 1989. Today, the family's few remaining lithographic printing presses are defunct and covered in dust.[35]

The Printed Manual as a Remedy for Lack of Progress?

With a total of 186 pages, Aḥīduddīn's Urdu-language manual *Lithūgrāfī* (1924) was organized in 20 chapters and sold for 2.8 rupees in its first edition. Beginning

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City and Guilds of London Institute for the Advancement of Technical Education, *Annual Report* (London, 1912).

32   Aligarh Muslim University emerged out of the M.A.O. College in 1920.

33   A good example of his technological modernization efforts in the Nizami Press is, for example, the acquisition of a "Ratcliff Electric Litho Machine" in 1929. Cf. Badāyūnī, *Niẓāmī Badāyūnī*, 334ff.

34   A more literal translation of the title would be "Lithography: A Useful and First Book in Urdu on the Art of Printing."

35   Cf. Badāyūnī, *Niẓāmī Badāyūnī*, 62. During my fieldwork in 2019, I was able to see some of the old British-made hand presses, including an Albion press (London), still lying around in what used to be the Nizami Press in Budaun.

with the invention and principles of lithography, the book introduces the reader to all major materials and tools necessary for printing, and to the different methods of using the technology. It gives detailed instructions for printing with a hand press, the most common type of press in British India, but it also introduces newer and technically more advanced models that required electricity.

Aḥīduddīn proudly claimed that his manual was the first book in Urdu on the art of lithographic printing.[36] And indeed, I have not come across any earlier handbook in Urdu or other Indian languages focusing exclusively on lithography. Aḥīduddīn primarily used European manuals to extract and translate knowledge about lithography into Urdu. Yet he also grounded his work locally by showcasing a deep familiarity with the ways in which Indian printers had been practicing their craft for decades. As Amanda Lanzillo has shown, many artisan manuals published in Urdu since the late nineteenth century similarly aimed to communicate knowledge about new technologies and industrial practices by drawing on European textbooks while retaining certain elements of earlier Persian-language treatises.[37] We must therefore understand Aḥīduddīn's work in the context of a larger trend among Urdu publishers to produce new educational manuals on a range of subjects.

Aḥīduddīn wrote his manual during a time when lithography was already well established on the subcontinent. What inspired him to write it? And what were his aims? A first clue lies in the Niẓāmī family's deep connection to the Aligarh project of Muslim educational reform. This was a link that, as we have seen, reached back to his father's student days and that remained a constant presence at the press, especially in form of the political newspaper *Zūlqarnain*. Aḥīduddīn proudly recounts in his foreword how he received praise for his book at the 24th meeting of the All-India Muhammadan Educational Conference in Aligarh, where he presented a draft of it in 1923.[38] As we shall see, Aḥīduddīn viewed his manual as a contribution towards the modernization of technological

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36   He reiterates this in the book's second edition. Cf. Badāyūnī, *Līthūgrāfī* (1924), title page; Aḥīduddīn Badāyūnī, *Līthūgrāfī: Fann-i ṭabāʿat par Urdu meṉ kār āmad aur pehlī kitāb* [2nd ed.] (Budaun: Nizami Press, 1976), 5.

37   Cf. Lanzillo, "Translating the Scribe," 281–300; Amanda M. Lanzillo, "Writing Industrial Change in Urdu: Artisanship, Islam and Technology in Colonial India," *South Asia: Journal of South Asian Studies* 44, no. 4 (2021): 666–683.

38   The conference was established by Sayyid Aḥmad Khān in 1886 with the aim to promote a modern, Western education for India's Muslims. Its meetings were attended by the Muslim intellectual elite (*zamīndar*s, educationists, and community leaders) and in 1906, the All-India Muslim League emerged from it as a political party. Cf. Lelyveld, *Aligarh's First Generation*, 300–348; Abdul Rashid Khan, *The All-India Muslim Educational Conference: Its Contribution to the Cultural Development of Indian Muslims, 1886–1947* (Karachi: Oxford University Press, 2001); Badāyūnī, *Līthūgrāfī* (1924), *dāl*.

education in his area of specialization and, more generally, to the progress and welfare of his country.

A major motivating factor for writing the book was certainly his training in the art of lithography in London as well as his observation of other, more recent innovations among the printing industries in Europe that were still absent on the subcontinent or unknown to Indian publishers and printers. Aḥīduddīn writes that lithographic printing "is as profitable as it is useful since it is the best method for advertising all things scholarly, mercantile, industrial, etc. and this art (*fann*) is making a lot of progress (*taraqqī*) in Western countries."[39] He also praises the practicality and relative cost-effectiveness of lithography, which scholars have recognized as a major factor accounting for the success of lithography in colonial India.[40]

While acknowledging the fact that lithographic printing presses were widely used in the Urdu-speaking areas of the subcontinent, Aḥīduddīn draws a sharp contrast between the quality of lithographic printing in Europe and India. In Europe, he says, many excellent devices and machines related to lithography and other printing technologies were constantly invented and improved. Moreover, the necessary know-how was taught at all kinds of educational institutions. In India, however, lithographic printing technology was in a poor and lamentable state.[41] He writes:

> In Hindustan, this art is unfortunately still in the same old state in which it was 60 or 70 years ago. There is indeed no use of talking about progress (*taraqqī*) when we don't even notice any more that knowledge which has been handed down through the generations in the traditional way (i.e., in strict confidence or *sīnah-bah-sīnah*) is being lost.[42]

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39   Badāyūnī, *Līthūgrāfī*, *alif*. If not otherwise indicated, all translations from Urdu to English are my own.

40   Cf. Shaw, "Calcutta: Birthplace of the Indian Lithographed Book," 89; Stark, "Letters Beautiful and Harmful," 838; Stark, *An Empire of Books*, 45–49; Brinkley Messick, "On the Question of Lithography," *Culture and History* 16 (1997): 169; Olimpiada P. Shcheglova, *Encyclopædia Iranica*, s.v. "Lithography ii. in India," http://www.iranicaonline.org/articles/lithography-ii-in-india, last modified August 15, 2009, accessed May 10, 2021.

41   Cf. Badāyūnī, *Līthūgrāfī* (1924), *alif*. Note that the industrialization of printing in Europe around 1800, while accompanied by a global movement of printing presses, would not have been possible without repeated innovations and technological advancements. These often took hold in South Asia with a significant delay. Cf. Nile 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, no. 3 (2010): 473–490.

42   Badāyūnī, *Līthūgrāfī* (1924), *alif*. "*Sīnah-bah-sīnah*" (lit. "from chest to chest") means the oral or secret transmission of knowledge.

For Aḥīduddīn, it is precisely the means by which knowledge gets transmitted that needs reform, and that is where his manual fits in. He continues unambiguously:

> The reason for this is the ignorance (*jahālat*) of the Hindustani workers (*kārīgaroṉ*) which they appear to have made their principle. Hence, they don't like teaching their craft to anyone else but rather prefer taking it with them into their graves. And the result of this is that today hundreds of high arts in our Hindustan have become completely extinct and their names forgotten. Yet, if you look at people in other countries, you will notice that whoever knows a craft over there will immediately make it publicly known. This not only has the advantage that the entire country (*mulk*) and nation (*qaum*) can make use of it, but also that a technology will be perfected and rendered more useful in a short period of time since people will begin to experiment with it and come up with novel inventions. You will therefore find many books about lithography […] in English, French, German, and other languages. Yet, as far as I know, we have been deprived of this blessing in our language until now and the need for a book on this technology in Urdu has been felt for a while. I therefore dare to present to you this technology in the form of a book.[43]

Knowing from first-hand experience that there were enormous gaps between the British metropole and the colony in terms of technological development, educational methodology, and institutional resources, Aḥīduddīn feels entitled to criticize his countrymen's "old-fashioned" attitudes towards learning and sharing knowledge in an expression of nationalist discontent. While we might notice that he seems to take on an air of superiority based on his educational background, it is rather a patriotic effort to modernize his "country" (*mulk*) and "nation" or "community" (*qaum*) that he is chiefly concerned with.

This bears witness to an intellectual proximity to the aims of the Aligarh movement and its offshoots, to ideas of social reform, and to the influence of contemporary nationalist and anti-colonial thought. Questions regarding the progress (*taraqqī*) of a community, nation or country get intimately connected with questions of education and technological innovation.[44] Aḥīduddīn speaks of Urdu as "our language" and refers to colonial India as "Hindustan." Yet, he never speaks about different religious communities, and his sense of

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43   Badāyūnī, *Līthūgrāfī, alif, be.*
44   Cf. Brannon D. Ingram, "Crises of the Public in Muslim India: Critiquing 'Custom' at Aligarh and Deoband," *South Asia: Journal of South Asian Studies* 38, no. 3 (2015): 403–418.

qaum must not be misunderstood as reflecting a Muslim "nation" or "community." Rather, we can detect an inclusive understanding of Hindustan in his writing, one that he perceived as lagging far behind and yet standing in competition with the dominant European nation states of the colonial era. Based on his own experience in London, he seems to view the establishment of modern educational institutions and the promotion of institutionalized ways of transmitting knowledge as a key requirement for national progress. Producing a manual on lithographic printing technology in an Indian vernacular must therefore be understood as his way of contributing to the advancement of his country.

One of Aḥīduddīn's major challenges was the development of a vernacular lexicon for lithography, he writes in his foreword, since "only very few terms (*iṣṭilāḥāt*) about this art/technology (*fann*) existed in Urdu."[45] Using his connections to intellectuals associated with the Anjuman-i Taraqqī-yi Urdū, he even sought assistance from the translation bureau (*Dār al-tarjuma*) at Hyderabad's Osmania University (est. 1918) but ultimately decided to retain English terms with explanations in Urdu whenever necessary.[46] Aḥīduddīn clearly envisioned his book to be read by anyone directly involved in lithographic printing in India, from the workers handling the presses, to scribes, artisans, publishers, and students in schools and colleges:

> The book not only contains rules and recipes for lithography, but it also mentions the recently invented devices and novel processes of operation, which ordinary workers (*kārīgaroṉ*) were completely unaware of. In some places, illustrations have been given to facilitate understanding. I hope that this book will prove very useful for press men (*press menoṉ*), scribes (*kātiboṉ*), artisan laborers (*dastkāroṉ*) as well as printing press owners (*mālikān-i muṭābi'a*), and that it will also help those students attending technical (*ṣana'tī*) schools and colleges who are learning this art/technology (*fann*) or who want to learn it.[47]

It seems that his endeavor to address a non-English-educated, Urdu-speaking readership was an attempt to resist the asymmetric power dynamics in colonial India, to strive towards a more balanced distribution of knowledge, and

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45   Badāyūnī, *Līthūgrāfī* (1924), *be*.
46   For more information on Osmania University and its efforts to transform the Urdu language for national and educational purposes, see Kavita Datla, "A Worldly Vernacular: Urdu at Osmania University," *Modern Asian Studies* 43, no. 5 (2009): 1117–1148; Datla, *The Language of Secular Islam*.
47   Badāyūnī, *Līthūgrāfī* (1924), *jīm*.
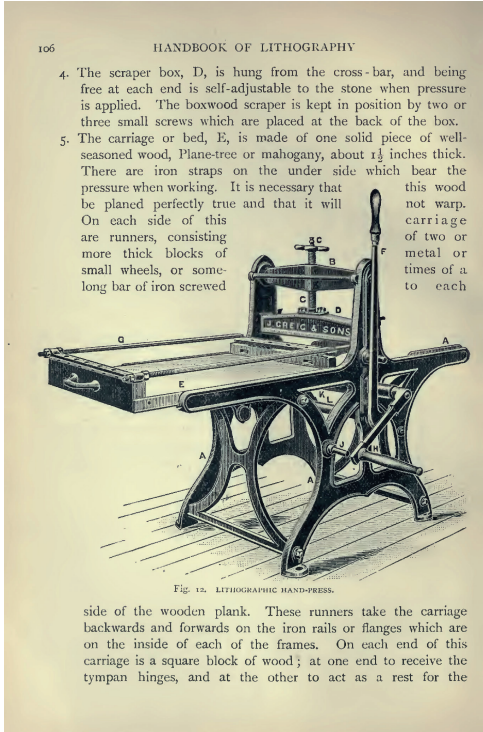
FIGURES 1 AND 2   Virtually identical illustrations of a lithographic hand press in Cumming's and
                   Badāyūnī's respective manuals.
                   SOURCE: CUMMING, *HANDBOOK OF LITHOGRAPHY*, 106; BADĀYŪNĪ, *LĪTHŪGRĀFĪ*
                   (1924), 18.

to assist in his country's intellectual and material development. We must,
however, also recognize that Aḥīduddīn modeled his book on English manu-
als, simply translating large chunks from them and copying their images for
his illustrations without giving his sources any credit (see figures 1 and 2).
I see it as evident that he primarily made use of David Cumming's *Handbook of
Lithography: A Practical Treatise for all who are Interested in the Process* (1904)
and, perhaps to a lesser extent, of Henry J. Rhodes's *The Art of Lithography:
A Complete Practical Manual of Planographic Printing* (1914).[48]

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48   Cf. David Cumming, *Handbook of Lithography: A Practical Treatise for all who are
      Interested in the Process* (London: Adam & Charles Black, 1904); Henry J. Rhodes, *The Art
      of Lithography: A Complete Practical Manual of Planographic Printing* (London: Scott,
      Greenwood and Son, 1914).

Teaching manuals on lithography as a genre of text began to be published in several European languages after Senefelder's *Lehrbuch der Steindruckerey* (1818) was translated into English in 1819.[49] Yet, paralleling Aḥīduddīn's lamentations about the situation in early twentieth-century India, European manuals on lithography mention the existence of a deep-seated prejudice against all kinds of technical handbooks until the 1880s. For example, W.D. Richmond writes in *The Grammar of Lithography* (1880): "It was sedulously instilled into the minds of the young especially, that an acquaintance with the processes of the different industrial occupations could be acquired only by observing and imitating the methods of adepts."[50] Richmond then describes how important the rise of journalism and the spread of periodicals were for the gradual acceptance of handbooks and practical treatises for both amateurs and professionals.[51] Lithography, for that matter, was initially treated like a secret art in Europe as well, until manuals began to promote the technology as extraordinarily affordable and easy to learn from the middle of the nineteenth century onwards.

A short English-language guidebook called *Lithography in India* was published in Bombay as early as 1864. Written by Walter Abraham, manager of the lithographic department at the Bombay Education Society Press, it aimed to provide colonial amateur printers with an introduction to lithographic printing practices on the subcontinent.[52] By contrast, Aḥīduddīn's early twentieth-century role models wrote for a broader and more professionalized readership within the British Empire. To some extent, their motivation for writing new manuals on lithography paralleled his own, and he simply had to adapt their instructions to the specificities of colonial India. For example, Cumming writes in 1904:

> The division of labor also, which is now unavoidable in the conducting of large businesses, has not passed over the Lithographic Trade, hence we find men, who are well up in one department, quite ignorant of and incapable of working in another. This ought not to be so. [...] The writer, having had forty years' experience, hopes that this volume may be of service both to the lithographic draughtsman and printer, and be of assistance in maintaining a high standard of quality, in the work turned out

49   Alois Senefelder, *A Complete Course of Lithography* (London: R. Ackermann, 1819).

50   W.D. Richmond, *The Grammar of Lithography* (London: Wyman & Sons, 1880), ix.

51   Cf. Richmond, *The Grammar of* Lithography, ix.

52   Cf. Walter Abraham, *Lithography in India: Being a Few Practical Hints for the Indian Amateur* (Bombay: Chesson & Woodhall, 1864).

by the Lithographic establishments of this country, as well as by those situated in the many parts of Greater Britain.[53]

Cumming clearly expresses the hope that manuals like his would also be exported to and used in the British colonies. Henry J. Rhodes, instructor in lithography at the Royal Technical College, Glasgow, formulates his motivation to write a practical guide in 1914 as follows:

> Ten years ago, the lithographic trade was in a critical position, and it was an open question whether it would improve or go under. Thanks, however, to a number of remarkable inventions, in processes, in machinery, and in the purely chemical aspects of the art, a great revival was brought about, with the result that lithography is better able to hold its own in the printing world today than at any period in its past history. The most pressing need of the trade at the present time is an ample supply of workmen of all-round competence, and it is with the object of helping to meet this need that the author has undertaken the preparation of this manual. […] It completely meets the requirements of the lithographic syllabus of the City and Guilds of London Institute in all grades.[54]

It is almost certain that Aḥīduddīn would have studied from these books, since he received his diploma from the City and Guilds of London Institute in 1924. The fact that he modeled his own manual on these English texts in both content and style therefore comes as no surprise.

It is, however, equally important to point out a few similarities to Urdu scribal manuals and compendia of various trades and crafts, even though Aḥīduddīn does not specifically cite any. The *Arzhang-i Cīn* ("Picture-Book of China"),[55] first published in 1867 by the Nizami Press in Kanpur,[56] is particularly noteworthy in this context. Written by Munshī Debī Parshād Badāyūnī

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53   Cumming, *Handbook of Lithography*, x.

54   Rhodes, *The Art of Lithography*, vii.

55   *Arzhang* (or *Ardahang*; lit. "worthy" in Middle Persian) invokes a volume of drawings and illustrations by the prophet Mani that portrays the principal doctrines of Manichaeism. However, in classical Persian literary works like Ferdowsī's epic poem *Shahnama* (*c.* 977–1010 CE), Mani was remembered as a great painter from China rather than as the founder of a religion. *Mānī* even became a term for any exceptional artist, which explains the scribal manual's title, "Picture-Book of China." Cf. Jes Peter Asmussen, *Encyclopædia Iranica*, s.v. "Aržang," https://www.iranicaonline.org/articles/arzang-mid, last modified August 16, 2011, accessed June 1, 2022.

56   Note that Kanpur's Maṭbaʿ-i Niẓāmī (est. 1854), once the city's leading commercial press, was unrelated to the Nizami Press in Budaun. Cf. Stark, *An Empire of Books*, 57.

(b. 1840), a Deputy Inspector of Schools in the Budaun District, the *Arzhang-i Čīn* was reprinted several times by multiple publishers until the 1950s. While preserving certain elements of earlier Indo-Persian scribal treatises, it lay greater emphasis on technical skills. Concerned with the role of scribes at a lithographic press, it also introduced the art of printing on its final three pages, briefly sketching recipes for making ink, methods of preparing paper and stones, as well as the actual printing process.[57]

While it seems unlikely that Aḥīduddīn would not have been aware of such a manual, especially in view of its author being from the same *qaṣbah*, he was certainly familiar with many of the materials and practices it describes. As we shall see, his text contains descriptions of similar recipes, tools, and ingredients whenever he points out how Indian printers had adapted lithography to their local contexts and traditions. But Aḥīduddīn appears to have regarded scribal and calligraphic education as belonging to a separate, if related, category of professionalism. And given that his aim was to promote technological advancements in the art of printing and not to emphasize continuities with earlier scribal practices and modes of knowledge transmission, he may even have viewed manuals that merely engaged with the rudiments of lithography as insignificant or out of date.

Another Urdu book ignored by Aḥīduddīn that contained information on both lithography and movable type was the *Maḵẖzan al-fawā'id* ("Treasury of Benefits," 1909). Published in Moradabad by Sayyid Muḥammad Rafīʿ Riẓvī, a *qaṣbātī* Muslim employed by the State Government Press, Bhopal, the encyclopedia-like compendium introduced readers to a range of trades, crafts, and technologies. Its second volume featured short descriptions and illustrations of various printing presses, materials employed by printers, and specific tools and devices such as the desk-like Bank and Horse. Riẓvī clearly had first-hand experience in the printing business. However, his instructions are for the most part borrowed from older Urdu manuals like the *Arzhang-i Čīn* and English-language publications like the *Popular Encyclopedia* (1836), among others.[58]

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57   Cf. Munshī Debī Parshād Badāyūnī, *Arzhang-i Čīn* (Kanpur: Maṭbaʿ-i Niẓāmī, 1867), 23ff.; Munshī Debī Parshād Badāyūnī, *Arzhang-i Čīn* (Lucknow: Raja Ram Kumar Press [inheritor of the Naval Kishore Press], 1952); Stark, *An Empire of Books*, 266–280; Lanzillo, "Translating the Scribe," 290ff.

58   Cf. Sayyid Muḥammad Rafīʿ Riẓvī, *Maḵẖzan al-fawā'id*, vol. 2 (Moradabad: Maṭbaʿ-i Maṭlaʿ ul-ʿUlūm, 1909). Like Aḥīduddīn, Riẓvī does not acknowledge his sources. Corresponding passages and images can, however, be made out in the following texts: Badāyūnī, *Arzhang-i Čīn*, 23ff.; Daniel Keyte Sandford, Thomas Thomson, and Allan Cunningham, eds., *The Popular Encyclopedia: Being a General Dictionary of Arts, Sciences, Literature,*

Lithographic Printing between Traditional Craftsmanship and Modern Technology

Let us now turn our attention to those passages in Aḥīduddīn's manual that contain original information on lithographic printing in early twentieth-century North India. Focusing on his choice of Urdu words and on those passages in which he directly relates to the realities on the ground allows us to gain deeper insight into the actual practices of Urdu lithography and learn about workmanship, materials used, and trade networks among printers and publishers in the *qaṣbātī* context.

Chapter Two of *Līthūgrāfī* essentially explains how to set up a printing press and what kind of equipment was required for it. For example, we are told that if you only have a hand press, then "ten differently sized stones are necessary, [yet] if you are working with a litho machine, you need at least 15 stones that fit the size of it."[59] Furthermore:

> For a common printing house (*chāpah khānah*) you would want to have around two hand presses of which one has the size of 22 × 14 [inches] and the second 24 × 20, so that small and big work can easily be done. If there is only one press though, then size 24 × 20 would be better so that both big and small kinds of work can be done.[60]

For those who were able to afford more modern printing machines that could churn out prints in higher frequency, the author opines: "Compared to hand presses, machine presses have proven more efficient and yield higher profit. But, having one or two [hand] presses besides a machine remains necessary."[61] From these statements we can infer that hand presses were still very common in early twentieth-century northern India, especially since technologically more advanced printing machines such as steam- or electricity-powered presses oftentimes remained unaffordable for small Indian-owned firms who

Biography, History, and Political Economy, vol. 14, part 2 (Glasgow: Blackie & Son, 1836), 490–495; John Southward, *Modern Printing: A Handbook of the Principles and Practice of Typography and the Auxiliary Arts*, vol. 3, (London: Raithby, Lawrence & Co., 1904), 11f. I thank Amanda Lanzillo for sharing photocopies of the *Makhzan al-fawā'id* with me.

59   Badāyūnī, *Līthūgrāfī* (1924), 4.

60   Badāyūnī, *Līthūgrāfī* (1924), 4. Cumming informs us that "the breadth of the carriage [of a hand press] gives the size of the press: thus, if the carriage is 18 inches wide, it is called an 18-inch press. The price of new presses [in England] is generally about £1 per inch, so that an 18-inch press costs about £18." Cumming, *Handbook of Lithography*, 108.

61   Badāyūnī, *Līthūgrāfī* (1924), 5.

relied on cheap labor. Hand presses, on the other hand, continued to be important devices, especially for producing prints with small edition numbers.[62]

Other items listed in this chapter include such things as transfer paper (*kāpī kā kāg̱ẖaz*), transfer and printing ink (*kāpī likhne kī roshnāʾī* and *chāpne kī roshnāʾī*), mixing and palette knives (*churī* and *kẖurpī*), cupboards (*almārī*), and oil bottles (*tel kī kuppī*) made from leather or metal. We learn that most of these articles could either be acquired on the market or made in the print shop itself. Wherever possible, Aḥīduddīn therefore provides instructions for how to manufacture them, explaining all foreign terms in Urdu.[63] For example, he gives a detailed description of how to make an ink roller (*roshnāʾī kī belan*), commonly used for applying ink onto the stone:

> Take a piece of wood from the *shīsham* tree measuring five inches in length and ten inches in diameter and work it to match the shape of the image [i.e., a sketch]; both handles should be five inches long and made to fit your hands easily. The center piece should be 15 inches long and nine inches in diameter. Now, take a 15-inch-wide piece (*ṭukṛā*) of cloth (*loʾī*) or flannel (*falālain*) measuring 2.5 *gaz* and nail one end of it to the center part of the roller (*belan*). Then start to wrap the cloth neatly and tightly around the roller until the thickness of the roller becomes 14 inches; now tightly sew the end of the cloth to it and ask a cobbler (*mocī*) to fix a piece of the best quality of calfskin (*bachṛe kā ʿumdah camṛā*) to it, and the roller will be ready. Before use, it will be necessary to soften it by using fat (*carbī*); some people also fix a thick leather cover to the handles to prevent getting blisters.[64]

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62   Ulrike Stark confirms that inventions like the steam press in 1811 caught on in India with a considerable delay, adding: "Given the cheapness of labour in India, the cost of a steam press was indeed prohibitive. When steam presses were at last adopted in the late 1880s, only the largest commercial firms could afford the investment." Stark, *An Empire of Books*, 66.

63   Recipes for making ink are discussed in chapter 20 (see below). Also note that scribes working in lithographic presses typically "wrote with printing ink on transfer paper in a similar manner to the way they would write on manuscript paper, and [that] this paper was applied to the lithographic stones which were subsequently prepared for reuse by an apprentice or student employed as a stone-wiper. For a few expensive texts, especially religious treatises and [...] Qurans, the most prestigious and highly-trained scribes would write using 'mirror-writing' in ink directly on the lithographic stone." Lanzillo, "Translating the Scribe," 284.

64   Badāyūnī, *Līthūgrāfī* (1924), 6.

This passage is interesting for several reasons: It gives us information about the *gaz*[65] (or Mughal yard) which appears to have been used side by side with the British inch for measurements like textiles. It shows us specific kinds of materials used in Indian print- and workshops of the time, such as the wood of the *shīsham* tree (lat. *dalbergia sissoo*).[66] Furthermore, Aḥīduddīn quite naturally assumes that fixing a piece of leather or calf skin to the roller would be delegated to a shoemaker (*mocī*), and he does not expect his readers to have any religious or caste-based qualms about using the finished tool.[67]

Another insightful passage in this context is Aḥīduddīn's description of the scraper, also called *roll* or *phāwaṛī* by Hindustani press men:[68]

> [Scrapers or rolls] come both in iron (*lohe*) or wood (*lakṛī*). The wooden roll is used for pressing during the printing process; the iron roll is used to scratch the stone and smoothen out bumps in its surface. [...] *Shīsham* wood or *babūl* wood is most useful for a wooden scraper used in the action of pressing. The wood from which the scraper is made should not have any joint knots (*gānṭh*), etc. [...] Due to usage, the edge often gets thicker so that printing on paper stops working properly [...]. If this happens, make the roll, i.e., the edge of the scraper, thin again with a shard of glass (*shīshe ke ṭukṛe*), some sandpaper (*reg-māl*) or a smoothing plane (*randah*).[69]

In addition to some of the technicalities and difficulties of the printing process, we learn about the utility of materials like shards of glass (*shīshe ke ṭukṛe*),

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65   *Gaz* (or *ilāhī gaz*) was a unit of length used for measuring textiles or distances and commonly believed to have been established on the subcontinent under the Mughals. Values of *gaz* could have regional variety and ranged from 24 inches to 41 inches over time. Cf. James Prinsep, *Useful Tables, Forming an Appendix to the Journal of the Asiatic Society: Part 1. Coins, Weights, and Measures of British India* (Calcutta: Bishop's College Press, 1840), 91–96.

66   Also known as the North Indian rosewood, the *shīsham* tree is native to the subcontinent and considered to be one of the most useful timber species of India due to its hardness and durability. Cf. Edward Balfour, *The Timber Trees, Timber and Fancy Woods: As also, the Forests, of India and of Eastern and Southern Asia* (Madras: Union Press, 1870), 93; Heber Drury, *The Useful Plants of India: With Notices of Their Chief Value in Commerce, Medicine, and the Arts* (London: William H. Allen & Co., 1873), 177.

67   Cf. Badāyūnī, *Lithūgrāfī* (1924), 80f. Note that *qaṣbah*s had been the centers of leather production and trade in the nineteenth century, an industry that was mainly controlled by Muslim merchants. Cf. Rawat, *Reconsidering Untouchability*, 95.

68   Cf. Badāyūnī, *Lithūgrāfī* (1924), 7.

69   Badāyūnī, *Lithūgrāfī* (1924), 7.

sandpaper (*reg-māl*), and specific kinds of wood like *shīsham* and *babūl* used for making tools.[70]

Chapter Three of the book is dedicated to printing stones. Beyond providing some generic information about the types and sizes of available stones, the main advice given here is that one should make sure to buy stones with a flat surface to avoid errors while printing. While the chapter does not tell us where presses in North India commonly procured their limestones, we know that the development of vernacular commercial presses across the subcontinent was, at least to some extent, reliant on the increased availability of cheaper local stones. The *Arzhang-i Cīn* (1867) confirms this but also emphasizes the superiority of imported lithographic stones in comparison to those available in India. It states that the yellow limestones (*khaṭṭū*) found in the mines of Jaisalmer (Rajasthan) would become useless after printing only four to five hundred pages, whereas imported stones could easily last for several thousands of pages. In general, however, only wealthier publishing enterprises such as the Naval Kishore Press in Lucknow could afford to import expensive stones from places like Bavaria on a regular basis.[71]

Chapter Four of Aḥīduddīn's manual deals specifically with different types and models of the lithographic hand press (*chāpne kā dastī press*). It says: "While originating in England and Germany, they are also made in Hindustan, typically out of wood but also of iron, and their fabrication is of a slightly different kind in every place."[72] The invention of iron presses around 1800 was indeed one of several technological milestones that paved the way for industrial mass printing.[73] While quickly adopted in parts of the subcontinent, especially the Bengal region, wooden presses still seemed to play a considerable role for smaller printing enterprises in northern India. Interestingly,

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70   *Babūl* is a generic Hindustani term for some species of the Acacia tree, which was readily available in different parts of South Asia. Growing to a large size and with a timber that is hard and heavy, *babūl* wood was used for making all kinds of tools, from paddles to agricultural utensils. Furthermore, its bark and pods, which yield a black dye known as *sīyāh-bhūra*, were used as tanning materials. Cf. Pradip Krishen, *Trees of Delhi: A Field Guide* (New Delhi: Dorling Kindersley, 2006), 269; Balfour, *The Timber Trees, Timber and Fancy Woods*, 1f., 26.

71   Cf. Badāyūnī, *Līthūgrāfī* (1924), 10–16; Badāyūnī, *Arzhang-i Cīn* (1867), 23; Stark, *An Empire of Books*, 184f.; Nile Green, "Stones from Bavaria: Iranian Lithography in its Global Contexts," *Iranian Studies* 43 (2010): 316f.

72   Badāyūnī, *Līthūgrāfī* (1924), 17.

73   Cf. Stark, *An Empire of Books*, 65; Green, "Persian Print and the Stanhope Revolution," 474–479.

Aḥīduddīn concentrates his further elaborations on British-made (*vilāyatī*)[74] iron presses, arguing that these represented the current state of the art:

> Even if you make a British (*vilāyatī*) press work all the time, none of its parts will break. Only its brass rings (*pītal kī shāmen*) get worn out by the roller (*belan*) [… but they] can easily be copied by artisans skilled in brass molding (*pītal kī ḍhalāʾī karne vale kārīgaron*) or a spare part can be found in a workshop (*kār khāneh men*).[75]

The author clearly admired the superior quality of foreign-made presses. These were usually imported from England via specialized merchants in Calcutta, Bombay, and Delhi. Ironically, parts of these foreign presses were made of plane tree or tropical Mahogany wood, which had to be imported to the British metropole from the colonies before assembly.[76] As we have seen above, even relatively small *qaṣbah*-based publishers like the Nizami Press were able to afford several British-made presses. Chapter Eleven further reveals the continued importance of the hand press for printers in North India:

> It is necessary to say something about the state of printing with the hand press because not only has it been in use in Hindustan for the last 70 to 80 years, but until today it is the best means for achieving good quality prints. Furthermore, those who want to know how to mount a copy or unload the proof and who would like to become press men should begin working on a hand press for at least two to three years, since this gives them much invaluable experience.[77]

A look into Cumming's *Handbook of Lithography* (1904) tells us that in Europe, too, learning how to use a hand press was still considered "the best means of

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74　Technically, *vilāyatī* means "foreign" but in colonial North India it generally meant "European," "English," or "English-made." Cf. Platts, *A Dictionary of Urdu, Classical Hindi, and English*, 1200.

75　Badāyūnī, *Līthūgrāfī* (1924), 21.

76　Cf. Cumming, *Handbook of Lithography*, 106. Quite a few materials used for lithographic printing were exported to Europe from the colonies. From India, these include hemp and jute for making paper, indigo for blue color pigments, Indian yellow (*purree*) for yellow pigments, etc. Cf. Rhodes, *The Art of Lithography*, 111, 135–138. Some of these products were quite expensive in Europe, such as *purree*, which was "made from the urine of cattle that have been fed on the leaves of the mango tree." Rhodes, *The Art of Lithography*, 137f.

77　Badāyūnī, *Līthūgrāfī* (1924), 79.

gaining a true practical knowledge of the [printing] process."[78] Aḥīduddīn pretty much paraphrases Cumming here, who says:

> It is essential that every lad, whether intended for transferrer, preparer, or machineman [sic], should have two or three years of training at the hand-press. Nothing will afterwards make up for the want of this practical work. For this reason, masters should encourage their foremen to get some work done at the hand-press week by week, if for no other reason, than that the lads should really learn their business.[79]

It appears that by the early twentieth century, the main difference between learning the art of lithography in Europe and in India lay not so much in recognizing the utility of starting out on a hand press. Rather, it was the fact that for the longest time many Indian printers had continued to rely on hand presses as their main working devices. In Europe, however, the advent of the steam-powered cylinder machine in the 1810s had revolutionized lithographic printing and basically put an end to commercial hand-press printing.[80] Newer machines emerged on the market in colonial India only slowly. The Nizami press, for example, acquired their first electric lithographic machine from John Ratcliff & Sons in 1929, even though the company had been selling these types of machines since before World War I.[81] In Chapter Nineteen, Aḥīduddīn writes:

> Anything can be printed easily and quickly with a machine (*mashīn*). The expenses, too, are quite low. If there is a lot of work or if there are many machines running simultaneously in the workshop, then using a machine run by electricity (*bijlī*) or steam (*injan*) is an advantage. If there is less work, a machine can also be run manually. Yet, those machines that run by electricity or steam get worn down quickly.[82]

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78 Cumming, *Handbook of Lithography*, 105.
79 Cumming, *Handbook of Lithography*, 105.
80 Cf. Cumming, *Handbook of Lithography*, 115; Stark, *An Empire of Books*, 65.
81 Based in Leeds, John Ratcliff & Sons were known as pioneers in the construction of flatbed offset machines. Since these could be altered to also print direct work instead of offset, such converted machines became popular throughout the lithographic world. They were, for example, also used by other *qaṣbah*-based publishing houses like Bijnor's Madīnah Press. Cf. Robb, *Print and the Urdu Public*, 107f.; Charles Harrap, "The Offset Method—XII," *The Process Engraver's Monthly* 22, no. 259 (1915): 121–124.
82 Badāyūnī, *Līthūgrāfī* (1924), 156.

The author is speaking from personal experience here. Having bought his first Ratcliff machine two years prior to the arrival of electricity in Budaun, mechanics from Delhi had to come and tweak the machine so that it could also be operated by manpower. Essentially, though, he is alluding to the fact that both acquiring and maintaining electric or steam-powered presses might be costly, but that such an investment would pay off in the long run, especially for firms who could afford to buy several machines at once and who were printing large amounts of copies.[83]

Chapter Five talks about the different kinds of chemical ingredients (*ājzā'e kīmīāvī*) used in lithography, such as gum arabic (*gond*), nitric acid, acetic acid, carbolic acid, oxalic acid, French chalk or talc, rosin (*rāl*), asphaltum, turpentine oil, paraffin oil, palm oil, various driers, tallow (*carbī*), bees wax (*mom*), alum (*phiṭkarī*), magnesia, plaster of Paris or stucco, gelatin, glue, coral (*marjān*), linseed oil (*ālsī kā tel*), arrowroot (*ārārūṭ*), and gamboge (*ʿuṣārah-yi revand*). While many of these items are taken over from Cumming's *Handbook of Lithography*, all Urdu terms indicate materials and practices that have a longer history on the subcontinent. And indeed, these terms also feature in the scribal manual *Arzhang-i Cīn* alongside further natural acids and dyes like lemon extract, pomegranate juice, orange juice, and saffron.[84]

Aḥīduddīn's manual thus shows us how Indian printers adapted lithography to the South Asian context. For example, it tells us that European printers commonly diluted acetic acid in water to clean those parts of the stone on which alterations had to be made, whereas in India, "instead of these kinds of acids, dried extract of sour mangoes (*ām kī khushk khaṭā'ī*) or lemons (*līmūṉ*) are generally used."[85] A passage in Chapter Ten discussing the preparation of stones for printing reads accordingly:

> A mixture of two percent-solution of saltpeter acid and gum (*gond*) should be spread on the stone. But since in most places in Hindustan sour mango extract or lemon is used instead of acid, those who want to can also mix these alternatives with gum. The only problem with this mixture is that it is difficult to ascertain the right amount of extract.[86]

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83   Cf. Badāyūnī, *Niẓāmī Badāyūnī*, 334ff.

84   Cf. Badāyūnī, *Niẓāmī Badāyūnī*, 22–30; Cumming, *Handbook of Lithography*, 34–58; Badāyūnī, *Arzhang-i Cīn* (1867), 10–25.

85   Badāyūnī, *Līthūgrāfī* (1924), 23. Also note that ʿAbdulḥalīm Sharar writes in his cultural history on Lucknow's past, *Guẕashtah Lakhnaʾū*: "Instead of acid, fine-skinned lemons were used and sponges took the place of cloth." Sharar, *Lucknow*, 107. Sponges, however, were expensive in India and thus cloth was always a practical alternative, especially in large establishments. Cf. Abraham, *Lithography in India*, 10.

86   Badāyūnī, *Līthūgrāfī* (1924), 76.

Recognizing some of the challenges that Indian alternatives posed, the author also aims to enhance knowledge among his readers about newer kinds of chemical ingredients used by European printers, which suggests an increased commercial availability of such products.

But the growing global exchange of knowledge and commodities was not a one-way-street, nor did innovation solely happen abroad. Take the case of linseed oil (*ālsī kā tel*). Aḥīduddīn explains that it was extracted from the seeds of the flax plant (*ālsī*), widely cultivated in India, and that it was used for making varnish and printing ink (*chāpne kī roshnāʾī*).[87] From Cumming we know that linseed oil was also the preferred ingredient for making lithographic varnish in Europe and that the flax plant was "cultivated largely in France, Germany, Russia, and other countries."[88] Rhodes further elaborates: "The best oil for printing inks comes from the shores of the Baltic Sea and is called *Baltic oil*, but *Calcutta oil*, as obtained from India, is not now much inferior."[89] Hence, it seems that by the 1910s and 1920s, Indian-made linseed oil was of such a high quality that it was exported to Europe where it became the preferred drying oil for manufacturing printing inks along with *Baltic* oil from Russia.

By contrast, arrowroot (*ārārūṯ*) or curcuma, as it is commonly known in South Asia, does not feature in the European manuals. Aḥīduddīn explains its multi-purpose use in India:

> In Hindustan, it is extracted from the root of a tree. It looks like flour (*maidah*) and is also given to the sick and to kids as a food supplement. In lithography, a layer of it is applied to the printing paper. There are various kinds of these. For coloring the paper, the best quality and a very fine-grinded version should be used.[90]

The idea to use arrowroot for lithographic printing indeed appears to have originated in late nineteenth-century Calcutta, where it was found to be much cheaper and equally good if not even better than the common method of coating transfer paper with gelatin.[91]

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87 Cf. Badāyūnī, *Līthūgrāfī* (1924), 29.

88 Cumming, *Handbook of Lithography*, 34.

89 Rhodes, *The Art of Lithography*, 132. He adds that Calcutta oil was "an Indian variety of linseed oil." Rhodes, *The Art of Lithography*, 299.

90 Badāyūnī, *Līthūgrāfī* (1924), 29f. In Europe, flour, starch, gelatin, glue, and other components were commonly used for coating printing paper. Cf. Cumming, *Handbook of Lithography*, 28.

91 Cf. Julius Schnauss, *Collotype and Photo-Lithography*, trans. Edwin C. Middleton (London: Iliffe and Son, 1889), 153f.; Edward Balfour, *The Cyclopædia of India and of Eastern and Southeastern Asia* (London: Bernard Quaritch, 1885), 858.

Chapter Eight of *Līthūgrāfī* again follows Cumming in explaining the process of drawing on stone for black and color prints. We learn that "drawing on grained stone" (*dāna-dār pathar par khadā'ī karnā*) was one of the earliest methods of lithographic reproduction and commonly used in the making of large advertisements.[92] In Europe, Cumming writes, it had died a "natural death" due to the "necessities of a commercial age and steam-printing machines."[93] According to Aḥīduddīn, however, it was still very much in use in colonial India, as could be seen "on the walls of stations and in the *bazār*s (markets) of big cities where large advertisements are put up."[94] A related point is the use of shading mediums, consisting of transparent gelatin sheets or films, which were the preferred means by which "the tedious work of hand stippling on stone"[95] was carried out:

> In those places where colored prints are in high demand for commercial purposes, shading medium is a very useful thing. Though it is not necessary to have a lot of experience, one quickly develops some expertise when using it once or twice. Yet, because the tax rates (*sharaḥ-i ṭaiks yā maḥṣūl*) on these films are too high it is rarely sold, which explains the lack of such films in Hindustan.[96]

It appears that some of these items were either not available in the colony or prohibitively expensive.

In Chapter Twelve we learn about the different types of paper (*kāg̱ẖaz*) used for lithographic printing and that, "aside from other countries, lots of paper is made in Hindustan. Currently, the paper of Titagarh in Bengal [i.e., the Serampore Paper Mill] and the Lucknow Paper Mills is in high demand. In these mills, every kind of paper is made."[97] Ulrike Stark has alerted us to the fact that, along with several technological innovations, the growth of an indigenous paper industry was a major preliminary to the commercialization of print in northern India, especially since it eventually led to a reduction in production costs. For much of the nineteenth century, the paper mill belonging to the Serampore Mission Press had been "the leading supplier of Indian-made paper to the printing presses in eastern and northern India."[98] Yet, the mill

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92   Cf. Badāyūnī, *Līthūgrāfī* (1924), 50–63; Cumming, *Handbook of Lithography*, 78–90.
93   Cumming, *Handbook of Lithography*, 79.
94   Badāyūnī, *Līthūgrāfī* (1924), 56.
95   Cumming, *Handbook of Lithography*, 87.
96   Badāyūnī, *Līthūgrāfī* (1924), 60.
97   Badāyūnī, *Līthūgrāfī* (1924), 88f.
98   Stark, *An Empire of Books*, 66.

was eventually unable to keep pace with the rapid growth of demand. And since imported paper was expensive, none other than Naval Kishore initiated the establishment of the Lucknow Paper Mills in 1879 as the first paper mill in North India.[99]

Chapter 20 features several recipes (*nuskhe*) and methods (*tarkīben*) necessary for lithography, beginning with the production of "litho writing ink" or *kāpī kī roshnā'ī*:

> This ink is used by dissolving it in water. In Hindustan it is made in abundance (*kasrat se bantī hai*) and compared to the British (*vilāyatī*) ink it is cheaper and even better. Among Hindustani-made inks, Kanpuri ink is excellent. And since it is famous it is used in many presses. Making this kind of ink yourself requires a few skills but it is not particularly difficult. If someone who knows how to make good ink would begin producing and selling it, he could make quite a profit with only very little investment.[100]

Such general information is followed by a recipe listing exact quantities of the ingredients that would be used in India:

> This ink is used to write on the litho stone or on paper and is called 'litho writing ink' in English. 4 parts (*ḥiṣṣeh*) yellow soap (*zard ṣābun*); 4 *ḥiṣṣeh* fresh goat fat of good quality; 4 *ḥiṣṣeh* grease (*cupṛā lākh*) that is properly cleaned; 8 *ḥiṣṣeh* pure yellow wax (*mūm khāliṣ zard*); and finally, 1/8 *ḥiṣṣah* good quality lamp black (*kājal*), but if mustard oil (*kaṛve tel*) is available, then that is better.[101]

Especially lamp black (*kājal*) was hugely important in the printing industry since it was a main source for black ink. Aḥīduddīn explains:

> Black printing ink is made of *kājal* and varnish. The quality of black printing ink depends on the quality of *kājal* and the quality of grinding (*pisā'ī*). *Kājal* can be produced at home by burning mustard oil (*kaṛve tel*) or kerosene oil (*maṭṭī kā tel*) but it is also sold ready-made.[102]

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99   Cf. Stark, *An Empire of Books*, 66, 187–192.
100   Badāyūnī, *Līthūgrāfī* (1924), 171.
101   Badāyūnī, *Līthūgrāfī* (1924), 171f. Also see Cumming, *Handbook of Lithography*, 19ff.
102   Badāyūnī, *Līthūgrāfī* (1924), 180.

The production of ink from lamp black and mustard oil was indeed very common in North India.[103] While colored inks were used much more rarely in Indian lithographic prints, they did increasingly feature on cover pages, illustrations, or greeting cards.[104] Aḥīduddīn writes:

> In the printing of Urdu advertisements and books, mostly black printing (*sīyāh chapāʾī*) is used, but nowadays colored printing is also being advanced in the printing of book titles, *ʿīd* cards, pictures, labels, posters, etc.[105]

Finally, the author follows the example of the British handbooks in placing several ads at the end of his manual. The first one recommends the Hunters Limited lithographic supply house in London, from which Aḥīduddīn apparently hoped to receive commissions.[106] The second ad is more interesting because it mentions the names and addresses of a few famous North Indian merchants selling printing paper and lithographic materials.[107] Notably, three of them were in Delhi's Chawri Bazaar, one in Agra, and the only non-Indian-owned one in Calcutta. At the very end, the author also recommends his own shop with the words: "All types of paper (*kāġhaz*), ink (*roshnāʾī*), binding (*jild-bandī*) equipment, and other things that are necessary for lithography—order them from Niẓāmuddīn Ḥusain and Son, Budaun!"[108]

A Second Edition and the Lasting Popularity of Lithography

Aḥīduddīn's Urdu manual on lithographic printing ends with the note: "Nobody is allowed to make a copy of this book, reprint it with changes to its contents, quote from it or translate it. Otherwise, instead of making profit, damages will have to be paid."[109] Clearly, the author was aware of the concept of copyright.

103   Cf. Badāyūnī, *Arzhang-i Cīn* (1867), 23ff.; Riẓvī, *Makhzan al-fawāʾid*, 127ff.; Sharar, *Lucknow*, 107.

104   Chapter Thirteen and Fourteen also deal with color printing. Cf. Badāyūnī, *Līthūgrāfī* (1924), 95–135.

105   Badāyūnī, *Līthūgrāfī* (1924), 156.

106   The ad says: "Please mention this book when writing a letter [to the company]." Badāyūnī, *Līthūgrāfī* (1924), 185. Also note that most materials, be it varnish or zink and aluminum plates, could be ordered directly from London or via local merchants. Cf. Badāyūnī, *Līthūgrāfī* (1924), 118, 182f.

107   Cf. Badāyūnī, *Līthūgrāfī* (1924), 186.

108   Badāyūnī, *Līthūgrāfī* (1924), 186.

109   Badāyūnī, *Līthūgrāfī* (1924), back cover.

And yet he chose not to cite his own sources.[110] In his view, the manual filled a gap among educational materials of his trade in Indian vernaculars and he therefore expected it to be widely used by Urdu publishers and printers. It is, of course, difficult to assess the book's impact and whether it was used by people in the business. However, the existence of a second edition of the manual does give us some indication of its success and longevity.

While smaller in size and with lower-quality illustrations, this second edition was published by the Nizami Press in 1976 with financial assistance form the Uttar Pradesh Urdu Academy, Lucknow, and with a run of 600 copies.[111] Aḥīduddīn oversaw the republication himself. In its preface, he re-affirms that the manual was not only the first book in Urdu on lithography but that it remained the only one ever published in the language. He also informs us that the first edition had quickly sold out, especially since the Government of the United Provinces (U.P.)[112] had purchased several copies and distributed them among libraries across the state. Moreover, he writes that the second edition of the book was published in response to ongoing demand (*māng*). Overall, it seems that the manual primarily found approval among educational institutions in the region, especially art schools.[113]

Continued interest in the art of lithography does not come as a surprise. With its unique capacity to accurately reproduce the *nastaʿlīq* script, lithography remained the preferred method for printing Urdu materials in *qaṣbah*s like Budaun until well into the twentieth century. The manual's second edition was largely a reprint. Nonetheless, its editor occasionally tried to accommodate certain technological advancements and changes in terminology that had evolved in the meantime. For example, we find an explanatory note about the outdated usage of the word *pathar* ("stone") throughout the book, since the term *pleṭoṇ* ("plates") had become more common. Furthermore, the second edition also featured an additional chapter on the workings of the more recent flatbed offset printing machine.[114]

110　For a concise overview of the development of book registration and copyright protection in colonial India since the Indian Copyright Act of 1847, see Stark, *An Empire of Books*, 86–90.

111　Cf. Badāyūnī, *Līthūgrāfī* [2nd ed.] (1976), 3.

112　Note that the United Provinces were renamed Uttar Pradesh (lit. "northern province") after India's independence.

113　Cf. Badāyūnī, *Līthūgrāfī* [2nd ed.] (1976), 5. I found a copy of the manual's first edition in Lucknow University's Tagore Library and a copy of the second edition in the Rampur Raza Library.

114　In addition, the new edition contains more advertisements integrated into the main body of the text. Cf. Badāyūnī, *Līthūgrāfī* [2nd ed.] (1976), 4f., 13, 40, 60, 86, 96, 115, 128, 198–206.

Towards the end, Aḥīduddīn appended excerpts of several favorable reviews of his manual that had appeared in Urdu newspapers and journals in 1924. Among these, the Darul Musannefin Shibli Academy's *Ma'ārif* (Azamgarh) praised how the book's explanations of all aspects pertaining to lithographic printing were beneficial to both the novice and the experienced worker. The *Inqilāb-i Zamānah* (Calcutta) highlighted that the manual featured instructions for lithography as well as descriptions of newly invented devices. And the *Paisa Akhbār* (Lahore) remarked that the book was not only the first of its kind in Urdu but that it ought to be read by anyone interested in learning the art of lithography. Further reviews appeared in the *Agra Akhbār* (Agra), *Rozānah Akhbār* (Bareilly), *Tej* (Delhi), *Numā'ish* (Hyderabad), and in the *Mukhbir-i Dakkan* (Madras).[115] In sum, these are strong indicators that the manual was taken seriously and discussed by the Urdu press across the subcontinent, despite the availability of earlier publications like the *Arzhang-i Cīn* and the *Makhzan al-fawā'id.*

Conclusion

Published more than a century after the printing technology was introduced on the subcontinent, the first book-length manual on lithography in Urdu is a noteworthy and unjustly neglected text. Written by a reform-minded Muslim in an early-twentieth-century *qaṣbātī* context, it is to some extent a crude "cut and paste" synopsis *cum* translation of slightly older English manuals. Yet, the manual also contains a wealth of information on context-specific Urdu terms, and its original passages give us valuable insights into the practices, materials, and conventions of lithographic printing in late colonial North India. From the hand press to the electric machine, we learn about different types of lithographic presses that were commonly used in South Asia and how they were operated. From indigenous wood varieties to oils, mango extract, and lime juice, we become aware of the many regional resources that were utilized in lieu of materials that were more common in Europe. Recipes and instructions for making ink or building tools are explained in detail and we hear about some of the era's most popular paper and equipment merchants in places like Delhi, Agra, Kanpur, and Calcutta.

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115   Cf. Badāyūnī, *Līthūgrāfī* [2nd ed.] (1976), 207f.

Other than his father, Aḥīduddīn belonged to a new generation of *qaṣbātī* printers and publishers who were able to visit novel educational institutions and even travel abroad to study and learn about European technological advancements. Like the authors of other educational manuals and technical handbooks published in Urdu, Aḥīduddīn aimed to contribute to the modernization of his profession in colonial India. And like other modernizers of his time, he linked the question of education and technological innovation to the larger progress (*taraqqī*) of his community/nation (*qaum*) and country (*mulk*). From his vantage point, oral or confidential "*sīnah-bah-sīnah*" methods of knowledge transmission from master to disciple were dated and stood in the way of innovation and progress. Choosing the printed book as a medium of instruction, his authority rested on the capacity to make new technical knowledge accessible in a vernacular language to newcomers while demonstrating familiarity with local practices and materials. Indicative of a larger process of professionalization among Urdu printers and publishers, his handbook thus complemented scribal manuals like the *Arzhang-i Cīn*, which had sought to integrate new cadres of calligraphers and scribes into the lithographic print economy.

From the book's second edition we learn that it was relatively well received and used for educational purposes in publishing houses and by government-funded institutions in U.P. until the second half of the twentieth century. How many printer-publishers, artisans, or press men were ultimately able to benefit from it remains an open question. Yet, as I have argued in this article, a close reading of the manual demonstrates that the *qaṣbah*, rich in social and cultural capital, was an important node in an expanding network of intellectual and material exchange. It shows us how *qaṣbātī* intellectuals were able to adapt to educational shifts in colonial North India and how establishing an Urdu newspaper and a printing press could turn local Muslim *ashrāf* into dynamic entrepreneurs, political players, and agents of modernity whose influence reached far beyond their initial status. Finally, paying attention to such Urdu sources adds complexity to our understanding of India's integration into an industrializing global economy and of lithography as a socially transformative commodity.

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