

Flower Breeding in Early Modern Istanbul: A Science of Seeds

Aleksandar Shopov, *Binghamton University*

Abstract: In the seventeenth century, new varieties of flowers were created in Istanbul's many agricultural spaces. At the same time, new literary genres related to flower breeding appeared: technical "how-to" manuals, which derived from an earlier tradition of agricultural treatises; encyclopedias of the flower varieties created in Istanbul; and biographical dictionaries of Istanbul's flower breeders. Such texts, which typically bear the designation *Şüküfe-nâme* (Books on Flowers), attempt to prescribe note-taking habits, agricultural timelines, and observational techniques. Varieties of flowers with various shapes, sizes, and colors are attributed to the work of individual local breeders. This essay explores the role of seeds in this rich textual production in Istanbul. As things that are mobile yet can take root, seeds became objects of study during what was an era of heightened exchange and mobility in seventeenth-century Ottoman Istanbul. In contrast to the view holding that the history of flower seeds unfolded primarily in Ottoman exchanges with Western Europe, the case of *Şüküfe-nâme* works shows that seeds were technological objects with local histories.

An anonymous late fifteenth-century chronicle of the Ottoman dynasty criticizes the selection, in 1453, of Istanbul as the new Ottoman capital by evoking ancient Constantinople's moral, architectural, and ecological volatility: "Many palaces were built, they did not survive / Many seeds were planted, they did not ripen."¹ Opposition to the relocation of the capital

Aleksandar Shopov is a historian with interests in the history of science and the social and environmental histories of the Ottoman Empire, focusing on the period between 1400 and 1800. He received his Ph.D. from Harvard University in 2016. He has held a fellowship at Dumbarton Oaks Library in Washington, D.C., and postdoctoral fellowships at the Annemarie Schimmel Kolleg in Bonn, the Rachel Carson Center for Environment and Society in Munich, and the Max Planck Institute for the History of Science in Berlin. He is writing a book about urban agriculture in Ottoman Istanbul. He is Assistant Professor of Early Modern Ottoman History at Binghamton University (SUNY). Department of History, Binghamton University, P.O. Box 6000, Binghamton, New York 13902-6000, USA; ashopov@binghamton.edu.

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¹ The chronicle refers to the legendary founding of Istanbul by Yanko bin Madyan. See Anonymous, *Die Altosmanischen Anonymen Chroniken: Tevārīḫ-i Ali-i Osmān*, in *Text und Übersetzung*, ed. and trans. F. Giese, 2 vols. (Breslau, 1922–1925), Vol. 1, p. 81 (here and throughout this essay, all translations are mine). This chronicle and, in particular, the stories in it about the founding and the history of the city have been extensively discussed in Stéphane Yerasimos, *La fondation de Constantinople et de Sainte-Sophie dans les traditions turques: Légendes d'empire* (Istanbul: Institut Français d'Études Anatoliennes, 1990).

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figured into broader debates in Ottoman society regarding the new centralization policies being issued from the new capital, which curbed the power of the frontier warriors in the Balkans.² That agricultural metaphors figure prominently in such debates is not surprising; the old capital, Edime, had been located at the convergence of three rivers in the flourishing agricultural region of Thrace.

In a hagiography of the Sufi shaykh Akşemseddin (d. 1457), written by the Ottoman judge Emîr Hüseyin Enîsî between 1538 and 1557, seeds appear in a foundation narrative of Istanbul.³ Praising Akşemseddin's role in the Ottoman conquest of the city—according to both the hagiography and archival records, the shaykh had encouraged the young sultan Mehmed II to continue the siege—the text also discusses Akşemseddin's role in the rebuilding of the city following the conquest in 1453.⁴ According to Enîsî, Akşemseddin sent his Sufi mystic followers to collect numerous *kile* (bushels) of seeds from the mallow plant and to plant them throughout the city. When asked why, he responded that just prior to doomsday there would be a great battle, preceded by a year of drought and famine. During this time, vegetables, wheat, and barley would not grow; but mallow—a flowering herbaceous plant that is also edible and is still found in Istanbul today—“grows in drought.”⁵

The text treats the Sufi scattering of mallow seeds as a founding act of Ottoman Istanbul. Rather than focusing on mosques, complexes that supported public services, or other built structures, the hagiography communicates Akşemseddin's spiritual restoration of the city through a narrative of what might now be termed agricultural sustainability. The story of Akşemseddin seeding the city also likely meant to downplay an earlier Islamic eschatology predicting that a Muslim conquest of the city would be followed by the apocalypse.⁶ The story may also have alluded to more contemporary developments in Istanbul. By the mid-sixteenth century, large sections of land in Istanbul, especially in low-lying areas prone to flooding, had been transformed into commercial produce gardens or *bostans*, which were endowed to sultanic charitable foundations.⁷ Unlike the drought-resistant mallow plants of Akşemseddin, which grew in the city during the Byzantine period and must have been widespread in the initial years following the conquest, such gardens required intensive irrigation.⁸

In other words, Enîsî's description of Sufis “seeding the city” reflected a contemporary reality in Istanbul in which seeds were urban objects that shaped the city's landscapes. This essay considers the related history of flower breeding (*terbiye-i ezhâr*), which by the mid-seventeenth century had emerged in Istanbul as a collection of practices shared and discussed among a community

² Cemal Kafadar, *Between Two Worlds: The Construction of the Ottoman State* (Berkeley: Univ. California Press, 1994), pp. 48–49.

³ Abdalbaki Keskin, “A Critical Edition of Enîsî's ‘Menakib-i Akşems ed’Dîn’ with an Account of Ak Sems’ed-Dîn's Political and Religious Influence as Revealed in This Work” (Ph.D. diss., Univ. Manchester, 1977), pp. 82–83.

⁴ For the archival records see Halil İnalcık, *Fatih Devri Üzerine Tetkikler ve Vesikalar* (Ankara: Türk Tarih Kurumu Basımevi, 1954), p. 131.

⁵ Keskin, “Critical Edition of Enîsî's ‘Menakib-i Akşems ed’Dîn’” (cit. n. 3), pp. 82–83. According to Ibn Arabî (1165–1240), the Andalusian scholar and mystic who had a profound impact on Ottoman mystical and political thought, Khidr is one of the four always-living prophets. See Claude Addas, *Quest for the Red Sulphur: The Life of Ibn ‘Arabî* (Cambridge: Islamic Text Society, 1993), p. 65.

⁶ For the exchange between Islamic and Byzantine apocalyptic traditions see Yerasimos, *La fondation de Constantinople et de Sainte-Sophie dans les traditions turques* (cit. n. 1); and Cornell H. Fleischer, “A Mediterranean Apocalypse: Prophecies of Empire in the Fifteenth and Sixteenth Centuries,” *Journal of the Economic and Social History of the Orient*, 2018, 61(1–2):18–90.

⁷ Aleksandar Shopov, “When Istanbul Was a City of Bostans: Agriculture and Agriculturalists,” in *A Companion to Early Modern Istanbul*, ed. Shirine Hamadeh and Çiğdem Kafescioğlu (Leiden: Brill, 2021), pp. 279–307.

⁸ A Byzantine agricultural manuscript dated to the tenth century describes mallow among the plants growing in the latitude of Constantinople; see Andrew Dalby, *Geoponica: Farm Work: A Modern Translation of the Roman and Byzantine Farming Handbook* (Blackawton: Prospect, 2011), p. 247.

of practitioners. During this period, which saw an explosion of Ottoman flower varieties, numerous texts about flower breeding were authored in Istanbul, some of which aimed to elevate flower breeding into a distinct Islamic science. Absorbing technical knowledge about flower breeding into written and visual culture, such texts also attempted to establish local histories and genealogies of seeds. In these texts, seeds emerge as objects of study with distinct natural and cultural histories.

Such texts fall roughly into three categories or genres, which were related and often not entirely distinct: technical “how-to” manuals on flower breeding, which derived from an earlier tradition of agricultural treatises; encyclopedias of flower varieties created in Istanbul; and biographical dictionaries of Ottoman flower breeders, which belonged to the earlier Islamic *ṭabaqāt* literature tracing intellectual genealogies in various sciences. Emerging around the same time, in the mid-seventeenth century, these genres would flourish in Ottoman literature until well into the nineteenth century. Yet such texts have received little scholarly attention.⁹ This neglect is in keeping with the general view of Ottoman flower breeding as deriving its importance primarily in relation to European histories of botany and trade, particularly Dutch tulipomania. More generally, Istanbul has not been considered as a space of agricultural technology. Yet Ottoman manuscripts on flower breeding can shed light on how plants and seeds in Ottoman Istanbul became transformed into technological objects with distinct histories.

In his *Şüküfe-nâme* (*Book of Flowers*), written in the mid-seventeenth century and preserved today in five manuscripts housed in libraries in Istanbul, ‘Abdullāh Çelebi describes techniques for creating seeds for new varieties of flowers:

Close to the summer, place a bag made of *tül bent* [muslin] on the seeds of the flower. The seeds should be inside, and the bag tightened around the point where the flower meets the stem, so that, in the first place, the seeds are not harmed by insects, and also so they are not lost if they fall down. And beside [the flower] put a stick, and tie it to the seed pod with a rope; and tie it loosely so that you don’t break the stem of the seed pod as it grows. When harvesting, the seed should have a yellow color.¹⁰

Found in the work’s first chapter, which concerns the treatment of seeds, this passage highlights the material of the bag in which the tulip flower was to be enclosed and its seeds collected: *tül bent*, the fine expensive cotton textile also known as muslin, which would have been imported to Istanbul from production sites in southern Iraq.¹¹ The reference to muslin as a necessary material in tulip breeding may indicate an alternative etymology for the word “tulip,” which entered Western European languages in the sixteenth century. In 1553 the Flemish herbalist and diplomat Ogier Ghiselin de Busbecq, the Habsburg ambassador to Istanbul, observed tulips while on the road from Edirne to Istanbul, claiming that the locals called these flowers “*tulipān*,” which Ogier and other writers adopted as “*tulpen*.”¹² “*Tül bent*” was also the Ottoman Turkish word for “turban,” in reference to the material from which the headgear was often made. The closeness between “*tül bent*” and “*tulipān*”/“*tulpen*” has led to the widespread assumption that

⁹ Recently, however, most of the representative works from these genres were published in a single volume: Seyit Ali Kahraman, *Şüküfenâme: Osmanlı Dönemi Çiçek Kitapları* (Istanbul: İstanbul Büyükşehir Belediyesi Kültür A.Ş. Yayınları, 2015).

¹⁰ *Ibid.*, p. 117. Regarding the manuscripts of ‘Abdullāh Çelebi’s work see Ekmeleddin İhsanoğlu, ed., *Osmanlı Tabii Ve Tatbiki Bilimler Literatürü Tarihi* (*History of the Literature of Natural and Applied Sciences during the Ottoman Period*) (Istanbul: IRCICA, 2006), pp. 88–89.

¹¹ Suraiya Faroqhi, “Textile Production in Rumeli and the Arab Provinces: Geographical Distribution and Internal Trade,” *Journal of Ottoman Studies*, 1980, 1:61–83, esp. p. 74.

¹² Ogier Ghislain de Busbecq, *The Life and Letters of Ogier Ghiselin de Busbecq*, Vol. 1, ed. Charles Thornton Forster and Francis Henry Blackburne Daniell (London: C. K. Paul, 1881), p. 107.

the flower was named after the bulbously shaped headgear, a claim that is often repeated in general histories of the tulip and in stories of its introduction into Western Europe. Yet “*tülbent*” also refers to the muslin textile, suggesting a link between the word “tulip” and Ottoman techniques for containing its seeds and cultivating its flowers.

It is De Busbecq, rather than ‘Abdullāh Çelebi, who is frequently cited as a primary source on the history of Ottoman flower breeding and the popularity of Ottoman tulips, even though his *Itinera Constantinopolitanum et Amasianum* (1581) offers little in the way of observations on Ottoman flower breeding or on how Ottoman practitioners interacted with or manipulated flowers in their living forms. ‘Abdullāh Çelebi, on the other hand, authored one of the earliest treatises on flower breeding as practiced in Istanbul and had firsthand knowledge of the subject, as his introduction emphasizes. His *Şüküfe-nâme* reveals a world of materials and techniques related to seeds that are worthy of study in their own right, not only as part of a history that inevitably points to Western Europe. Indeed, a recent paper on the concept of the “cropscape” has argued that “a focus on travels and destinations inclines us to dehistoricize the *thing* at its point of origin, to neglect the processes of ‘moving on the spot’ through which a thing takes shape and stays in place.”¹³

Little is known about ‘Abdullāh Çelebi except that he hailed from a family of Ottoman bureaucrats and that he lived in Galata, across from the main port of Istanbul. He was likely representative of a new type of seventeenth-century Ottoman scholar who was not necessarily associated with the traditional institutions of learning, such as the madrasas (Islamic colleges). As Nelly Hanna has described in her work on the analogous intellectual climate of Ottoman Cairo, these new scholars were “exposed to commercial culture with a practical outlook.”¹⁴ ‘Abdullāh Çelebi designed gardens, bred new flower varieties, and was writing at a time when flower breeding was becoming a lucrative business in Istanbul, practiced by a range of urbanites that included bureaucrats, artisans, and merchants—both men and women. The latter may have played a crucial role in the circulation of knowledge about flower breeding.¹⁵ ‘Abdullāh Çelebi notes that his wife’s father experimented with soil used for flower growing, which could be regarded as an indicator that women in Istanbul were the main carriers of agricultural techniques between different households.¹⁶

‘Abdullāh Çelebi’s *Şüküfe-nâme* offers technical advice to potential or current flower breeders—practices that, his text emphasizes, he had learned either through personal experience or directly from other flower breeders and that could help readers create new varieties of flowers that would fare well on Istanbul’s expanding, diversifying flower market. By 1725, the prices of 224 different varieties of “Rumi/Roman tulip” would be registered in the Istanbul court.¹⁷ The large number of tulip varieties developed in Ottoman lands, particularly in Istanbul and neighboring towns, has often been explained by the importing of tulips from Western Europe, especially the Netherlands, and by broad cultural and social developments such as new notions of leisure and garden culture that were supposedly an eighteenth-century example of the “Westernization” of Ottoman

¹³ Francesca Bray, Barbara Hahn, John Bosco Lourdasamy, and Tiago Saraiva, “Cropscares and History: Reflections on Rootedness and Mobility,” *Transfers*, 2019, 9:20–41, on p. 21.

¹⁴ Nelly Hanna, *In Praise of Books: A Cultural History of Cairo’s Middle Class, Sixteenth to the Eighteenth Century* (Syracuse, N.Y.: Syracuse Univ. Press, 2003), p. 13. Recently, Harun Küçük has discussed several examples of scholars in the seventeenth and eighteenth centuries who approached natural knowledge as a “body of useful and lucrative practices”: Harun Küçük, “Science and Technology,” in *Companion to Early Modern Istanbul*, ed. Hamadeh and Kafesçioğlu (cit. n. 7), pp. 607–634, on p. 623.

¹⁵ One such example is Azîzî Hatûn. She bred one narcissus and three tulip varieties, according to the bibliographical dictionary of flower breeders written by the mosque preacher Ubeydullah Efendi. See Kahraman, *Şüküfenâme* (cit. n. 9), p. 62.

¹⁶ *Ibid.*, p. 120.

¹⁷ Fuat Recep, Mehmed Akan, and Fikret Sarcaoğlu, *İstanbul Kadı Sicilleri İstanbul Mahkemesi 24 Numaralı Sicil (H.1138–1151/M.1726–1738)* (Istanbul: İSAM, 2011), p. 165.

society in Istanbul.¹⁸ In fact, however, the explosion of Ottoman flower varieties was closely tied to technological interventions in the life cycles and forms of plants—practices, techniques, and materials—among communities of practitioners.

The seeds of Istanbul, as part of the life cycles of plants, were central to the city's natural history. The opening chapter of 'Abdullāh Çelebi's *Şüküfe-nāme* emphasizes that seeds require a very specific kind of care:

When August arrives, build tiny dwellings out of brick, and sift the soil through a fine sieve so that it is like flour. Then the seeds should be planted as if planting the bulbs, with a distance of one finger between them. Cover them with a layer of soil three fingers thick. Then they should be watered enough that the water reaches the floor. Afterwards, with a mat or cloth, cover them, and for ten days, give them water in abundance. Until November, apply the explained method and do not open them. On the day of Kasım [November 8] open them and stop giving them water.

Putting technical know-how into writing, 'Abdullāh Çelebi treats the seeds as fragile living beings in need of brick "dwellings." He also advises organizing the care of seeds according to the seasons. The "day of Kasım" corresponds to the Orthodox Christian day of Saint Demetrius and marked the beginning of winter, when agricultural activities slow down, for both Muslim and Christian communities. Elsewhere, 'Abdullāh Çelebi refers to Christian flower breeders in Istanbul—specifically, to a person named Hristos from whom he attempted to purchase seeds for new flower varieties—thus recognizing flower growing as an urban activity that crossed religious lines.¹⁹

According to his contemporaries, 'Abdullāh Çelebi created a variety of narcissus flower known as *nevruzîyye*. This variety is included in the earliest known encyclopedia of Istanbul's flowers varieties, which is also entitled *Şüküfe-nāme* (1667) and was written by the Ottoman lumber merchant and flower breeder 'Alī Çelebi. The entry on the *nevruzîyye* narcissus variety describes its pistils as having raised stripes (*tereklü*), reminding the reader of the shape of the headgear worn by contemporary Sufi mystics and thereby inscribing the flower's form into objects familiar to his readers.²⁰ When listing the new floral varieties created in Istanbul, 'Alī Çelebi's *Şüküfe-nāme* also specifies the individuals who first cultivated them, recording both their names and the neighborhoods or suburban areas of Istanbul where they lived. A manuscript of 'Alī Çelebi's work held today in the Nuruosmaniye Library in Istanbul contains twenty-eight detailed watercolor illustrations, which depict the flowers and their seed pods at various stages of their life cycles.

Federico Marcon has explored shifts in the conceptualization of natural species in early modern Japan, in which similar anthropomorphic and individualized ways of classifying plants emerged. Marcon also demonstrates that in the second half of the Tokugawa period "faithful pictorial representations of plants" were intended to emphasize the exact morphological traits that defined the plant and marked the species (*shu*).²¹ The illustrations to 'Alī Çelebi's *Şüküfe-nāme* similarly highlight the morphological specificity of Istanbul's local floral varieties. The illustrations,

¹⁸ For a critical view of such ideas see Shirine Hamadeh, "Ottoman Expressions of Early Modernity and the 'Inevitable' Question of Westernization," *Journal of the Society of Architectural Historians*, 2004, 63:32–51.

¹⁹ Kahraman, *Şüküfenāme* (cit. n. 9), pp. 119 (quotation), 127.

²⁰ *Ibid.*, p. 38.

²¹ Federico Marcon, *The Knowledge of Nature and the Nature of Knowledge in Early Modern Japan* (Chicago: Univ. Chicago Press, 2017), p. 7.

presented on the left-hand page of each opening of the manuscript, begin in the lower right margin with the green stems shooting up the page. The stems then branch off diagonally, depicting the flower in multiple stages of development—budding, opening, and then fully flowering and producing seed pods. In the entry on the *nevrūziyye* narcissus first cultivated by ‘Abdullāh Çelebi, the illustration echoes the text’s description of the process by which the head (*kadeh*) of the flower gradually opens: “The petals are narrow and almond-shaped, and some of [the petals], close to the edges, are flat and wide. And some of the edges here and there are bent [twisted] from the inside. And they open up from behind. The heads of the flower in the beginning open up a little, and then they spread. Their base grows. . . . The seed houses [pods] are short and thick.” The illustration depicts the development of the voluminous pistil (which the text, again, compares to the headgear of a Sufi mystic), the three long and three short stamens, and, finally, the short and thick seed pods that result from pollination. Beneath the illustration are two lines of verse: “It appeared on the New Year’s Day. / That is why it is called Nevrūziyye.”²² This is a reference to the Persian New Year, *Navrūz*, which falls on 21 March every year. Both ‘Alī Çelebi’s text and the illustration depict the flower not as a static object but as an embodiment of growth and change; the seed pods, mentioned last, are characterized as the ultimate outcome, which will allow the plant’s life cycle to repeat indefinitely. (See Figure 1.)

Seeds were central to seventeenth-century narratives of the history of flower breeding in Istanbul. ‘Alī Çelebi’s *Şüküfe-nâme* opens with a story about seeds involving Maḥmūd Hüdāyī (1541–1628), one of the most prominent Sufi shaykhs of his time, who established a dervish convent in Üsküdar and founded the Celveti sufi order, a branch of the Halveti mystical order, which was popular among Istanbul’s urbanites. According to ‘Alī Çelebi, the shaykh was approached by one of his followers, Aḥmed Dede, who was known for his love of tending orchards and flowers. In his hands, Aḥmed Dede held a folded piece of paper containing the seed of a flower.²³ He asked Hüdāyī for permission to plant them and to utter a prayer on their behalf. Hüdāyī obliged. According to ‘Alī Çelebi, beautiful flowers grew from those seeds, and from those flowers other seeds were replanted, and so forth, all the way to the present: “The essence of the good flowers that came to our times through the seeds, is a manifestation of those seeds to which the prayer was directed.” The text construes seeds as historical agents, bridging the past and the present. Flowers are esteemed things, ‘Alī Çelebi concludes, and vilifying those who are interested in them is wrong. His remark implies that there were debates at the time about the increasingly lucrative practice of breeding flowers. The story about the origins of flower breeding in Istanbul is found in the introduction to his text, in a section entitled “On the Reasons for the Writing of the Treatise.” In this same section ‘Alī Çelebi also refers to discussions about flowers (*çiçek müzākere*) that took place every Friday in the Sufi lodge of Koca Mustafa Paşa, as well as similar discussions organized twice a week by the grand vizier Mehmed Paşa (in office 1622–1623), a Georgian eunuch; the latter discussions, he notes, took place among gardeners of both “high” and “ordinary” social standing (*bağçivanların alası ve ednası*).²⁴ These origin stories of seeds and their breeders need to be seen as part of the formation of academies of natural knowledge cropping up across Istanbul, in what was a global rather than exclusively Western European seventeenth-century development of city dwellers meeting to discuss their experiments and findings.

Variations of the story about Aḥmed Dede’s blessed seeds appear in the aforementioned *Şüküfe-nâme* of ‘Abdullāh Çelebi, which specifies, in its eleventh chapter, twenty-three standards

²² Kahraman, *Şüküfenâme*, p. 38.

²³ ‘Alī Çelebi refers to the practice of storing seeds and spices in paper. The practice of storing various dry goods in rolled-up paper is reflected in numerous seventeenth-century Northern European still life paintings.

²⁴ Kahraman, *Şüküfenâme* (cit. n. 9), pp. 30 (quotation), 29–30 (wrong to vilify those interested in flowers), 29 (discussions).



Figure 1. Illustration of the *nevrüziyye* variety in Abdullah Çelebi's *Şüküfe-nâme* (Nuruosmaniye 4077, fol. 13a).

for the desired appearances of flowers. In his introduction, 'Abdullāh Çelebi traces the origins of flower breeding in Istanbul to the seeds of a narcissus flower that had been brought from Algiers by the same Aḥmed Dede (whom he calls Aḥmed Çelebi) and planted in Üsküdar, a town across the Bosphorus from Istanbul. 'Abdullāh Çelebi claims that the shaykh Hüdāyī had been the one to instruct his follower to save the seeds of that flower, which nobody in Istanbul had previously known could produce seeds on its own. Thus, Aḥmed Dede was the "first in this science" of breeding flowers.²⁵ Like 'Alī Çelebi's version, 'Abdullāh Çelebi's narrative identifies a Halveti Sufi network with the origins of flower breeding in Istanbul; however, his text places an even greater emphasis on seeds as the origin points of this history. The text subtly challenges older Avicennian notions that plants inevitably change their qualities if moved from one region or clime to another.²⁶ The creation of new varieties of flowers with different colors, shapes, and sizes was, according to 'Abdullāh Çelebi and his contemporaries, the result of the work of individuals sharing their knowledge and techniques with a community of practitioners. Abdullāh Çelebi's work also differs from that of 'Alī Çelebi in its emphasis on the status of flower breeding as a

²⁵ *Ibid.*, pp. 121 (narcissus flower brought from Algiers), 117 (instructions to save seeds), 129 (quotation).

²⁶ According to the general principles of Ibn Sīnā (d. 1037), which were well known in the Ottoman scholarly world, plants brought to other countries are affected by the new climate and soon begin producing plants resembling the local varieties owing to their "inclination to the nature of that area." See Remke Kruk, "Ibn Sina on Animals: Between the First Teacher and the Physician," in *Avicenna and His Heritage – Acts of an International Symposium*, ed. Jules Janssens and Daniel de Smet (Leuven: Leuven Univ. Press, 2002), pp. 325–341, on pp. 332–333.

“science.” In his conclusion, ‘Abdullāh Çelebi even advises his readers to record their own experiences in the margins of his work.²⁷ He dedicates his work to the grand vizier Mehmed Paşa, who, again, organized regular meetings of flower breeders from different social backgrounds.

The techniques of cultivation that are ‘Abdullāh Çelebi’s focus were the subject of lively debates among Istanbul’s breeders. Throughout, his work identifies such debates and inserts his own opinions regarding the best practices for cultivating and tending to flowers and their seeds. For instance, the chapter on seeds relates a debate about how long it takes to develop a flower, and thus also to extract seeds, from a bulb. ‘Abdullāh Çelebi states that gardeners who claim to develop flowers very rapidly are lying, noting that some use manure to try to speed up the process. However, he argues that this is wrong and that, according to “our experience,” bulbs planted in manured soil are corrupted. He then recounts an event that took place in the garden of the flower breeder Molla Çelebi, who invited all the gardeners in Istanbul to watch him harvest the seeds of the *Dilkuşā* and *Zehebī sari* varieties of narcissus. The publicity-seeking gardener, after plucking the seeds himself, said: “Friends, God knows seventeen years passed for [these seeds] to be produced.” By contrast, ‘Alī Çelebi, who was ‘Abdullāh Çelebi’s contemporary, writes in the introduction to his *Şükūfe-nāme* that some have been able to create flowers even within five years.²⁸

Seeds lay at the heart of debates in mid-seventeenth-century Istanbul about how to breed new varieties of flowers. The authors of treatises conveying technical know-how or encyclopedias of flower varieties and their breeders took sides in these debates. In this cacophony of opinions and methods, it became important to identify “experience” and “experimentation” by the names of gardeners and by the urban neighborhoods where they cultivated flowers and met to discuss and debate their practices for the creation of desirable seeds. Natural knowledge was constructed through a living contemporary discourse.

CONCLUSION

Ottoman agricultural technology has been studied almost exclusively in the context of nineteenth-century modernization attempts in the countryside inspired by developments in Western Europe. Yet Istanbul was an agricultural capital; by 1734, there were 344 *bostans* recorded in the walled city alone, employing 1,381 gardeners. The city was teeming with entrepreneurial gardeners and agriculturalists. From the mid-sixteenth century, the rise of a rental market for agricultural land in the city had incentivized the cultivation of new, lucrative produce varieties that would fare well in an increasingly specialized market.²⁹ In his *History of Istanbul* (1682), the Ottoman Armenian author Eremiya Çelebi (1637–1695) describes a *bostan* near the port of Kadırga. He also remarks on the “very large” cucumbers grown in the *bostans* of Istanbul’s Langa (*Lanğa*) neighborhood. In his *Book of Travels* Eremiya’s contemporary, the Istanbul native Evliya Çelebi (1611–1682), likewise mentions the Langa cucumber, comparing it in size to an enormous worm he had observed under the snow in the mountains in northwestern Anatolia. Evliya specifies that he means the cucumbers grown “from the [Lanğa cucumber] seeds” (*tohumluk*).³⁰ Such a contemporary understanding of Istanbul as a space of seed production provides an important context for the rise of *Şükūfe-nāme* literature. Most of the gardeners in Istanbul’s *bostans* were migrant Christian villagers from Anatolia and the Balkans, who would have transmitted

²⁷ Kahraman, *Şükūfenāme* (cit. n. 9), p. 129.

²⁸ *Ibid.*, pp. 129, 119 (quotation).

²⁹ Aleksandar Shopov and Ayhan Han, “Osmanlı İstanbul’unda Kent İçi Tarımsal Toprak Kullanımı ve Dönüşümleri: Yedikule bostanları,” *Toplumsal Tarih*, 2013, 236:34–38, esp. p. 36; and Shopov, “When Istanbul Was a City of Bostans” (cit. n. 7).

³⁰ Eremiya Çelebi Kömürciyan, *İstanbul Tarihi*, Vol. 17: *Asırda İstanbul*, trans. and ed. H. D. Andreasyan, 2nd ed. (Istanbul: Pamukciyan, 1988), p. 4; and Evliyâ Çelebi, *Evliyâ Çelebi Seyahatnâmesi: Topkapı Sarayı Bağdat 304 Yazmasının Transkripsiyonu- dizini*, ed. Z. Kurşun, S. A. Kahraman, and Y. Dağlı (Istanbul: Yapı Kredi Yayınları, 2006), Vol. 2, p. 21.

most of the knowledge and techniques related to seeds orally. By contrast, the *Şükûfe-nâme* literature involved the textualization of practices established through trials and discussions among contemporaries.

As things that are mobile yet can take root, seeds became objects of study during what was an era of heightened exchange and mobility in seventeenth-century Ottoman Istanbul. Instead of thinking of flower seeds and bulbs primarily as moving between Istanbul and the Netherlands, or from the Netherlands back to Istanbul, which is a very common way of situating Istanbul in the global exchange of plants in the early modern period, the case of *Şükûfe-nâme*, or treatises on flowers, in seventeenth-century Istanbul shows that seeds in the city were fulcrums for local practices and discourse. In the lucrative enterprise of flower breeding, seeds were central to the emergence of a new Ottoman science, whose origins lay in an urban agricultural community and discourse. Seen in this light, seeds and plants in Ottoman Istanbul emerge as technological objects rather than things whose history unfolded only in Ottoman exchanges with Western Europe.