

The Principles of Garden Design in the Qajar Period (Based on Mefâtiḥ-âl-Râzaq)

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Abstract | The book of Mefâtiḥ-âl-Râzaq, written by Muhammad Yusef Nouri, is one of the most comprehensive resources of agricultural and gardening principles of the Qajar Dynasty. Yusef Nouri who worked as Tax Officer in Fars Province, for an unknown reason, regretted being as a Government Official and decided to quit his job, and start farming (which was the method of the prophets). At the same time as he engaged in agriculture and horticulture, started writing (1270) this book. The book is not just about gardening and garden design and a significant part of it is also devoted to folk beliefs and superstitions about plants and trees. In the most important part of this book, Yusef Nouri presents and introduces the procedure and method of planting and arrangement of plants in a garden, which is a kind of archetype for gardens of this era. By comparison with other historical sources that are allocated to garden (like Ershâd al-Zerâ'a and Âthar va Ahya), this book presents significant differences in the arrangement of patches and garden space. The Garden Design Style which is presented in Nouri's book, has some remarkable points that should be analyzed to understand how garden changed and developed in this era. In this paper, the principles of garden design will be discussed based on this book. The purpose of this paper is to analyze how garden design and priority of gardening changed in this era. These changes include: garden space, organization and hierarchy of patches, axes and water stream, arrangement of plants and trees and even cited references for garden design.

Keywords | garden, garden design, the Qajar period, Mefâtiḥ-âl-Râzaq, Muhammad Yusef Nouri.

Introduction | Mohammad Yusef Nouri, the author of Mefâtiḥ-âl-Râzaq ("Keys to Foodstuffs" in Arabic), who introduced himself as "Nouri-ol Asl" (coming from Nour) and "Shirazi-ol Maskan" (residing in Shiraz), was among the state treasurers of Fars Province during the governorship of Farhad Mirza Motamedo-Doleh, the Qajar Prince (Mohaghegh, 2005: 204). He was engaged in ministerial affairs in the Prince's state. In later years, being sorry and repentant of his status, he went into retirement and began farming which, he believed, "is the way of the prophets and the engagement of true worshippers" (Nouri, 2002, vol.1: 28). Simultaneously with his farming and gardening activities, he started writing Mefâtiḥ-âl-Râzaq, and

later dedicated it to Naser al-Din Shah, the reigning monarch at the time. Although this comprehensive book is considered to be among the most important books written in the Qajar era on gardening and farming, no mention of the author can be found in any of the books written by his contemporaries. Such obvious neglect in mentioning Nouri's name has naturally raised many questions. The most noteworthy reference to Yusef Nouri is found in Hadiqato Sharaa by Ahmad Beig Divani, a Qajar-era author who writes, "His name is Mirza Yusef. His ancestors are from Nour, and he was born in Shiraz.... He had some property of his own in the beginning and, later on, was trusted with other properties belonging to rich noblemen. I would say he has been engaged in the affairs of farming and earned mastery in the field as well as in visiting farmland and other relevant affairs. His mastery is to such an

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extent that his confirmation was sought prior to that of any other in the region, and he was awarded the title of “Sheikh-ol Mosadeqin” (“Master Certifier” in Arabic) by Haji Mohtamed al-Doleh. He was truly a trustworthy and pious man.” Yusef Nouri wrote his book in 1270 A.H. (1853 A.D.), a few years after Amir Kabir (who died in 1268 A.H. or 1851 A.D.) started his reforms, a great part of which was concerned with farming, agriculture, and gardening. This is considered a turning point in the history of Iran (Yousofi-far, 2008: 72). On the one hand, with the civil reforms started by Amir Kabir (Adamiyat, 1983: 399-401), new agricultural products and plant species (referred to in Nouri’s book) were imported into the Iranian gardening system; and on the other hand, Nouri’s book was written only a few years before Naser al-Din Shah went on his first trip to Europe in 1873, a trip that would revolutionize the political, economic, and social situation in Iran. Accordingly, the analysis of Nouri’s book can be useful for obtaining knowledge of garden construction in the Qajar period. In addition, the comparison of the developments made in this period with those made in the previous and the later periods (during which Naser al-Din Shah and his crown prince, Mozaffar ad-Din Shah, imported various plant species) would provide the reader with a general view of Amir Kabir’s reforms. Examination of the topics in Mefâtiḥ-âl-Râzaq reveals not only the author’s wealth of knowledge; but also his broad views on the subject. These topics cover a range of different aspects: from the scientific principles of agriculture to the knowledge of land and earth conditions; from familiarization with different seasonal winds (climatic conditions) to designing the plan and layout of trees and plants as well as digging irrigation canals and water sharing; from various uses of herbs to the principles of concluding contracts, taxation, and ministerial affairs as well as Khoms (in Islam, donation of one-fifth of one’s possessions to the poor) and Zakat (alms); and from common beliefs and Islamic religious stories (Hadiths)

about plants and trees to interpreting dreams about the same. These subjects reveal the complicated aspects of the science of agriculture and gardening. However, the comparison of Nouri’s book with the books written by his predecessors reveals vast differences in spite of the similarities in terms of gardening methods and principles. What greatly distinguishes Nouri’s book from other books including “Âthar va Ahya” (by Rashid-al-Din), “Ershâd al-Zerâa” (by Abu Nasr Hara-vi), and “Ma’rifat-I Falahat” (by Birjandi) is the detailed explanation of common beliefs regarding plants and trees; the interpretation of different dreams about plants and trees; the detailed explanation of religious stories (Hadiths) and interpretations regarding their planting and harvesting; and the various poems and rhymes included in the book on trees and plants. The distinctive features of Nouri’s book, however, are not limited to the above. In his book, Nouri presents a drawing resembling the plan of a garden which is different from those presented in the books (particularly in Ershâd al-Zerâa) written on gardens in the preceding eras covering the period between the Timurid and the Safavid dynasties. These differentiating aspects include the following: construction and spatial divisions; patching; and grouping different trees and plants. Even in terms of using historical references and texts, Mefâtiḥ-âl-Râzaq demonstrates its own particular style. By comparing the garden plan in Mefâtiḥ-âl-Râzaq with the plans presented in other Qajar books, it can be concluded that this type of plan was commonly used in certain gardens of the period. However, the examination of Nouri’s plan must not be limited to placing emphasis on the axes of (symmetry) in a garden, but should also include particular attention to the spatial divisions, patching, and grouping different plants and trees. Although Nouri’s plan has two axes of symmetry and certain Qajar gardens have a single axis of symmetry, the patching of these gardens follows the same principles referred to in Nouri’s book (Figs. 1 & 2).

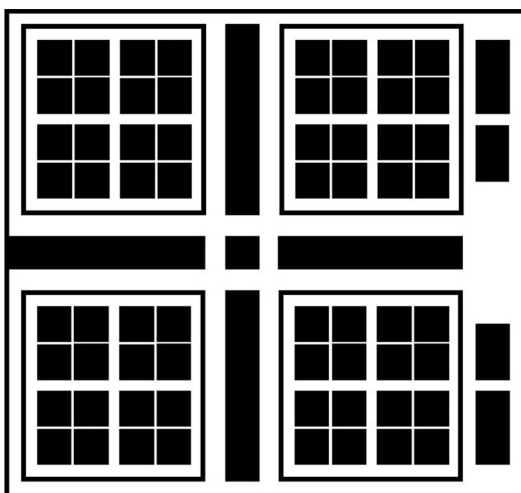


Fig. 1: The schematic plan of Golshan garden in Tabas; The Afsharid-Zand periods. Source: Author.

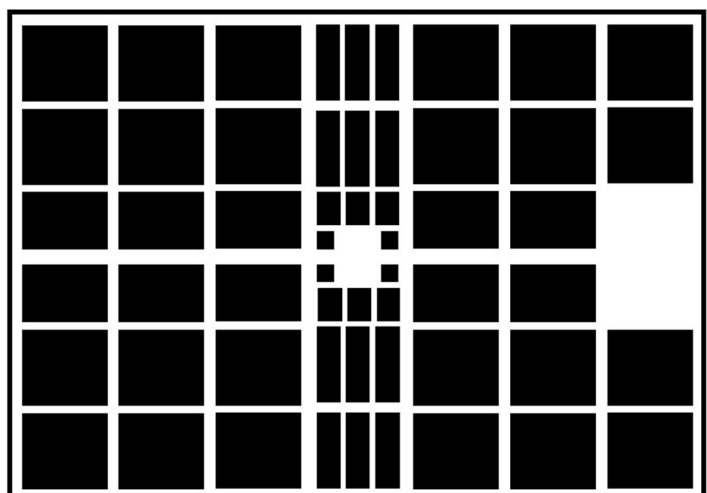


Fig. 2: The schematic plan of Qajar palace (Qasr-e Qajar) in Tehran, The Fath-Ali Shah Qajar period. Source: Author.

Principles of Designing Gardens

As a first step in designing a garden, Yusef Nouri writes, “To define and describe a garden, one must first define trees, particularly in spring time” (Nouri, 2002, vol.2: 56). In Nouri’s opinion, defining trees and cultivation methods must precede defining a garden. For this reason, he initially addresses tree planting and whatever is relevant to this activity. In his introduction to gardening and the methods of planting trees and plants, the author makes various references to historical stories and Hadiths, thus beginning his discussion in a literary and poetic language. He accompanies the description of each flower or tree with (sometimes) strange saying and common beliefs that reflect the opinions and beliefs held by the common people at the time (Ibid: 26). Other parts of his discussion include: the description of different types of land; various seasonal and annual winds; methods of digging irrigation canals and distributing water; and definition and classification of natural waters, from rain water to streams and Qantas (aqueduct). Nouri presents two plan drawings for designing gardens (Figs. 3 & 4): a biaxial plan divided into four “compact” patches where different species of fruit-bearing and decorative trees as well as different flowers are planted (Ibid: 52-53). He divides these plans into two groups: Riyahin (flowers) and Azhâr (fragrant plants). He writes, “The garden avenues must be decorated all along with cedar, sycamore, palm, and white poplar trees. Each segment (of the four garden segments) must be planted with the fruit trees of a specific kind. In the narrow segments in the center of the garden, which are used for visitor’s viewing scenery, the different kinds of flowers and citrus fruit must be planted.” One of the most interesting points in Nouri’s book is the absence of major buildings and summerhouses in the garden. This is unlike the gardens described in *Ershâd al-Zerâ’a* where building and belvedere orientation are of great significance (Haravi,

1977:281). Nouri makes no mention of a summerhouse or belvedere in *Mefâtiḥ-âl-Râzaq*; rather, he places great emphasis on garden divisions and association of trees in the patches in such a way that air circulation be encouraged without choking other plants or preventing them from receiving sufficient sunlight. In this way, visitors would be able to walk freely and easily along the avenues away from prying eyes and enjoy the views. Nouri writes, “Grape, pomegranate, hazelnut, and other shorter trees must be planted away from the central narrow patches of the front garden so as to prevent choking and trapping of air.” ... “Looking at the scenery and heeding economy in the garden I also advantageous, but one should avoid allowing harmful and pestilential animals like snakes and hyenas and foxes to make their nests inside the garden since they cause profound damage” (Nouri, 2002, vol 2: 51).

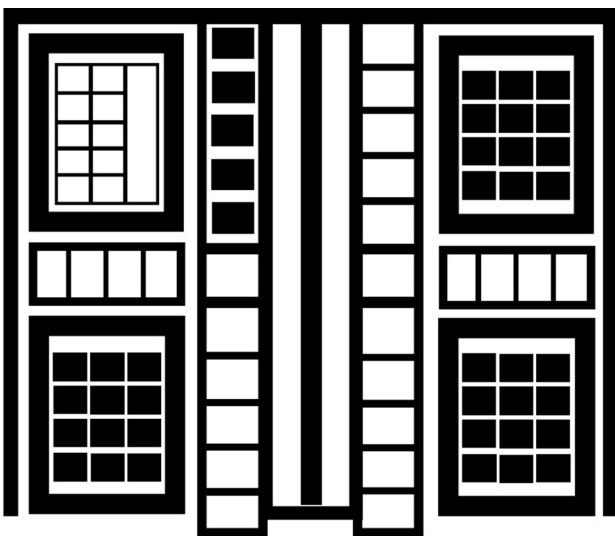


Fig. 3: The schematic plan of the garden of Mefâtiḥ-âl-Râzaq; The first design. Source: Author.

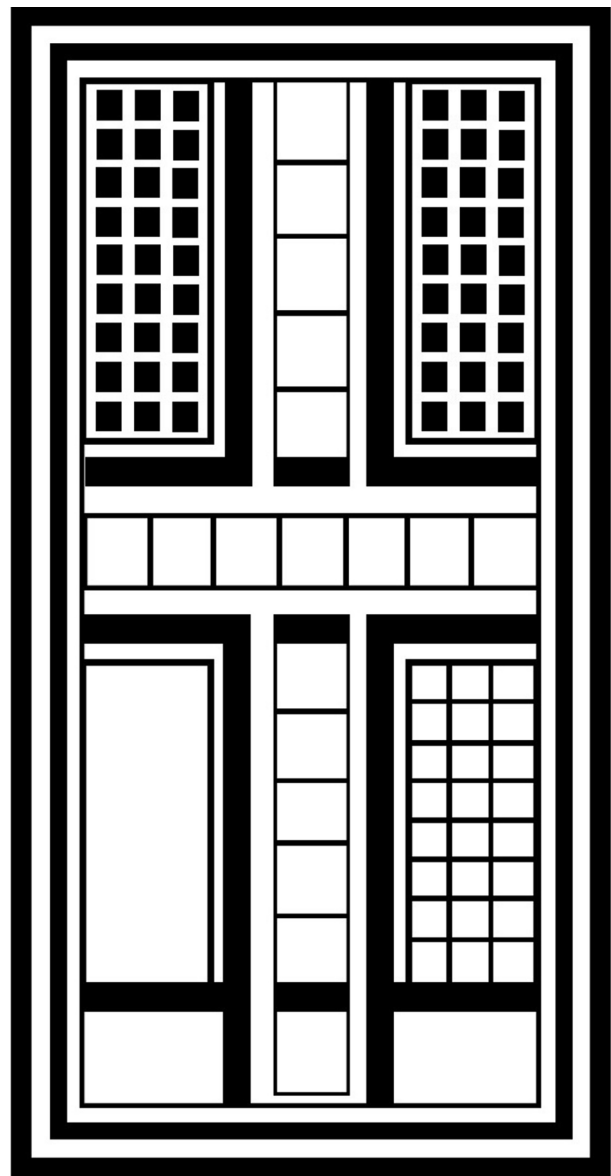


Fig. 4: The schematic plan of the garden of Mefâtiḥ-âl-Râzaq; The second design. Source: Author.

Compared to the books written in the previous eras, Nouri's book includes recommendations on the collection of different plants and trees in garden patches, presenting his reader with a more diverse garden decoration as well as planting system by observing certain irrigation and light-absorbing methods.

Garden Construction in Mefâtiḥ-âl-Râzaq: Spaces, Patches, and Hierarchy

Another important category in Nouri's garden plan is the garden patches as well as the priorities observed in the decoration of garden plants. Such prioritization can be better demonstrated if Nouri's plan is compared with the plans referred to in pre-Qajar reports and descriptions of gardens. For example, the uniaxial plan presented by Abu Nasr Haravi in Ershād al-Zerā'a gives rise a hierarchy in the garden which extends from the entrance to the garden towards the summerhouse (Fig. 5). In this hierarchy, first the "char-chāmān" (four lawn patches), then "flowerbeds" (plants) and

"Golha" (flowers), and ultimately, "Derakhtan" (trees) would be planted. To emphasize the garden divisions, other trees would also be planted along the main stream axis. However, in Nouri's plan, plants and trees of different sizes would be grouped together in patches situated on the four corners of the garden based on the strength of their respective species without any particular emphasis on axis or hierarchy, thus providing a beautiful landscape for the visitor to view. As Nouri says, "One must not plant strong trees alongside weak trees since opposites would not make a proper association. The weak would grow even weaker if placed alongside the strong, and the strong would be aggressive towards the weak when it comes to absorbing nutrients from the earth. The saplings to be planted must be straight and smooth without any signs of decay or worm-eaten parts. It must be grown from a single stalk and must have at most three branches." In fact, by observing simple principles in planting different species, one can create great diversity in one's garden by grouping them together in a single patch.

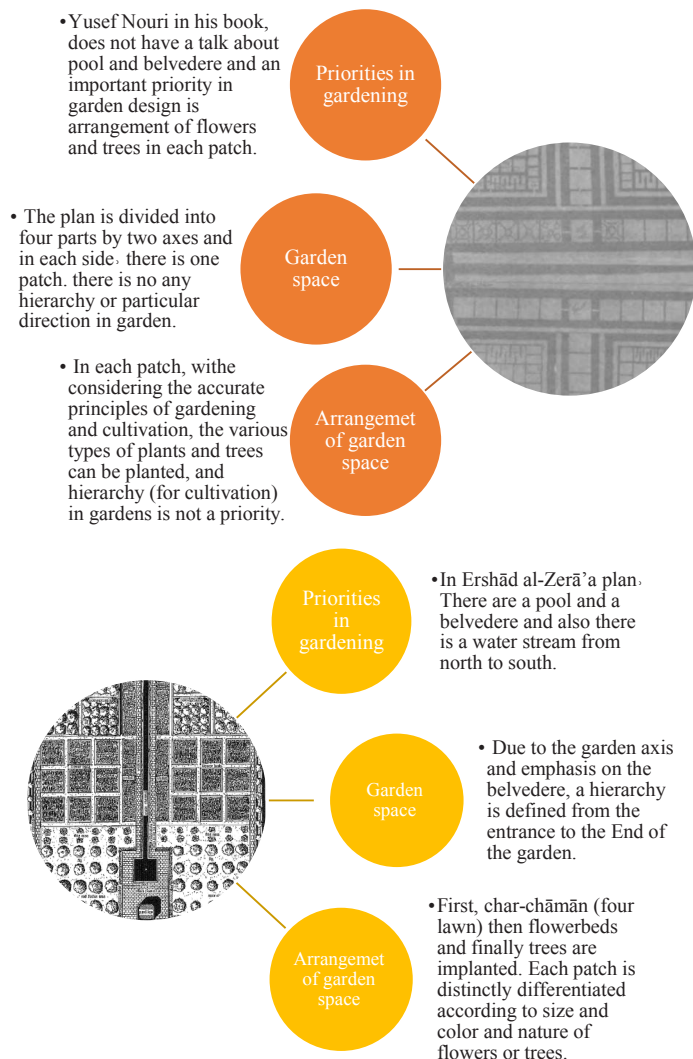


Fig. 5: The comparison of priorities of gardening in two books: Ershād al-Zerā'a and Mefâtiḥ-âl-Râzaq. Source: Author.

Systems of Planting and Decorating Plants and Trees

By the time Yusef Nouri started writing his book, Iranians had already been familiarized with modern farming and plant reclamation methods as well as new species of different plants and agricultural products. In addition, Amir Kabir's reform policies had marked the beginning of a new era in learning modern agricultural methods and their associated sciences by Iranians. Importing new agricultural products and plant species from European countries, America (referred to as "Land of the Yankees"), Arab Countries of the Persian Gulf, the Ottoman Empire, India, Bangladesh ("Bengaleh"), Armenia, and Georgia had already brought about fundamental changes in the way Iranian gardens were planted. In *Mefâtiḥ-âl-Râzaq*, Nouri enumerates the new species as gumbo (okra), pineapple, American cotton seed, strawberry, potato, tobacco, coffee, betel nut, mango, and pitaya (*Ibid*: 38, 392, 411, 425, 613, 616). E'temad.al.saltaneh also describes in his own book the new agricultural and garden products, "The widespread planting of gumbo (a new delicacy), strawberries (a kind of fresh fruit), and potatoes (which used to be planted on a small scale during the reign of Mohammad Shah and Haji Mirza Agassi without being harvested on a large scale) has provided nutritious food for the public, rich and poor alike. Moreover, as some of the imported species required a greenhouse for proper growth, planting in the greenhouse was later gradually adopted in the Iranian gardening system (E'temad.al.saltaneh, 1995: 169). In addition to the above, the author also mentions certain species which were planted in pots in "other towns" (meaning "foreign countries") and kept inside the house or along garden avenues (Nouri, 2002, vol 2: 48). Flower pots grew so pop-

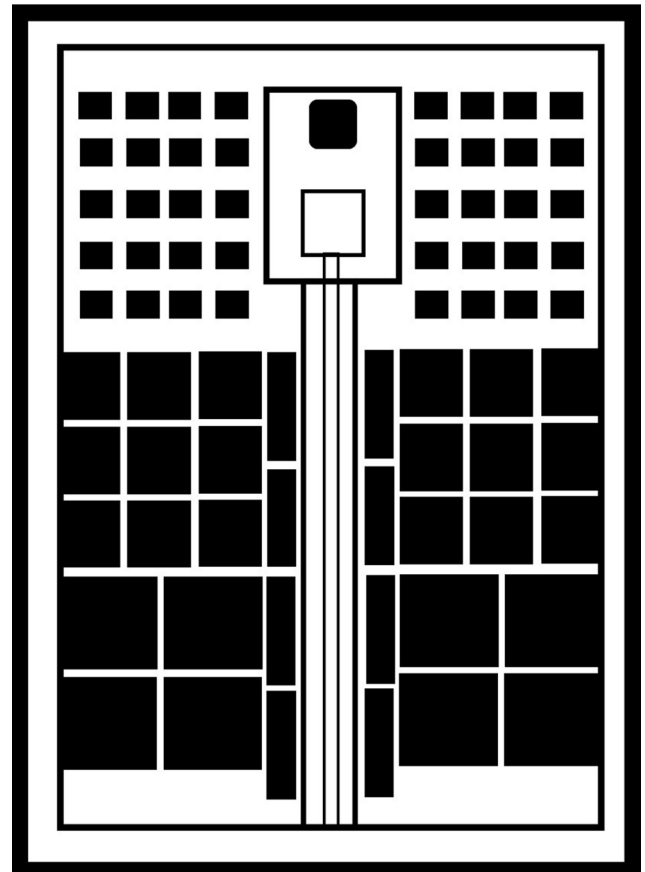


Fig. 6: The schematic plan of the garden of Ershād al-Zerā'a; Based on Maria E. Subtelny's design. Source: Author.

ular in Naser al-Din Shah's reign that they were vastly used for decorating garden avenues and curbs at the time, thus changing the Iranian taste in terms of garden decoration.

Plant and Tree Groups in a Garden

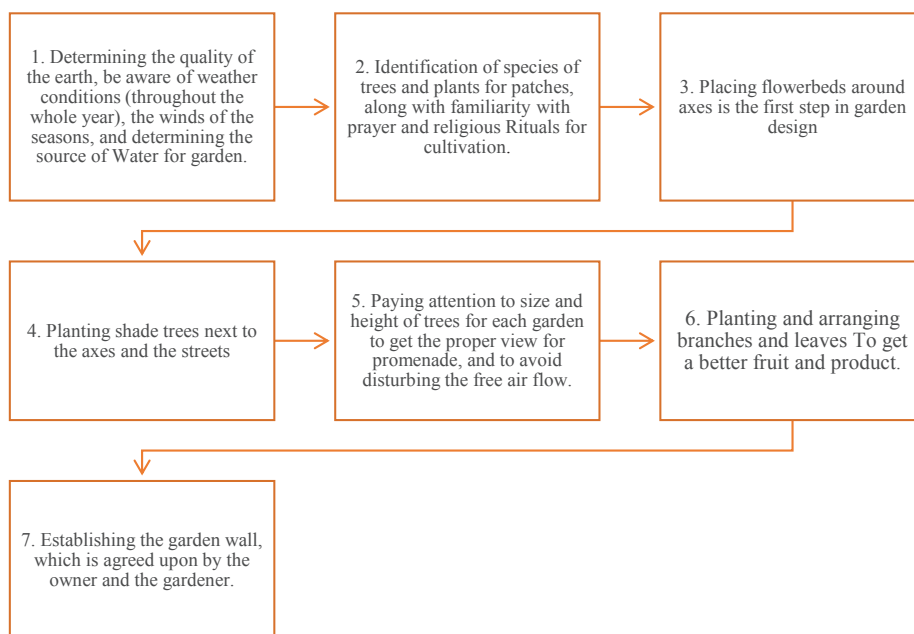


Fig. 7: The processes of garden design based on *Mefâtiḥ-âl-Râzaq*. Source: Author.

Table 1: The comparison of the principles of gardening in two books: Ershād al-Zerā'a and Mefâtiḥ-âl-Râzaq. Source: Author.

Book	Shade Trees	Fruit Trees	Flowers
Mefâtiḥ-âl-Râzaq	Poplar Cypress Platan	Vine + Pomegranate	The plan of Char-bâgh in Ershād al-Zerā'a is dependent on various flowers species, and for species that are of the same nature and features, separate patches are allocated. The author also recommends a specific separation in each patch for trees and flowers. However, the author of Mefâtiḥ-âl-Râzaq offers a more flexible and free design about arrangement and combination of plants and trees. Patches and gardens are symmetrically placed on the four sides of the garden, while in the Ershād al-Zerā'a, an Axis (from North to South) creates a sort of hierarchy in layout of the garden: First, châr-châmân, then flowerbeds and finally trees are planted. However, in the narrative of Mefâtiḥ-âl-Râzaq, the gardener allows to plant assorted flowers in each patch with considering the correct principles of gardening like: Measuring the distance between trees for air circulation and noticing the growth of trees and flowers in each season.
		Apple + Pear	
		Hazelnut + Sumac	
		Berry + Apricot	
		Walnut + Almond	
		Lemon + Cherry	
Sour Orange + Mandarin orange			
Ershād al-Zerā'a	Abu Nasr Haravi does not mention any kind of shade trees (except poplar or Sefedar or Sepedar), because the garden type is a fruit garden. Yusef Nouri advises gardeners that With cogitating some considerations (like sunlight, view and air circulation), they can plant shade trees in Different parts of a garden.	Palm	
		Apricot	
		Peach	
		Plum	
		Grape	
		Pomegranate	
		Quince	
		Nectarine	
		Pear	
		Berry	
		Cherry	
		Sour cherry	
Apple			
Fig			

In his book, Yusef Nouri introduces two general species of plants and trees, termed “Azhar” (flowers) and “Ashjar” (trees), each of which is in turn classified into “Azhar” and “Riyahin” (fragrant plants), and “Mosmer” (fruit tree) and “Qeir-e Mosmer” (decorative tree) respectively (Ibid: 70). In describing each category, the author resorts to a different Hadith to emphasize its significance. For example, he defines Azhar as, “Azhar: pleasant fragrance. According to the high-standing people (in the religious hierarchy), “Those who reject pleasant fragrance will be denied generosity since he has actually rejected generosity through his action; unless, of course, he has lost his sense of reason.” Rather than defining Riyahin, however, the author refers to a Hadith by Imam Jafar Sadeq (The Rightful Speaker) as, “Riyahin: Upon being presented with a branch of “Reihan” (basil), you must smell it and lay it on your eyes since basil is truly a gift from Heaven” (Ibid: 251). He then goes on to describe the appearance of the species by including other Hadiths and, at times, historical stories related to them. He also presents dream interpretation for each tree and plant,

the description of hadiths and religious etiquettes for planting and harvesting, along with some poems for each specie. For example, with regard to pomegranate, he writes, "Placing stones in the middle of pomegranate branches would prevent its blossoms from falling off" Or "Hanging a self-made tin plate from a pomegranate tree would prevent the fruit from falling off the tree" (Ibid: 385-386). Occasionally, these beliefs are accompanied by exaggerated comments, as observed in the explanation of the laurel tree, "If one picks the leaves of this tree without the leaves falling off to the ground, and then puts the leaves on the back of his ear, then he would not be intoxicated, no matter how much he drinks. If the leaves are placed near a frightened infant as he sleeps, then he would be frightened no more. Leaning on a cane made of the wood of this tree would improve one's eyesight and increase his gumption ..." (Ibid: 600-601). The author also quotes other stories which are significant in the study of garden sociology and construction in the Qajar period. Historical References cited for Garden Design and



Fig. 8: The love-lies-bleeding. Source: Nouri, 2002, Vol 1.



Fig. 9: The violet. Source: Nouri, 2002, Vol 1.



Fig.10: The pussy willow. Source: Nouri, 2002, Vol 1.



Fig. 11: The coffee tree. Source: Nouri, 2002, Vol 1.

Construction

The most interesting feature of Nouri’s book is the way he cites different references and historical texts. As pointed out by the esteemed Editor in the Preface, none of the books cited by the author is as comprehensive as the books written previously. The references cited by Nouri can be divided into 9 groups, ranging from agricultural books to Hadiths and religious books; and from dream interpretations to books on Astronomy and Astrology, as well as books on Mathematics and Methods. However, the interesting point here is that the cited books on

Islamic religion as well as the Hadiths far outnumber the books written on the subject matter, namely, Agriculture and Farming. The same goes for the category of Garden Construction and Gardening where the greater part of the cited books comprises religious references. This style of reference classification and citing, as well as the descriptions and explanations included throughout the book to express the characteristics of plant and flower cultivation in agriculture and gardening, is an important aspect in the study of garden construction in Iran, and should be given its due status in this respect.



Fig. 12 : Sources and texts as reference for garden design. Source: Author.

Table 2: the classification of plants and trees in garden based on Mefâtiḥ-âl-Râzaq. Source: Author.

FLOWERS	Fragrant Flowers	Anise + pepermint
		Chamomile + lemon balm
		Tea + Pennyroyal
		Pimpernel flower + ajwain+ basil
		Caraway + spearmint
		Coriander + dill + qazvan
		Serviceberry + marjoram
	Blooming flowers	redbud + Yellow sweet clover + camomile + avafious
		violet + Love-Lies-Bleeding+ Pussy willow + Henna
		marshmallow + wallflower + Hollyhocks +Khazamy
		Crocus + iris + hyacinth + lily
		Sweet William + marigold + tumbleweed +
		Anemone + abaysaran + qarfal + kazi
		Polyantha + rose water + daisy + silk tasseled
		Oxtongue + columbine + Eshgh-e- pichan + Consolida
		Marguerite + aster + velutinous flower + nâr-e- khandân
		Yellow + bostani + Blanket flowers
		Windflower + lavender + gillyflower
		Four o'clock flower + windflower + anemone + myrtle
		Daffodil + moolsari + basil + nagiser
		Jasmine + water lily + jonquil +

TREES	non-productive	Poplar + ash (Fraxinus)
		Maple + jâroob
		Logwood + granule
		Withy + cypress
		Buttonwood + tâq
		Tamarisk + sâyeh khoosh
		Pine + ailanthus
	productive	Plum tree + sour orange
		Chestnut tree + oak + ban tree + Pear
		Grapevine + Biysem + pistachio tree+ cotton plant
		Pomegranate + mango + fig tree + amrah + salix
		Drupelet + sour cherry + cherry tree + pear tree + bergamot
		Pineapple + almond tree + lemon + ban (moringa aptera)
		Mulberry tree + apricot + quince
Apple tree + peach tree + service tree + sumac tree + olive		
Nectarine + pepper tree+ filbert (Hazelnut) + coffee tree + medlar		
Citron + banana + coconut palm + tangelo tree + palm		
jujube plant + halilaj + betel nut + walnut tree		
Laurel + rhamnus + sepastan + Zaqal tree (Cornelian cherry)		
Tamatind + Carob tree+ cucumber + barberry		

Conclusion

Mefâtiḥ-âl-Râzaq is an important document in the field of gardening in the Qajar period. Compared with its earlier sources, and in spite of the few similarities this book has with the previously written references in terms of the cited gardening and farming principles, Mefâtiḥ-âl-Râzaq presents a different method for designing a garden plan and patching as well as creating spaces between the curbs and avenues in a garden. In addition, this book would provide the reader with a greater insight into the Qajar peri-

od, a sensitive period in the Iranian history, during which Iran first encountered the Western civilization as well as modern agricultural and gardening methods. Yusef Nouri started writing his book in the post-reform era initiated by Amir Kabir, before Naser al-Din Shah made his famous trips to Europe. Therefore, studying this book with due consideration of the cultural and social circumstances in the Qajar period can provide an opportunity for conducting new research on the gardens and gardening methods practiced during this era.

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