 DOI: 10.22034/jaco.2023.383140.1293

Persian translation of this paper entitled:
مقدمه‌ای بر فرضیهٔ سُقایهٔ ربع‌رشیدی
is also published in this issue of journal.

Original Research Article

An Introduction to the Hypothesis of SOQĀYA of Rabʿ- e Rashidi

Naghmeh Jamshidi Gholdori[1*], Bahram Ajorloo[2]

1. M.A. in Archaeology, Team Member of the International Project of Rabʿ-e Rashidi, Tabriz Islamic Art University, Tabriz, Iran.
2. Ph.D. in Archaeology, Director of the International Project of Rabʿ-e Rashidi, Tabriz Islamic Art University, Tabriz, Iran.

Received; 25/01/2023 accepted; 01/06/2022 available online; 01/10/2023

Abstract

In the archaeological test soundings of 2007, spaces have been discovered in the southeast of Rab'-e Rashidi, which, although they have been described and introduced as the remnants of an Ilkhanid bath, but the use of that has not been confirmed yet. Therefore, these questions and hypotheses are raised about the structure discovered in the southeast corner of the Rab'-e Rashidi, what was the function of this structure? And its relative chronology goes back to which century? In the analysis and interpretation of the present research, two hypotheses of Gazargah (laundry) and Soqaya, confrontation, and then based on the hypothesis of Soqaye, the date of the 14th century is proposed for this structure. Methodology: The methodological foundation of this research is based on history, i.e. the study of the al-Waqfiyya al-Rashidiyya and other early sources of the Ilkhanid period, as well as the comparative study of the common structure of bathes in the Islamic centuries, Soqaya and Gazargah; Therefore, after analyzing the technical, physical and architectural characteristics and space-making of the subject of the study, in the second step, while extracting information related to Rab'-e Rashidi buildings and especially the buildings related to the two hypotheses of Gazargah and Soqaya from the historical sources of Ilkhanids and especially the al-Waqfiyya al-Rashidiyya. This information is matched with the information obtained from the architectural stage. In the third step, the information extracted from the previous two stages, history and architecture, is matched with archaeological information to obtain the final result. Conclusion: The historical and architectural evidence based on the logic of abduction, considers the hypothesis of Soqaya of Rashidiyya more close to the realty; Then, according to the al-Waqfiyya al-Rashidiyya, the relative chronology of this structure reaches the Ilkhanid period and the first half of the 14th century AH.

Keyword: *Ilkhanid period, Rab'-e Rashidi, Soqaya of Rashidiyya, Gazargah of Rashidiyya, The bath of Rashidiyya.*

*Jamshidinaghmeh@yahoo.com , +989174589209

Introduction

As an Iranian National Heritage Site, the Rabʿ-e Rashidi complex includes ruins from an old rampart, today covering an area of 13 hectares, in the foothills of the Surkhab mountain in the present-day northeastern city of Tabriz, on top of the Kenān Kuh next to the Valiān Kuh neighborhood (Fig .1). The "Town of Rabʿ-e Rashidi," described in Nuzhat al-Qulub (740 AH/AD 1340) composed by H. Mustawfi (1919) as the "town" that has many beautiful buildings, whose water was procured from the behind of Surkhab mountain on the authority of Abu al-Qasem Kāshāni's History of Öljeitu (717 AH/AD 1317), is cited as "Rashidiyya" by Khwāja Rashid al-Din Faż l -Allāh Hamadāni himself in the text of al-W a qfiyyah al-Rashidiyya (Endowment Deed of Rabʿ-e R a shidi, hereafter Endowment Deed; 709 AH/AD 1309). "Rashid Ābād" and "Rashidi Abwāb al-Berr " are alternative names used to refer to this town in the written tradition. In the wake of the Ilkhanids' demise, the town would sadly be razed to the ground by the raids of the Qāytāq Tatars and then the Ottomans before it turned out to be a garrison for the Ottoman army (Ajorloo, 2013, 2020). The archaeological soundings in 2007 brought to light architectural remains in the southeast quadrant of Rabʿ-e Rashidi. Although their physical characteristics were described and interpreted as an Ilkhanid bathhouse (Fig. 2), their functioning as such is yet to be substantiated as the plan, space planning, and architectural materials of this alleged bathhouse show obvious discrepancies with known historical bathhouses in Iran. In particular, not only does archaeological evidence not support an Ilkhanid date for it, but also, these remains are incompatible with the characteristic tripartite plan of Islamic bathhouses (Roshan & Ajorloo, 2018). Therefore, there are several open questions and hypotheses about the structure unearthed in the southeast corner of Rabʿ-e Rashidi: What was the real function of this structure? And to which period can it be dated through relative chronology?

A function related to fresh water supply and irrigation or the use of water in any way whatsoever is the main hypothesis of the present study, the answer to which can also solve the problem of the relative chronology. Therefore, in our analysis and interpretation, we will contrast the two "laundry house" and "Soqāya" (A given structure to distribute pure fresh water) functions, and then accepting the Soqāya hypothesis will propose a relative date in the 14th century AD.

The methodological structure of the research relies on historical documents, i.e., the study of the text of the Endowment Deed and other primary sources from the Ilkhanid period, as well as a comparative study of the general plans for bathhouses, Soqāyas, and laundry houses in the Islamic period. Therefore, in the first step, the technical, physical, and architectural characteristics and space planning of the structure will be studied, drawn, and examined from an architectural perspective using architecture visualization tools, and the bathhouse hypothesis will be subjected to a critical analysis architecturally. In the second step, while extracting information related to the buildings of Rabʿ-e Rashidi, and especially those relevant to this hypothesis, namely laundry houses, and Soqāya, from historical sources of Ilkhanid times, in particular Endowment Deed, the obtained dataset will be compared with the obtained architectural information. The third step will compare the historical and architectural information with archeological data to draw a conclusion.

The research background and our current understanding of the historical bathhouses of Rabʿ-e Rashidi have not gone beyond narrating and reiterating the past historical texts, especially Endowment Deed and Nuzhat al-Qulub, with barely any modern addition. And while the paper "The analytical revisiting of the structure known as Ilkhanid bathhouse in Rabʿ-e Rashidi, Tabriz" analyzed the character and function of this structure and overtly rejected the bathhouse hypothesis, it failed to offer any definite interpretation regarding its

Fig. 1. The location of the excavated south-eastern structure (No. 1) compared to the cistern (No. 2) and the grand southern tower (No. 3) in Rabʿ-e Rashidi. Source: After the authors based on a map from Google earth.

Fig. 2. The photo of the south-eastern structure that was presented as the Ilkhanid bath of Rabʿ-e Rashidi. Source: Ruhanguiz, 2007.

function and chronology (ibid.). Therefore, regardless of the excavation of the architectural remains in the southeast quadrant of Rabʿ-e Rashidi and their interpretation as a bathhouse (Ruhanguiz, 2007), the precise identification of this purported building and its function is still pending. Excavations at Rabʿ-e Rashidi were resumed in 2017 as part of the Rabʿ-e Rashidi International Project, which resulted in the identification of the cistern of Rabʿ-e Rashidi on top of the southeast hill. This structure was previously introduced as a mosque in the 2007 season (Ajorloo, 2017, 2018). Furthermore, it became clear that Rabʿ-e Rashidi turned into an Ottoman garrison in the 16th century AD, wherein for example, the grand admiral Sinan Pasha would construct a great tower (Ajorloo & Moradi, 2020) and later on in the 17th century AD the Ottoman Sultan Murad IV launched an artillery bombardment on the site (Ajorloo, 2017, 2018, 2019; Ajorloo, Fuchs & Moradi, 2018; Ajorloo, Korn & Fuchs, 2019).

Review of the Southeast Building

The architectural exposure in the southeast corner of Rabʿ-e Rashidi (2007) extends over an area of about 100 sq m and sinks 5 m below the datum. Apart from masonry, brick materials, and ceramic pipes, it also includes three structures akin to the pond, which were the primary bases for the original hypothesis that interpreted the building as a bathhouse (Ruhanguiz, 2007). Yet the released report does not mention lime carving; in effect, no traces of such ornamentations are attested. The 2007 report also speaks of 15 thousand fragments of turquoise tiles and pottery sherds in celadon, sgraffito, lajvardina, and luster wares as coming from the internal spaces, and nothing at all is said of any collapsed roof debris. Regarding the water supply and sewerage systems, the report puts that the closest and easiest water source for the concerned structure was perhaps the two filled wells lying next to the structure. Other pertinent reported features concern six clay pipes, a stone canal, four brick-laid canals within the confines of the structure's plan related to water transmission, and 3 "ponds" recovered in the 2007 excavation, 2 of which lack regular geometric shapes (Fig. 2).

In the history of Iranian architecture during the Islamic centuries, the ubiquitous bathhouse plan consisted of the three components of the apodyterium, the medial hall, and the caldarium. However, the plan of the

purported bathhouse fails to display any geometric order, the hierarchy of access, and particular orientation, so, for example, the representative bathhouse components such as the entrance, the vestibule, and the caldarium are not reflected by this plan. Even the two pond-like features that formed the basis of the bathhouse hypothesis in 2007–2008 lack functional relationships with each other, and their function in the consistent plan remains unclear. Also, at several points in the same structure, the dry-laid stones forming the unplastered wall rested on loose layers of excavated soil; thus, the wall lacks a solid base required for bearing the load of a roof (Roshan & Ajorloo, 2018).

The three problematic points regarding the function of the alleged bathhouse are space planning, installations, and archaeological indications. In the structure in question, the principle of linear tripartite layout common to bathhouses is absent, and even though the place of the three "ponds" within the linear tripartite design is unclear, it is impossible to determine their exact location. At least the irregular shape of two of these features excludes their functioning in a bathing context. The ground slope and the remoteness of the northern tributary of the Mehrānrud River from the building in question (Fig. 1), coupled with the total absence of archaeological evidence for a south-north oriented water supply system, rule out the river as a possible water source. We should recall Abu al-Qasem Kāshāni's statement in his History of Öljeitu that "Rabʿ-e Rashidi obtained its water from the northern branch of Mt. Surkhab" (Kāshāni, 1969, 116).

Taking advantage of the gradient of the mountain base in Mt. Surkhab in transferring water from there through a qanat system and canalization appears to be an outstanding engineerable idea, and feeding the supposed bathhouse with water via this system sounds quite viable. Note, however, that no qanat system or a canalization has been identified in the area separating the "bathhouse" from the Surkhab base, and so far, no qanat or a network of canals has been recovered to support the idea of transferring the water from the Mt. Surkhab to the alleged bathhouse. Some might argue that the exact dates of the two plugged wells, which are yet to be determined, might have served this purpose. This is not also a tenable hypothesis as Islamic jurisprudence emphasizes the flowing nature of the water used for the ritual body washing or ablution (Ghusl). And what is more, such features as a bull well, bull path, and a pond for directing the fetched water to a clay pipe system have not been excavated and reported. Resorting simply to six clay pipes and two canals will by no means supply the required archaeological reasons for a bathhouse and bathing hypothesis because aside from the problem of water procuring and irrigating, the problem of wastewater disposal must be tackled objectively: while in Endowment Deed Khwāja Rashid al-Din proscribes discharging the sewage into the river and pure water bodies, archaeological and architectural indications of a foul sewer in this part of the site are still awaiting. Even if one proposes that the two plugged wells acted as injection wells, then the idea of drawing water from a bull well will again face serious challenges, and a logical paradox will arise.

Also, the assembly of a dry-laid wall of flagstones on a loose pit, as is evidenced at some points of the building in question, is quite implausible both from archaeological and engineering, and architectural perspectives and warrants reappraisal. No collapsed debris is discernible to suggest the existence of structural embellishments such as Kārbandis, Rasmibandis, tile working, stucco working, and Muqarnas. Apart from such spaces as an antechamber and a furnace chamber, the exposed building also lacks architectural decorations and/or evidence of tilework, Sāruj work, marbling, and stone pavement. The dense concentration of turquoise tile fragments and ceramic sherds in celadon, sgraffito, lajvardina, and luster wares within the building reflects

their disturbed and relocated context because no architectural relationship is discernible between these pieces and the building, and even the stratigraphic association of celadon sherds with luster and sgraffito pieces entails an anachronism caused by the off situ contexts, which even rules out a relative date in the Ilkhanid period for the building (Roshan & Ajorloo, 2018).

Rabʿ-e Rashidi's Water Supply System in Endowment Deed

Khwāja Rashid al-Din puts in Endowment Deed (1977, 205–206) that the middle and the left conduits were used to branch off the water (distributions) for bathhouses, Soqāyas, laundry houses, and gardens, and from these flumes, the one flowing to Rabʿ-e Rashid was the Rashid Ābād flume. The Mt. Surkhab provided passage for the flume known as Pahlavān Saeed, which entered the Shahrestān, and its source was within the Rashid Ābād Garden. According to the Endowment Deed, regarding the flumes, it was stipulated that no one shall connect them from the main conduits to houses, alleys, and gardens, except a part of it for bathing purposes in the upper city through a certain pipe that was led directly there, and apart from that, any sort of exploitation by any party was prohibited. In the Sheshguilān Neighborhood, the required water for the Rashidi Bathhouse was obtained from this conduit. Distributions were also branched from these waters, which first proceeded to the Soqāya in front of the Rashidi Jameʿ, whence it ran into the pipes built for the Soqāya and flew out from there; and no one was allowed to wash anything in it, and no exploitation was allowed, except for scooping with jars. A supplementary conduit that also flew to the city passed through whatever Soqāyas were along its path. Wherever there was a deep well, people would withdraw water from a jar and pour it into large jars. Large basins were placed next to the deep wells, which were filled with jars so that livestock could drink. No one had the right to wash anything in Soqāyas or divert the flow into private houses or fountains as it would be contaminated. People were only allowed to draw and use water from the wells and Soqāyas that were built along the alleys. They were also allowed to take a certain amount of it for bathing, provided that they built a fountain in the apodyterium so that the water came out of the fountain and went to the hot and cold basins. And if the conditions of the bathroom prevented the construction of a fountain, a large pond was built next to the wall, and pipes were embedded into the wall so that the pipes poured into the pond where people could perform ablution. Khwāja Rashid al-Din states in his Endowment Deed that if anybody desires to put up deep wells and Soqāyas along these flumes as an act of benefaction, they will be allowed on the condition that they are built in routes and alleys, and they put up great basins and deep wells next to them and provide a hole behind that passage and it is in a suitable and pure point, and not within houses and gardens and enclosures so that people can scoop clean water from the inflow and outflow. He also obliges the commissioners and builders of Soqāyas: "to put up a well-built structure to guarantee the permanent flow of pure fresh water in the channels and Soqāyas and to prevent any defect or deficiency to ensure its perpetual operation."

Khwāja Rashid al-Din (1977, 212–213) also lays a big emphasis on ensuring that people consume clean drinking water; the water from the rivers and canals first goes to Soqāyas before being directed to laundry houses, bathhouses, and vegetable patches of Rabʿ-e Rashidi. And he thus suggests Soqāyas keep people's drinking water "pure": "Along the conduit passing through the neighborhoods, Soqāyas should be built wherever is feasible, and large basins should be placed next to Soqāyas wherever is possible so that people could pull water with jars and collect it within that basin for the use of livestock and benefitting of people. They should definitely refrain from washing anything in that water, from directing it into private

gardens, houses, and fountains, and from branching it off to private houses, and for the water required for bathing purposes, they should ask permission and take it through a separate canal, and wastewater from baths must certainly never be drained into the passage of the clean water."

Discussion

Although the 2007 excavations produced no evidence of roofing (Ruhanguiz, 2007), the asymmetric structural form that emerged from these drawings clearly shows that it is neither geometrically nor aesthetically compatible with the general architecture of Iranian bathhouses in the Islamic centuries. As Iranian architecture from the 10th century AD up to the Qajar period was characterized by symmetry and proportion (Kleiss, 2015), bathhouse architecture was no exception.

Chemical analysis of the plaster and mortar layers from the southeastern building suggests that the studied plasters were applied in three separate layers of varying thicknesses (Khāleghi, 2021). XRD, XRF, and SEM-EDS analyses were used to identify the materials used in plastering, while the same methods were used for the structural analysis of their compositions. The results of technological examination show that the plasters were lime based, and as regards the structure of the plasters, the two earlier layers are somewhat closer to each other, and the third or outermost layer, which was the most vulnerable of the three, exhibits good robustness and texture. Investigation of the existing phases when identifying the samples showed that the mortar is unequivocal of the lime type because calcite was observed as a major mineral phase followed by a quartz phase. In other words, the compound consisted of lime and sand or rock flour, thus corroborating the lime-based mortar hypothesis (ibid.). Therefore, based on the findings of mortar type tests, it is quite evident that the mortar used in this structure was constantly in contact with and affected by water.

Before beginning to test the laundry house (Gāzaurgāh) hypothesis, let's first take a brief look at the definition of the term: The Dehkhoda Dictionary defines it as a structure reserved for washing clothes, as a public amenity. In the Endowment Deed, mention is made of a laundry house at Rabʿ-e Rashidi close to the water cistern (Hamadāni, 1977, 251): "The place of Qasārat that is to say Gāzaurgāh requires adjoining surrounding walls and a flume opening, and stones slap placed for laundering purpose to facilitate laundering so that people use them in washing."

Sadly, no laundry house belonging to the Ilkhanid is available to be used as a comparand, and therefore for a better understanding of the structure of such buildings, we will inevitably consider the plan and structure of the laundry house (Rakhtshuy Khāna) of Zanjan here: Zanjan laundry house dates to AH 1247 and is thus a rather later construction. The complex can be generally divided into two parts (Fig. 3). The first consists of the gatekeeper room hosting the management and include a courtyard and a residential building. The courtyard is a rectangular space (32 x 12 m) with trees and green spaces, and the residential building measuring 60 sq m in the northern quadrant consists of two rooms and an entrance that connects the courtyard, gatekeeper room and the laundry room to each other. The second part entails the service areas related to clothes washing and consists of four sections. The first is the reservoir that collects the water in the northernmost part of the complex, overlooking the washing hall. There are two rows of ribbed vaults separated by stone columns. The room is divided into two symmetric aisles with 11 columns. And the washing hall consists of four symmetric pools and the water channels in between. The water initially passes through a one m-long conduit before reaching the first pool, the overflow of which then fills the second pool. On the eastern and western sides of this pool, two channels extend to the end of the hall to reach the third pool, which is built symmetrically to the second pool. Midway down this channel system, there is a pool

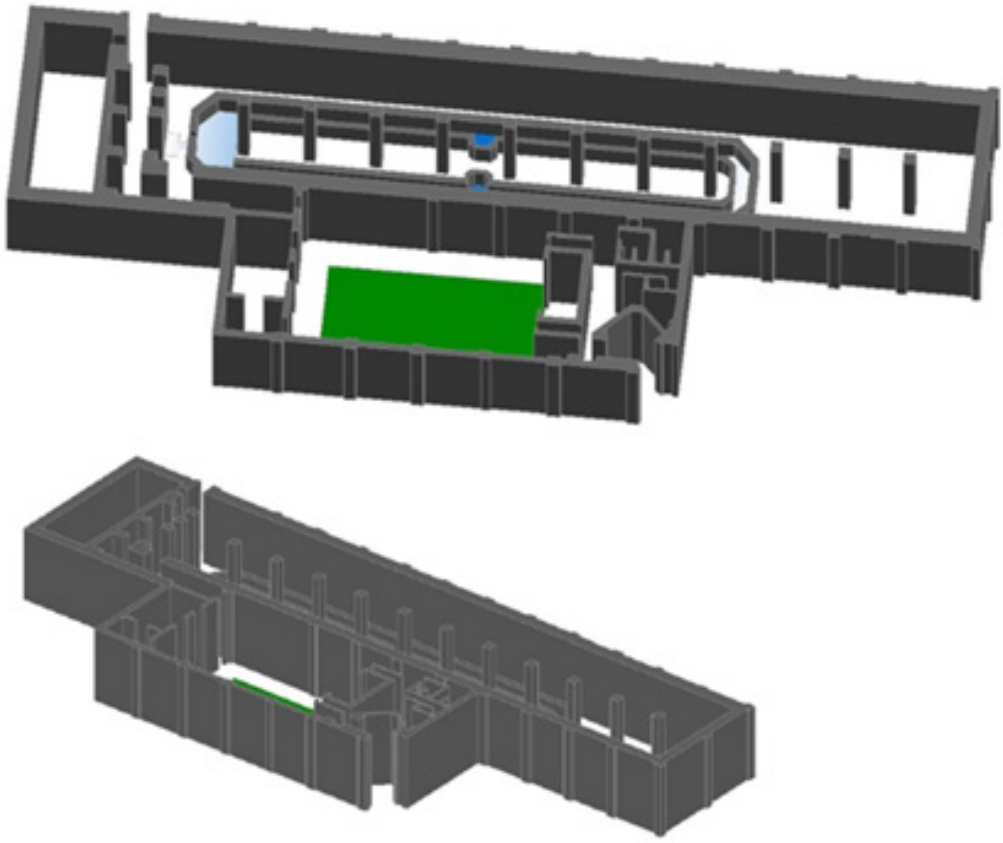

Fig. 3. Visualization of plan, volume and 3D view and prifile of Zanjan laundry. Source: Authors; based on Momeni, Tabiani & Hagh Nagahdar, 2013.

on both sides, dividing the channel system into two north and south sections. Along these channels exit two rows of footbaths, which surround the channels and the pools symmetrically (Momeni, Tabiani & Haghnegahdar, 2013).

To examine the Soqāya hypothesis, we must turn to the text of the Endowment Deed authored by Khwāja Rashid al-Din himself, from which we learn that Soqāya was an amenity to provide clean, fresh water, its water was procured from the major conduit which crossed the Bazaar of Rabʿ-e Rashidi and extended up to the gate of Rabʿ-e Rashidi, the residents were only allowed to withdraw and fresh water from the wells and Soqāyas that were built along the routes, and finally reach Soqāya had an attendant or Saqqā of its own.

Yet from a technical perspective, for a better understanding of the structure of a Soqāya, two pivotal elements should be considered: the settling basin (decanter) and derivations or branches. At the point where the water reaches the city, there is a cistern with a distribution tank. The tank is linked to the cistern at three points to receive water, and the cistern has three pipes, each connected to a tank. Therefore, when water flows through the tanks, it may enter one of the pipes (Evans, 1994). The decanter tank first receives water from the aqueduct before it enters the next tank. The water is cleaner in the next tanks and comes out from the bottom of the tank. The function of the decanter is to remove solid particles in suspension produced by wall erosion in the room of the visit. It is noteworthy, however, that a major part of the flow will likely bypass the settling basin. Therefore, the solid particles in suspension are unlikely to be decanted in the settling basin, and only coarser particles settled in the bottom of the canals

and driven by the flow will be collected in the settling basin (Mays, 2010, 162–163). In a general scheme, three important points of the flow in the derivation are presentable (Fig. 4). Point A is at the junction of the aqueduct and the room of visit. Point B is in the first pipe of the canal system and is linked to the room of the visit. Point C is in the last pipe of the canal system before the flow enters the cistern. The canalizations of the derivations consist of a series of basic interconnected pipes, which are made of clay and connected using mortar.

Thanks to the above discussion, we can now compare Soqāya more easily to the structures in question. When water is transferred to a complex, the foremost arising question is how it would be distributed. According to Abu al-Qasem Kāshāni in History of Öljeitu (1969) and the text of Endowment Deed, in procuring its water, Rabʿ-e Rashidi relied on the Mehrānrud River apart from the aqueduct of Mt. Surkhab. Endowment Deed speaks of three water conduits, namely the Right, the Middle, and the Left conduits. The flumes on the right side of the Mehrānrud flew into the Right conduit (Iraq Gate, Upper Hayr, Ni Kas, Lower Hayr, Rashidi Caravanserai of Fath Ābād). The Left conduit lay above the Ni Kas Garden. The Middle and Left conduits both crossed the left side of the Mehrānrud River, receiving other flumes. These conduits fed derivations for bathhouses, Soqāyas, laundry houses, and gardens. Of these flumes, the one that ran into Rabʿ-e Rashidi was the Rashid Ābād flume. Rashid al-Din states that people were not allowed to scoop water from all Soqāyas, but only from those lying along the routs; however, if certain persons desired to build Soqāyas along these flumes, they would be allowed on the condition that they are built within the routes and alleys and associated with large ponds and deep wells. It is noteworthy that in the structure exposed in the southeast corner of Rabʿ-e Rashidi, features that possibly functioned as deep well and large ponds are attested (Fig. 5).

The source of water for the alleged Soqāya of Rabʿ-e Rashidi is a cistern on the southeast hill, some 150 m away from the structure. Indeed, a network of pipes transferred water to Soqāyas. Nevertheless, that sections of the building that possibly contained those pipes have been thoroughly cut by the modern street occupying the eastern side of the site, leaving no traces of conduits or pipes (Fig. 6). Our first clue to the flow of water into the structure is Room 2, which contains a clay pipe, a canal that directed water to the cistern. Beyond that lies a series of divided, basin-like rooms that acted as flow rate regulators, decanters, and purifiers. Here, the water distribution system

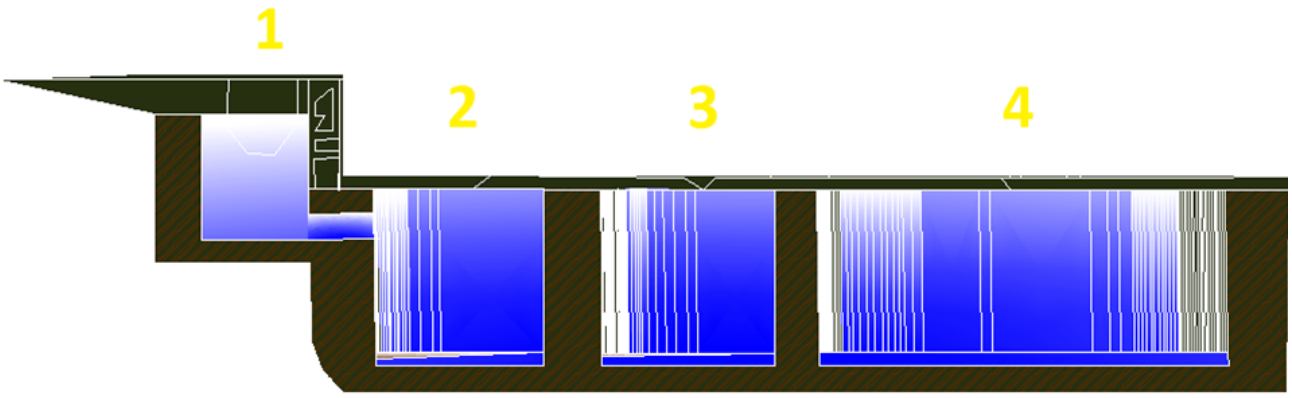

Fig. 4. An image of how a water de-sedimentation pond works: No. 1 Water stream, No. 2 and 3 Decanter tanks, and No. 4 Clean fresh water pond. Source: Authors based on Wilson, 2001.

Fig. 5. A photo of the ruins of the Rashidiyya reservoir and the direct distance of 150 meters from it to Soqāya. Source: Right: Ajorloo, 2017, Left: Authors based on Google earth.

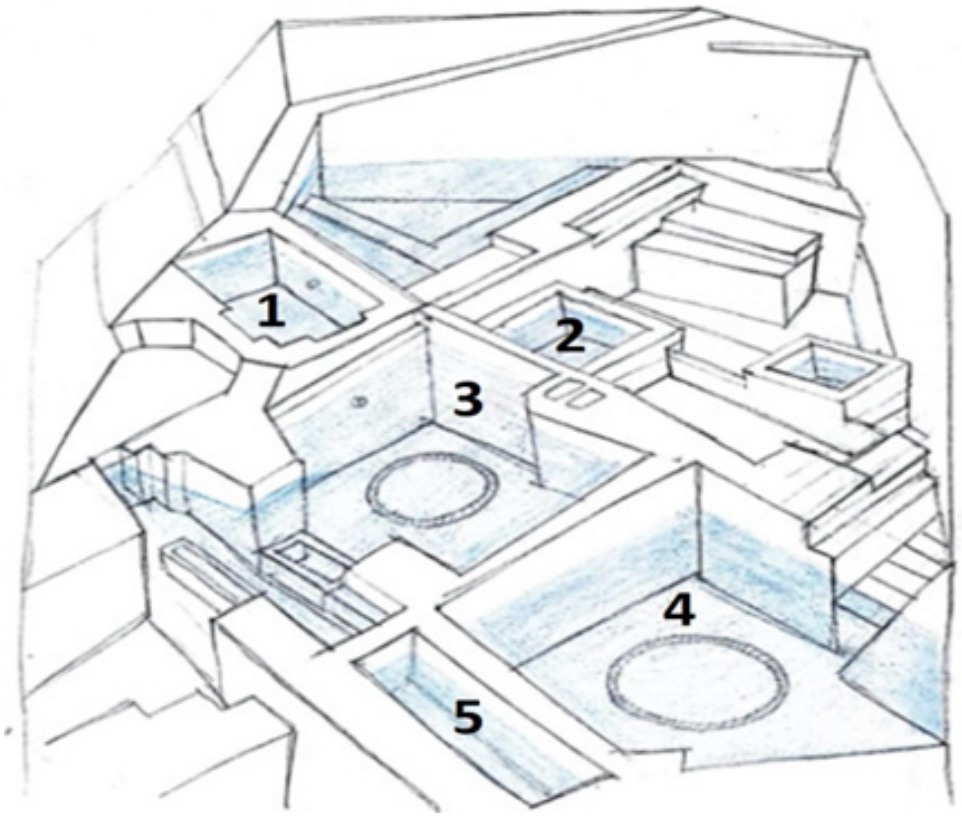

Fig. 6. A schematic image of the structure of Soqāya in Rashidiyya: No. 1 Water stream, No. 2 Stone well, No. 3 Decanter tank, No. 4 Stone well, No. 5 Fresh water output. Source: Author's Archive.

consisted of covered pipes and curved stone channels, and secondary pipes transferred water to a stone settling basin to eliminate or suspend sediments. In the excavated exposures, primary and secondary

pipes are attestable. However, in the beginning, a pond-like structure is visible with a clay pipe that directs water to the next room. The existence of the clay pipe certainly indicates that water was directed from the conduit to the structure and then to the next room, i.e., the settling basin. Thence, it proceeded through a small channel, marked with a red circle, to the main cistern for storage. At the bottom of this room, there is a circular cavity, which probably collects the solid particles. The settling basin first received water from the conduit, and then water entered the next tank. Here, the cleaner water exited through an outlet at the bottom of the tank (Fig. 7). Then, on the authority of Rashid al-Din, the water ran toward gardens, laundry houses, and vegetable fields.

Conclusions

Regarding the questions and hypotheses raised in the introductory section, we should stress that no architectural or archaeological evidence supports the hypothetical bathhouse function for the structure excavated in the southeast corner of Rabʿ-e Rashidi. The historical sources fail to provide any information or help regarding the technical details and locations of bathhouses that existed in Rabʿ-e Rashidi.

Regarding the laundry house hypothesis, it is notable that the incompatible plan of the discovered structure and the special architecture and technical and engineering principles required by the structure meant to serve as a laundry house rule out the possibility of the southeast structure at Rabʿ-e Rashidi being a laundry house. Firstly, this structure lacked a roof and the structural hierarchy and symmetry that characterized historical laundry houses. Also, Endowment Deed describes a laundry house as an enclosure with adjoining walls that contain a flume

Fig. 7. A photo of the unearthed fresh water supply structure from the southeast of Rabʿ-e Rashidi site. Right: Stone well. Left: Stone pond. No. 1 Water stream, No. 2 Directing fresh water from the purification pond to the waterway, No. 3 Ceramic pipe, No. 4 Purification pond, No. 5 Stone pond, No. 6 and 7 Stone wells, No. 8 Stone pond, No. 9 Water input to the stone well from down channel. Source: Author's Archive.

outlet. Stone slabs were also present so that people could easily perform their laundering on them. The laundry house equipped with stone slabs, as described by Endowment Deed, is incompatible with the southeast structure of Rabʿ-e Rashidi. The laundry house hypothesis is hence rejected.

Therefore, given the compatibility of the exposed structure with the hydraulic structures used in water distribution and water engineering in the pre-modern world, using this structure as a Soqāya, a complex of water distribution basins, is the most plausible. And finally, it should be emphasized that the hypothesis of Soqāya of Rabʿ-e Rashidi is based on the logic of Abduction; the historical and architectural evidence lends more weight to the validity and rationality of this hypothesis. Of course, one should note that in abduct reasoning, a hypothesis will still remain simply a hypothesis and will never evolve into a certain factual conclusion (Ladyman, 2002). However, unlike the falsifiable hypothesizing approach adopted by Roshan and Ajorloo (2018), there will be no alternative hypothesis in the case of Abduction. Thus, given the higher degree of rationality and acceptability of the Soqāya hypothesis, based on the text of the Endowment Deed, which was composed by Rashid al-Din himself, the relative chronology of this structure relates to the Ilkhanid period and the first half of the 14th century AD. The structure was later turned into an abandoned, ruined building and a rubbish dump following the Tatar invasion of Tabriz and the Ottoman occupation of Azerbaijan and their destruction when converting Rabʿ-e Rashidi into an Ottoman garrison as well as the terrible earthquakes that struck Tabriz.

Acknowledgments

This research paper was completed as part of the activities of the International Project of Rabʿ-e Rashidi, which are carried out under the direction of Dr. Bahram Ajorloo, with permission from the ICAR & RICHT and the cooperation of the National Research Base of Rabʿ-e Rashidi. The reservation of all pertinent rights to this project is expressed.

Refrence list

• Ajorloo, B. (2013). A historical approach to urban planning and architectural complexes of the Ilkhanid Tabriz. *JIIPH, Quarterly Journal of History of Iran after Islam*, *University of Tabriz*, 4 (7), 1–23.

• Ajorloo, B. (2017). *Report on the First Season of International Excavations & Restoration Studies at Rabʿ-e Rashidi by the Joint Iran-German Rashidiyya Expedition*. Unpublished Official Report, archives of Rabʿ-e Rashidi Tabriz National Research Base, Iranian Ministry of Cultural Heritage, Tourism and Handicrafts.

• Ajorloo, B. (2018). *Report on the Second Season of International Excavations & Restoration Studies at Rabʿ-e Rashidi by the Joint Iran-German Rashidiyya Expedition*. Unpublished Official Report, archives of Rabʿ-e Rashidi Tabriz National Research Base, Iranian Ministry of Cultural Heritage, Tourism and Handicrafts.

• Ajorloo, B. (2019). *Report on the Third Season of International Excavations & Restoration Studies at Rabʿ-e Rashidi by the Joint Iran-German Rashidiyya Expedition. Unpublished Official Repor*t, archives of Rabʿ-e Rashidi Tabriz National Research Base, Iranian Ministry of Cultural Heritage, Tourism and Handicrafts.

• Ajorloo, B. (2020). Archaeological excavations of Rabʿ-e Rashidi international Project: The Cultural heritage of Khwāja Rashid al-Din Fażl-Allāh Hamadāni. In A. Mortāzi (ed.), *The Proceedings of the First International Conference in Honor of Khwāja Rashid al-Din Fażl-Allāh Hamadāni, Excluded Volume for Endowment and Religious Studies*, 161-182. Tabriz: University of Tabriz Press.

• Ajorloo, B. & Moradi, A. (2020). An analytical approach to the function and date of the southern great tower of Rabʿ-e Rashidi Tabriz. *Bagh-e Nazar*, 17 (85), 45–56.

• Ajorloo, B., Fuchs, C. & Moradi, A. (2018). New research approaches to Rabʿ-e Rashidi, Tabriz, 2016. In R. Shirazi (ed.), *Proceedings of the 16th Annual Symposium on Iranian Archaeology*, 39-43. Tehran: RICHT & ICAR.

• Ajorloo, B., Korn, L. & Fuchs, C. (2019). The second season of international expedition to Rabʿ-e Rashidi, Tabriz, 2017. In R. Shirazi (ed.), *Proceedings of the 17th Annual Symposium on Iranian Archaeology,* 11-15. Tehran: RICHT & ICAR.

• Evans, H. (1994). *Water Distribution in Ancient Rome: The Evidence of Fronties*. AnnArbor: University of Michigan Press.

• Hamadāni, K. R. F. A. (1977). *al-Waqfiyya al-Rashidiyya*

(The Endowment Deed of Rabʿ-e Rashidi, 1309 AD). In M. Minuwi, I. Afshār & A. Kārang (eds.), Tehran: The Society for the National Heritage of Iran.

• Kāshāni, A. A. M. (1969). *History of Öljeitu 1317 AD*. In M. Hambali (ed.).Tehran: Bongāh-e Tarjomeh va Nashr-e Ketāb.

• Khāleghi, N. (2021). *Preservation and Restoration of a Part of the Plaster Layers in the So-Called Bathhouse Structure at the Rabʿ-e Rashidi Complex in Tabriz. (*Unpublished BS thesis in restoration), Tabriz Islamic Art University.

• Kleiss, W. (2015). *Geschichte der Architektur Iran.* Berlin: DAI.

• Ladyman, J. (2002). *Understanding the Philosophy of Science.* London: Routledge.

• Mays, L. (2010). *Ancient Water Technologies.* New York: Springer.

• Momeni, K., Tabiani, M. & Haghnegahdar, S. (2013). The historical building of Zanjan laundry, *Proceedings of the 3rd National Conference of Interior Architecture and Decoration.* Isfahan, Iran.

• Mustawfi, H. A. (1919). *Nuzhat al-Qulub 1340 AD.* In G. L. Strange (ed), Leyden: Brill.

• Roshan, M. & Ajorloo, B. (2018). The analytical revisiting of the structure known as Ilkhanid bathhouse in Rabʿ-e Rashidi, Tabriz. *Bagh-e Nazar*, 15 (68), 5–14.

• Ruhanguiz, L. (2007). *Report on the 3rd Season of Archaeological Excavations at Rabʿ-e Rashidi.* Unpublished Official Report, Archives of the E. Azerbaijan Cultural Heritage, Tourism and Handicrafts Directorate.

• Wilson, A. (2001). *Urban Water Storage, Distribution, and Usage.* In A. O. Koloski-Ostrow (ed.), Water Use and Hydraulics in the Roman City, 83–96 (Archaeological Institute of America, Colloquia and Conference Papers, 3). Dubuque: Kendall/ Hunt.

COPYRIGHTS
Copyright for this article is retained by the author (s), with publication rights granted to the journal of art & civilization of the orient. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution License (https://creativecommons.org/licenses/by/4.0/).

HOW TO CITE THIS ARTICLE

Jamshidi Gholdori, N. & Ajorloo, B. (2023). An Introduction to the Hypothesis of SOQĀYA of Rabʿ- e Rashidi. *Journal of Art & Civilization of the Orient*, 11(41), 6-17.

DOI: 10.22034/jaco.2023.383140.1293
URL: https://www.jaco-sj.com/article_172534.html?lang=en