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TURKIC CARAVANSERAIS OF THE 10TH–12TH CENTURIES ON THE SILK ROAD AND THE BUILDING TYPES THAT PLAYED A ROLE IN THEIR DEVELOPMENT

Abstract. The Ghaznavid, Karakhanid and Seljuk civilizations built monumental architectural works in their geography between the 10th and 12th centuries. These civilizations living on the Central Asian plateau built stations, inns and caravanserais between cities, on plains and valleys. Caravanserais, which constitute an important part of these works on the Silk Roads, were built as a resting and accommodation point between the long journeys of caravans, travelers or caravan caravans. The historical evolution of societies can often be traced through the architectural works they leave behind. Among these, architectural works such as stations, inns and caravanserais stand out as important structures that serve both practical purposes and play an important role in shaping the cultural and economic structure of the regions throughout history. In this study, attention is drawn to these architectural elements that affect the development, origins and architectural features of caravanserais. The historical significance of this architectural development process affecting Ghaznavid, Karakhanid and Seljuk caravanserais and its effects on contemporary understanding are also discussed. These structures, called caravanserais, inns or with different cultural names, show dimensional and functional diversity in the history of Turkish architecture, depending on the military and economic conditions of the civilization in which they were built. The study investigated the influence of Achaemenid and Parthian postal stations (çaparhane), Incense Road caravanserais, North Asian kurgan and courtyard housing architecture, and Early Middle Ages settlement structures on the development of Ghaznavid, Karakhanid and Seljuk caravanserais located on the Silk Road routes.

Keywords: Silk Road, Seljuk architecture, Central Asian civilization, caravanserai, trade routes

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Ұлы Жібек жолы бойындағы X–XII ғасыр түркі керуенсарайлары және олардың дамуына әсер еткен құрылыс түрлері

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Андатпа. Ғазнәуи, Қарахан және Селжұқ өркениеттері X–XII ғасырлар аралығында өздері мекендеген аймақта монументалды сәулет ескерткіштерін тұрғызды. Орталық Азия жазығында өмір сүрген бұл өркениеттер қалалар арасында, жазық пен аңғарлар бойында станция, хан және керуен-сарай ғимараттарын салды. Бұл туындылардың Жібек жолындағы маңызды бөлігін құрайтын керуен-сарайлар керуендердің, саяхатшылардың немесе керуен топтарының ұзақ сапарлары арасында тынығу мен тұрақтау орны ретінде салынған. Қоғамдардың тарихи дамуын көбінесе олардың артында қалдырған сәулет туындылары арқылы байқауға болады. Солардың ішінде станция, хан және керуен-сарай сияқты сәулет туындылары тарих бойы әрі практикалық мақсаттарға қызмет еткен, әрі өңірлердің мәдени және экономикалық құрылымын қалыптастыруда маңызды рөл атқарған. Бұл зерттеуде керуен-сарайлардың дамуына, шығу тегіне, сәулеттік ерекшеліктеріне әсер еткен осы архитектуралық элементтерге назар аударылды. Сондай-ақ Ғазнәуи, Қарахан және Селжұқ керуен-сарайларына ықпал еткен сәулет дамуының тарихи маңызы мен заманауи түсінікке әсері қарастырылды. Керуенсарайлар, хан немесе басқа мәдени атаулармен белгілі бұл құрылыстар түрік сәулет тарихында, салынған өркениеттің әскери және экономикалық жағдайларына байланысты, өлшемі мен функциясы жағынан әртүрлі болып келеді. Зерттеу аясында қарастырылған және Жібек жолы бағыттарында орналасқан Ғазнәуи, Қарахан және Селжұқ керуен-сарайларының дамуына Ахемен және Парфия дәуірінің пошта станциялары (чапархан), Хош иіс жолының керуен-сарайлары, Солтүстік Азия қорған және ауласы бар тұрғын үй архитектурасы мен ерте орта ғасырлық елді мекендердің қалай әсер еткені зерттелді.

Кілт сөздер: Жібек жолы, Селжұқ сәулеті, Орталық Азия өркениеті, керуен-сарай, сауда жолдары

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Тюркские караван-сарай X–XII веков на Великом шелковом пути и типы зданий, сыгравшие роль в их развитии

Аннотация. Цивилизации Газневидов, Караханидов и Сельджуков в X–XII веках возводили монументальные архитектурные памятники на своих территориях. Эти цивилизации, населявшие плато Центральной Азии, строили станции, ханские и караван-сарай между городами, на равнинах и в долинах. Караван-сарай, являющиеся важной частью этих сооружений на Шелковом пути, возводились как места отдыха и ночлега для караванов, путешественников и торговых караванных групп на протяжении долгих путей. Историческая эволюция обществ зачастую прослеживается по архитектурным памятникам, оставленным ими после себя. Среди них архитектурные сооружения, такие как станции, ханские и караван-сарай, на протяжении всей истории служили как практическим целям, так и играли важную роль в формировании культурной и экономической структуры регионов. В данном исследовании внимание уделено архитектурным элементам, повлиявшим на развитие, происхождение и архитектурные особенности караван-сарая. Также рассматривается историческое значение этого архитектурного процесса, оказавшего влияние на караван-сарай Газневидов, Караханидов и Сельджуков, и его воздействие на современное понимание. Каравансарай, ханские или известные под другими культурными названиями эти здания в истории турецкой архитектуры, в зависимости от военных и экономических условий эпохи, отличаются разнообразием по размеру и функциям. В рамках исследования проанализировано, как на развитие караван-сарая Газневидов, Караханидов и Сельджуков, расположенных на маршрутах Шелкового пути, повлияли

почтовые станции ахеменидского и парфянского периодов (чапархан), караван-сарай Дороги благовоний, курганная и дворовая жилищная архитектура Северной Азии и поселения раннего Средневековья.

Ключевые слова: Шёлковый путь, сельджукская архитектура, цивилизация Центральной Азии, караван-сарай, торговые пути

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İpek Yolu Üzerindeki X–XII. Yüzyıl Türk Kervansarayları ve Gelişiminde Rol Oynayan Yapı Tipleri

Özet. Gazneli, Karahanlı ve Selçuklu uygarlıkları 10-12. yüzyıllar arasında, bulundukları coğrafyada anıtsal nitelikte mimari eserler inşa etmişlerdir. Merkez Asya platosunda yaşayan bu uygarlıklar şehirler arasında, ova ve vadi boyları üzerinde istasyon, han ve kervansaray yapıları inşa etmişlerdir. Bu eserlerin İpek Yolları üzerindeki önemli bir parçasını oluşturan kervansaraylar kervanların, seyyahların ya da kervan kafilelerinin uzun süreli yolculuklar arasında bir dinlenme ve barınma noktası olarak inşa edilmişlerdir. Toplumların tarihsel evrimi çoğu zaman arkalarında bıraktıkları mimari eserler aracılığıyla izlenebilmektedir. Bunlar arasında istasyon, han ve kervansaray gibi mimari eserler, tarih boyunca hem pratik amaçlara hizmet eden hem de bölgelerin kültürel ve ekonomik yapısının şekillenmesinde önemli rol oynayan önemli yapılar olarak öne çıkmaktadır. Bu çalışmada kervansaray gelişimini, kökenlerini, mimari özelliklerini etkileyen bu mimari unsurlara dikkat çekilmiştir. Gazneli, Karahanlı ve Selçuklu kervansaraylarını etkileyen bu mimari gelişim sürecinin tarihi önemi ve çağdaş anlayış üzerindeki etkileri de ayrıca ele alınmıştır. Kervansaraylar, hanlar ya da farklı kültürel isimlerle adlandırılan bu yapılar Türk mimarlık tarihinde, inşa edildiği uygarlığın içinde bulunduğu askeri ve ekonomik şartlara bağlı olarak; boyutsal ve işlevsel açıdan çeşitlilik göstermektedir. Çalışma kapsamında incelenen ve İpek Yolları rotalarında bulunan Gazneli, Karahanlı ve Selçuklu kervansaraylarının gelişiminde; Ahameniş ve Part dönemi posta istasyonları (çaparhane), Tütsü Yolu kervansarayları, Kuzey Asya kurgan ve avlulu konut mimarisi ile Erken Orta Çağ yerleşim yapılarından nasıl etkilendiği araştırılmıştır.

Anahtar Kelimeler: İpek Yolu, Selçuklu mimarisi, Orta Asya uygarlığı, kervansaray, ticaret yolları

Introduction

During the period when the Turks lived in tribes in the Altai Mountains, around the Yenisei River and in the steppes of present-day Mongolia, there were the Parthians of Persian origin in Central Asia and the Greco-Bactrian civilization of Western origin, the representative of the Hellenistic period. There were various struggles between these civilizations consisting of city-states. By the 3rd century AD, the Sassanids again emerged as a dominant power in Central Asia.

The 7th century, when Muslim elements became a political power in the Arabian peninsula, coincided with the period when the Gokturks were influential in Central and North Asia. The Gokturks were particularly influential in the Altai Mountains, Kyrgyzstan, Kazakhstan, Mongolia and Tuva in the 7th-8th centuries. The North China region and Central Asia came under the control of the Gokturks after the struggle with the Chinese dynasties (Kanlıdere 2011: 5). While these developments were taking place in North Asia, the Maveräünnehir region was surrounded by a network of Sogdian city-states. Sogdian city-states were under the rule of the Gokturks until the 5th-6th century AD. As the Sogdian influence increased, this region became a center of attraction. In the 7th century, Arab raids began in this region, which attracted the attention of Muslim Arabs, and the Umayyads, who advanced to Turkish cities such as the Fergana Valley, Bukhara,

Samarkand and Merv, created the first interaction between Turks and Muslims. When a large part of Central Asia came under the influence of the Muslim Arabs, the capital of the Khorasan region became Merv and the capital of the Movarounnahr region became Samarkand (Minorsky 1956: 13).

In the 10th century, the Movarounnahr region was a very active geography for the Ghaznavids, Karakhanids and Seljuks. Especially in the second half of this century, the struggles between the Ghaznavid and Karakhanid states threatened the sovereignty of the Samanids and prepared the fall of the Samanids after a while. After this process, these two Turkish states, which entered into a struggle for authority in the region, fought the battles of Nasa and Sarakhs between 1035-1040, and the Karakhanids took control of the Movarounnahr. After the 1040 Dandanaqan War, the Seljuks gained superiority over the Ghaznavids and the Seljuks took control of North Khorasan (Map 1).



(Map1) <https://odsgm.meb.gov.tr/destekmateryal/pdf/beceri/testler>

Post Stations and Caravanserais on Trade Routes in the Early Ages

In ancient times, long before modern times, two major trade routes, the King's Road and the Silk Roads, played important roles in connecting different regions, cultures and economies. While the King's Road was primarily a communication and military route managed by the Persian empires (Achaemenid-Partho-Sassanid), the Silk Roads were more of a network of roads used and organized by merchants, traders and caravans.

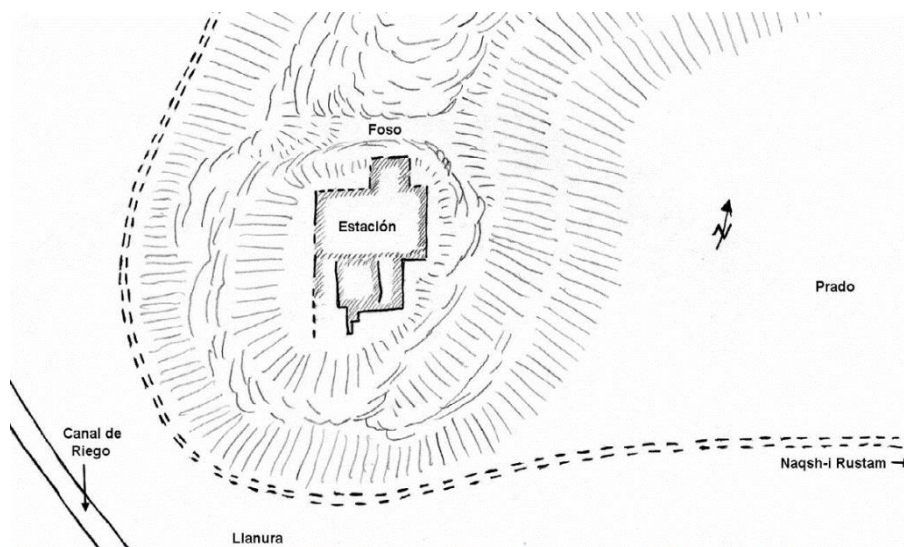
While the King's Road generally covered the borders of the Persian Empires, the Silk Roads covered an intercontinental area. In short, it connected China to Europe and Africa through a network of routes. In the context of the First Age, these routes laid the foundations of long-distance interaction and influenced economic, cultural and political developments in the ancient world.

The caravanserai structures evaluated within the scope of this study have shown a development process that follows the functionality and plan layout of the postal station and inn structures built during the First Age. Achaemenid and Parthian postal stations (chapar khaneh) were built using local materials such as mudbrick or stone. It was considered important that these buildings were designed to be functional rather than visual. Because the security and accommodation needs of ambassadors or messengers passing through the vast territories of the empire brought a political responsibility. In addition, the architectural style, durability and functionality of these stations were also a political propaganda element of the empires. The horse-drawn mail transfer system, which first emerged during the Achaemenid period, continued until the 20th century. These stations, which were placed at convenient intervals where royal

messengers could rest and use new mounts, were also influential in the planning of the caravanserais built in the Iranian geography (Kiani 1970: 25).

According to the historian Herodotus, who lived in the 5th century BC; there were 11 postal stations between Susa and Babylon, 34 between Rakka (Northern Syria) and Urfa, 15 between Urfa and present-day Armenia, 3 from the Euphrates River to the Kızılırmak River, 28 from the Kızılırmak River to Murat (Dindymos) Mountain (Kütahya), and 20 from Murat Mountain to Sardis (Erendil 1974: 26). There are a total of 111 post stations along the King's Road.

Archaeological excavations conducted near the Achaemenid capital of Pasargadae (Persepolis) in the second half of the 20th century revealed the existence of a structure consisting of a courtyard surrounded by fortified walls and small adjoining rooms, which was found to be largely consistent with the characteristics of ancient caravanserais. This structure is referred to in sources as the Germabad post station (Figure 1). Similarly, it is understood that the postal station near the city of Hajiabad in Iran today is similar to the cell units of caravanserais that served as guard posts and product storage facilities (Kiani 1970: 25).



(Figure 1) Germabad Post Station (Mohammad Kiani)

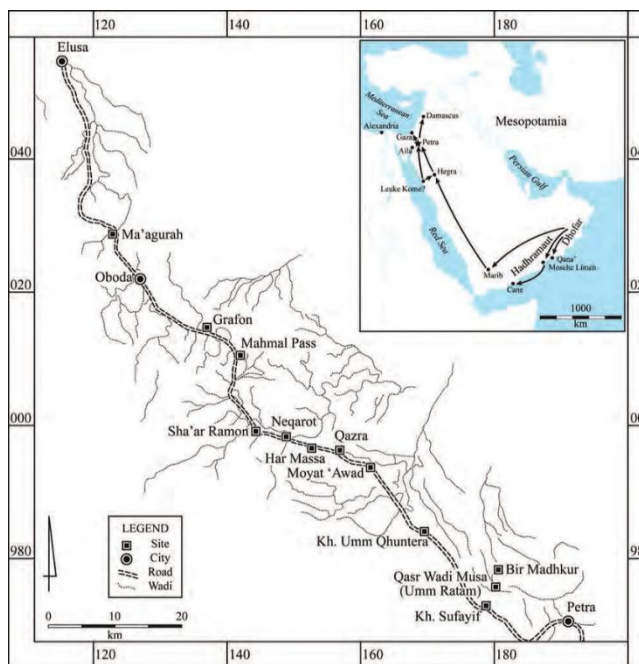
Remains of station structures can be found in various areas of Central Asia and present-day Iran. However, this postal station system was known as the “Barid” system during the Early Islamic period. These berids, which functioned as a type of transfer station, were abandoned during the Seljuk period. These stations, established to ensure that messages from the empire or state were delivered quickly to wide areas, became more organized and official in the Middle Ages and later periods. Especially under the Mongol Empire ruled by Genghis Khan, this system, known as the Yem Network, made Central Asia and Iran safe and efficient for fast communication and trade (Eğilmez, Kalkan 2023: 165).

Today, the Incense Routes, established between the Arabian Peninsula, Yemen, Syria, Jordan, and Israel, are ancient trade routes used to transport incense materials and stimulate trade. These routes were very important in ancient times for the exchange of goods, ideas, and culture between regions. In particular, the point on the Arabian Peninsula connecting the cities of Hadramut and Sana'a in Southern Arabia to the Mediterranean world was a highly strategic route. The caravanserais of Orhan Mor, Nakarot, and Sha'ar Ramon, which formed the routes along the Incense Route and are located in this valley, were constructed between the 1st and 3rd centuries AD (Tali, Yotam 2022: 596). The structures, which feature various architectural types such as a castle (Nakarot Castle), watchtower, bathhouse, and cistern, constitute a caravanserai complex. Known as the “Incense Route,” this desert trade network was the main artery for transporting

spices and fragrant cosmetic products from their production areas in South Arabia to the Mediterranean coast.

This network of trade centers and caravanserais supported the vibrant commercial activities that reached their peak between the 3rd century BCE and the 3rd century CE during the Nabataean and Roman periods. In addition, it must have played a pioneering role in the development of the trade and caravan system in the Near East, including Ottoman territories. During the period when the Roman Empire was politically and militarily powerful, it also sought to maintain its economic potential. Especially from the 1st century CE onwards, they transformed the Arab border (Limes Arabicus), which was the Syrian border, into an architectural stronghold for defense purposes and constructed powerful fortress-type (Castrum) structures. These fortified outposts, with their open courtyards, strong perimeter walls, and wide buttress towers, served as prototypes for the Turkish-Islamic caravanserais built centuries later (Sims 1978: 98).

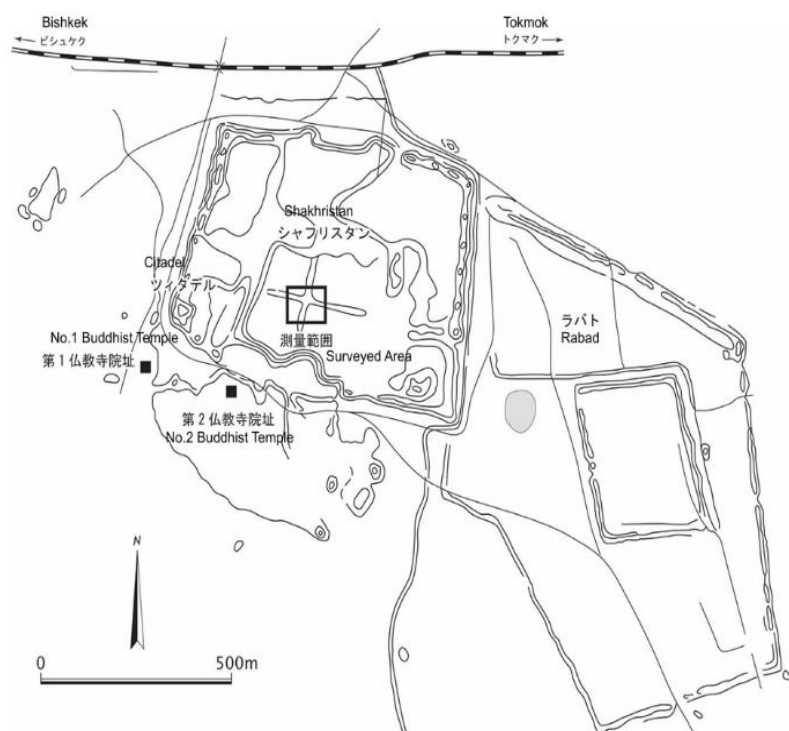
In the early Byzantine period, it can be seen that a caravanserai was built next to a bathhouse in the settlement of “Bir Madhkur” near the Valley of Moses in Jordan (Hughes 2014: 77). This settlement was named Elah Castle (Khirbet Sufaysif) as a result of archaeological research conducted using a Geographic Information System (GIS). This site is an Early Roman caravan station excavation area (Figure 2).



(Figure 2) Incense Road Trade Route. (Hughes Ryan)

Kurgan and Temple Architecture in Northern Asia

In the early Middle Ages, fortress-type settlements and kurgan (tomb) structures can be found in Kazakhstan, Kyrgyzstan, and Siberia (Tuva) during the Gokturk and Uyghur empires. Fortress-type settlements (military cities) established around Southern Kazakhstan, Kyrgyzstan, Southern Mongolia, and Eastern Turkestan (Northern China) consisted of fortresses, cities, and rabad areas, similar to other Central Asian and Khorasan settlements. Among these examples, the Akbeshim settlement (5th century) holds a significant place as perhaps the oldest military-city model among the cities established by the Turks, particularly the Göktürks. Additionally, this settlement was one of the areas where Sogdian colonies conducted commercial activities. The Akbeshim (Suyab) settlement is a city that also features palace-type structures. The presence of palace architecture in the city center symbolically emphasizes the centrality of the “four cardinal directions” tradition among the Turks, a well-known fact (Çerezci 2020: 708) (Figure 3).



(Figure 3) Akbeshim Settlement. Kyrgyzstan (Nobuo Kamei)

Although there is insufficient information about Asian Turkish architecture that emerged before Islam, written sources and archaeological findings provide clues about courtyard residential architecture. Among the city ruins that have survived to the present day, there are examples of kurgan-type tombs that use a four-directional layout (Altun 1988: 33). During excavations carried out in recent years (2016-2018), more than 300 kurgan-type tombs dating from the 9th century BC to the 7th century AD were unearthed. In particular, the Eleke Sazy kurgan is believed to be a Gokturk kurgan discovered in southern Kazakhstan. It is known that work is ongoing within the kurgan, which is arranged according to the “Four Directions” scheme (Figure 4).



(Figure 4) The Eleke Sazy Kurgan Kazakhstan. www.google.earth
47.336742N 82.126114E

Early Medieval Caravanserais On The Silk Roads

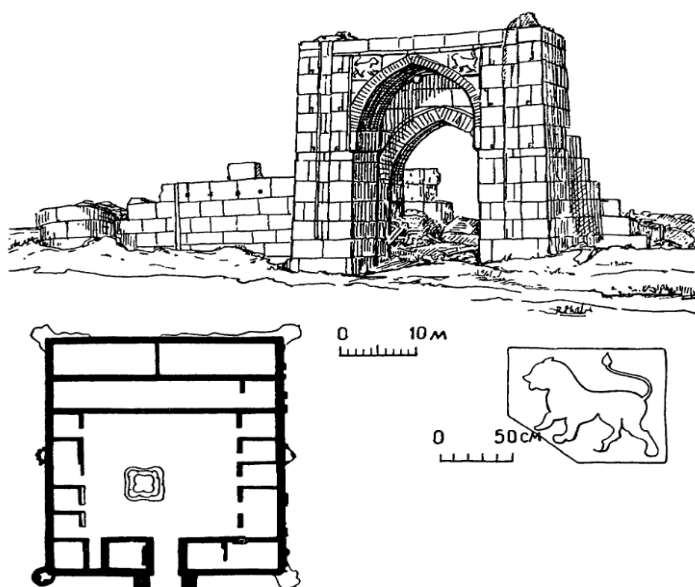
Early medieval settlements in Central Asia represented an important process in the spread of inter-city trade and cultural exchange. In particular, many important developments and cultural changes took place along the Silk Road routes during the early Middle Ages. These developments were also related to the formation of various civilizations and centers of power. During this process, which was influenced by urban settlements, construction activities also took place at the regional level. Among the elements that shaped the architectural culture of the city were castle-city and rabad structures.

During the Early Middle Ages and the centuries of development, ancient settlements were established in the Zarafshan Valley, on the Karakum Desert, and in important trade and cultural centers such as Maveraünnehir and Khorasan. Among these are the settlements of Merv, Amul, Köhne Urgench, Dehistan, Shash (Tashkent), and Khwarezm. In particular, the city of Merv served as a crucial point of interaction along the east-west routes of the Historical Silk Road (Ulko 2013: 135). The caravanserais built in these settlements were generally arranged in the form of small inns with square plans, courtyards, and cellular divisions around the rabad of the settlements.

The Ulu Kishman caravanserai, believed to have been built in the 8th-9th centuries in the city of Merv in Turkmenistan, which constitutes an important part of the Silk Road trade in demographic and economic terms, was constructed entirely of adobe bricks in a square plan measuring 70x76 meters. The watchtower located at the northwest corner is cylindrical in shape and accessed via a spiral staircase. The eastern facade is reinforced with three semicircular towers, while the northeast facade is reinforced with another tower that is entirely circular in shape. The courtyard of the caravanserai measures 44x44 meters and is surrounded by arched porticoes supported by columns (Genito 2010: 207). This caravanserai, which has survived to the present day in ruins, largely reflects the Karakhanid and Seljuk typology.

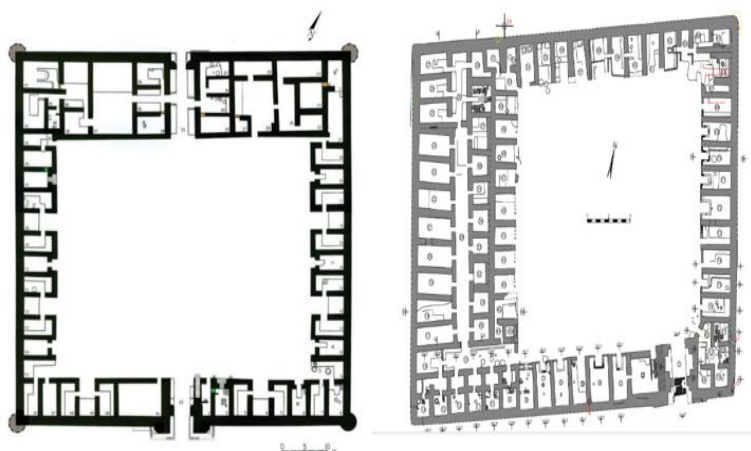
In Dehistan, a settlement in Turkmenistan that is likely one of the ancient settlements, archaeological excavations have revealed a complex structure consisting of a caravanserai, mosque, and cistern. The caravanserai, believed to have been built from burnt bricks, is understood to have a square plan, a large courtyard, and rectangular cells surrounding the courtyard. Additionally, adjacent to the caravanserai is a rectangular structure where caravan animals were housed (Pugachenkova 1958: 220).

Today, the Harezmi settlement, located between the borders of Turkmenistan and Uzbekistan, contains the remains of the ancient site of Beleuli. Khwarezm region began to exhibit the traditional characteristics of Central Asian Islamic urban architecture after the 10th century. Settlements in Beleuli were generally built of adobe, and the traditional Central Asian courtyard architectural tradition can also be seen. Founded in the 9th-10th centuries, this settlement features a monumental gateway to a caravanserai built of cut stone with a square plan. Additionally, there is a watchtower and a cistern area for water supply right next to this caravanserai. Around the courtyard, there are rows of square-plan cells extending from south to north. The rectangular and square-shaped enclosed units around the main gate on the south side were used as storage rooms and pantries. On the north facade, located on the vertical axis of the Taçkapı facade, two rows of rectangular spaces are lined up one after the other (Figure 5).



(Figure 5) Beleuli Caravanserai Plan and its Portal. (Emma Zilivinskaia)

The Kanka settlement, located in the center of the city of Shash (Tashkent) in Uzbekistan, is situated 8 km east of the Amu Darya River. This ancient settlement consists of strong defensive walls, three cities, and a rabad. The main streets, market squares, and caravanserais within this area indicate that it was a center of urban culture. The Kanka settlement is mentioned in medieval Arabic and Persian sources under the name “Farna” (<https://en.unesco.org/silkroad/countries-alongside-silk-road-routes/uzbekistan>). It is understood that the plans of the caravanserais here are also small square in shape and arranged in a cellular division around the courtyard. It is known that the caravanserais built within the urban settlements of Central Asia are the earliest examples of such structures, dating back to the 8th-9th centuries. These caravanserais in the Bukhara oasis were discovered during excavations conducted in the early 1970s. The caravanserais named Ribat-1 and Ribat-4 are located within the Beykend settlement. It has been determined that the structures were built with architectural elements such as a monumental entrance gate, single or triple-roomed cells, a kitchen, a bathhouse, storage facilities, a stable, and a mosque. It has also been emphasized that the structures were strategically and commercially significant (Mirzaakhmedov 2022: 45) (Figure 6-7).



(Figure 6-7) Beykend Ribat-1 Ribat 4 Uzbekistan (Sirojiddin Mirzaakhmedov)

The Aultepe settlement, located within the boundaries of the Zarafshan Valley (Uzbekistan), is notable for its similarity to medieval structures and caravanserais in Central Asia.

Archaeologist Sergey Khmelnitsky states that the caravanserai area here consists of an inner rectangular courtyard and outer lower walls. He also believes that caravanserais and ribats may have emerged during the Early Islamic period, depending on different plans (Polvonov 2021: 81).

The Development of Turkish Caravanserais on the Silk Road

With the development of roads in Central Asia during the Middle Ages, cities, provinces, countries, and continents became connected to one another. In this sense, the Silk Roads, which spread across a large part of the Asian continent, played a role in bringing civilizations and cultures closer together. The difficulties of long journeys and the development of inter-civilizational trade necessitated the construction of caravanserais at central points. Another purpose of caravanserais was to protect the goods and lives of caravans and travelers. The architectural features, floor plans, and functions of these structures, which became widespread along the Silk Roads, varied according to different periods and the conditions of the time.

The caravanserais built within the settlements of the Early Middle Ages in Central Asia were intended to promote trade and the development of craftsmanship within the cities. These settlements, built mainly between the 7th and 9th centuries, increased the cultural, commercial, and political potential of the region over time and greatly facilitated communication between civilizations. These settlements, which were home to dynasties, states, and empires, also determined the historical development of large caravanserais built along inter-city routes. Surface surveys and archaeological excavations have also proven that developments took place in the plans and functionality of Early Middle Ages khans.

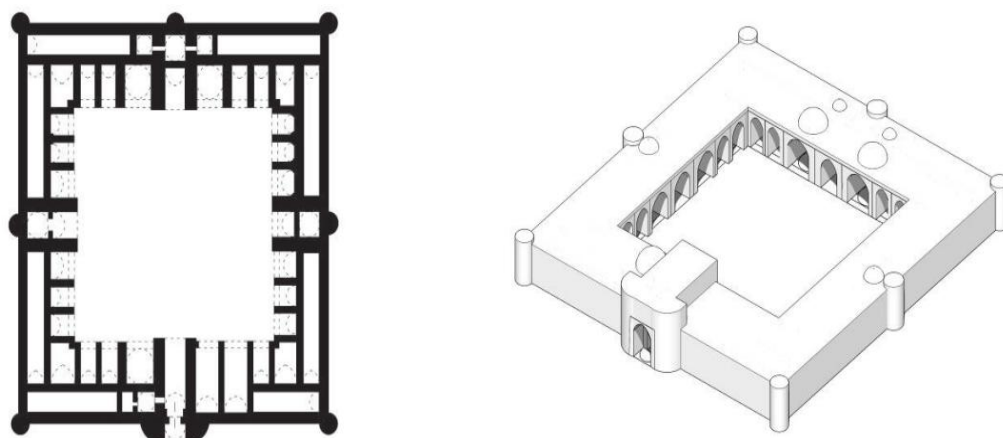
Caravanserais built in Central Asia during the Ghaznavid, Karakhanid and Seljuk periods played an important role as part of the Silk Roads. With the development of the Middle Ages, these structures also contributed to the revival of trade. The formation of a cosmopolitan society during the reigns of both Turkish states and the fact that caravanserai security was the responsibility of the political authority had a significant impact on the development of caravanserais. In light of these developments, the fact that the Karakhanid and Seljuk caravanserais were prototypes of post stations, North Asian Turkish architecture (7th-9th centuries), and early medieval settlements was decisive in their inclusion among the region's monumental structures.

Caravanserais from the medieval Ghaznavid, Karakhanid, and Seljuk periods stand out as one of the most extensive and functional elements of the architectural styles of that era. Typically built along desert routes and wide valleys, these structures were important as places of shelter and lodging for merchants, caravans, and pilgrim groups facing difficult travel conditions. Representing the authority and prestige of the Ghaznavid, Karakhanid and Seljuk states, these structures were institutions designed to meet necessities such as food, drink, trade, and caravan security. Caravanserais also played an important role in the spread of science, beliefs, and religions, and as a result of forming bridges between civilizations and cultures, they were administered with great responsibility and discipline. The Ghaznavid, Karakhanid and Seljuk caravanserais, built in Central Asia and certain regions of present-day Iran, were constructed on deserts, plateaus, and vast plains, located in rural areas. French Archaeologist Maxime Siroux, in his 1949 work “Caravansérails d'Iran et petites constructions routières” noted that caravanserais built during the Sasanian, Ghaznavid, and Seljuk periods could be categorized into three distinct types: mountain, plain, and city caravanserais (Siroux 1949:23).

It appears that Central Asian Turkish caravanserais developed through three distinct design phases between the 11th and 13th centuries. The first design phase involved a fortification design consisting of an open area surrounded by a wall. The second stage of the design is a courtyard surrounded by a single building area consisting of unitary or multiple cells. The final stage of the design is the creation of a courtyard surrounded by a columned and cell-arranged settled area (Ahmad, Chase 2004: 51)

The Ribat-ı Mahi caravanserai, built during the Ghaznavid period, is located in the city of Mashhad, in the Razavi Khorasan (central) province, near Lake Keşf (Doosti Dam) on the border

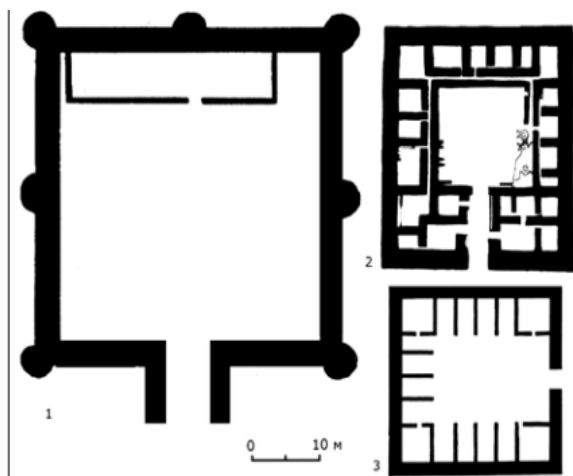
with Turkmenistan. It is also located three kilometers north of the Ismailabad station, which was built during the Achaemenid period. The caravanserai was built in 1020-1021 by the architect Abu'l-Hassan Muhammad bin Hassan Mah, and it is believed that the structure was named Ribat-₁ Mahi after him (Korn 2020: 78) (Figure 8).



(Figure 8) Ribat-₁ Mahi Caravanserai Iran (Lorenz Korn).

With the Karakhanids establishing their rule over the Turkistan region in the 10th century and the Movarounnahr region in the early 11th century, the reconstruction of ancient cities began. It is known that the caravanserais built along the shores of Lake Issyk-Kul and the Naryn River in Kyrgyzstan were constructed in the 10th and 11th centuries to meet the needs of urban settlements. The construction materials of these valley caravanserais, which are among the earliest examples, are generally limestone layers and local materials such as sandstone layers (Baipakov, Pidayev 2011: 41).

Several structures representing the first phase of Central Asian caravanserais can be found in these valleys. The Sarı Tash caravanserai, probably built between the 10th and 11th centuries during the Karakhanid period near Lake Issyk-Kul, represents a structure without a courtyard or cellular division, as can be seen from the remains at the foundation level and the plan view. The entrance to the caravanserai is located on the south side. A rectangular closed unit extending horizontally along the north facade wall can be seen. The Sarı Bulung caravanserai, believed to have been built during the Karakhanid period, probably in the 11th-12th centuries, near Lake Issyk-Kul, was constructed using rubble stone and adobe. It is quite small in size, measuring 29x33 meters, and has a square plan. During the exploration conducted by Kyrgyz Archaeologist Feodorovich Vinnik in 1977, iron smelting furnaces were found within the remains of this caravanserai, and it was stated that this caravanserai was also used as an “Iron Smelting Metallurgy Center”(Ulko 2013:62). The Sarı Bulung caravanserai is one of the early structures in which cellular division around the courtyard can be seen. The accommodation cells here are square in shape and small in volume. There are no architectural elements connecting the courtyard and the cells. In examples of this type of structure corresponding to the second design phase, it is known that caravan travelers and merchants stayed in closed cells, while animals were housed in the central area. Another structure built near the city of Narin in Kyrgyzstan that displays early period characteristics is the May Tor caravanserai. Thought to have been built during the Karakhanid period, it is understood that the outer walls of the structure were constructed using masonry and gravel pieces on a clay mortar base between the 10th and 12th centuries. The inner walls of the caravanserai, on the other hand, were built using baked bricks (Ulko 2013: 63) (Figure 9).



(Figure 9) 1. Sari Tash 2. Sari Bulung 3. May Tor (Emma Zilivinskaia)

Between the 11th and 13th centuries in Central Asia, the Seljuks, like other civilizations of the period, recognized the importance of the Silk Road and built numerous caravanserais in the lands under their control, taking responsibility for their maintenance. Caravanserais, among the structures of Seljuk architecture in Central Asia, were built with an understanding that served the empire's propaganda. When examining the construction techniques and decorative features of caravanserais from this period, it is evident that they were modeled after caravanserais from the Iranian Islamic period. The Dayahatyn caravanserai, believed to have been built between the 10th and 12th centuries, is located on the banks of the Amu Darya River, which separates the border between Uzbekistan and Turkmenistan, between the cities of Kohna Urganch and Turkmenabad. This structure, which has four iwans around a central courtyard, is located within a ribat. This ribat, which belonged to the Abbasid Tahirid Dynasty, was probably built in the 9th century (Muradov 2018: 6). The caravanserai extends from east to west. Upon entering through the crown gate on the east side, there is a long hall. Caravanserais, which were emphasized with only an entrance opening in early examples, were transformed into a domed eyvana with a corridor-like structure during the Karakhanids and especially the Seljuks. As one exits the entrance eyvan into the courtyard, there are two enclosed spaces on the north and south sides. These enclosed spaces were designated for the caravanserai guards. In the lodging stations and inns built in the early and early medieval periods, the guards' lodging area was in the middle of the courtyard, but in the structures that emerged after the 11th century during the Karakhanid and Seljuk periods, the enclosed spaces on either side of the entrance iwan were allocated to the guards (Figure 10).

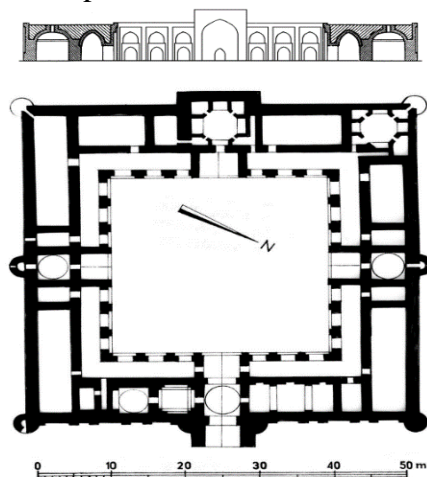
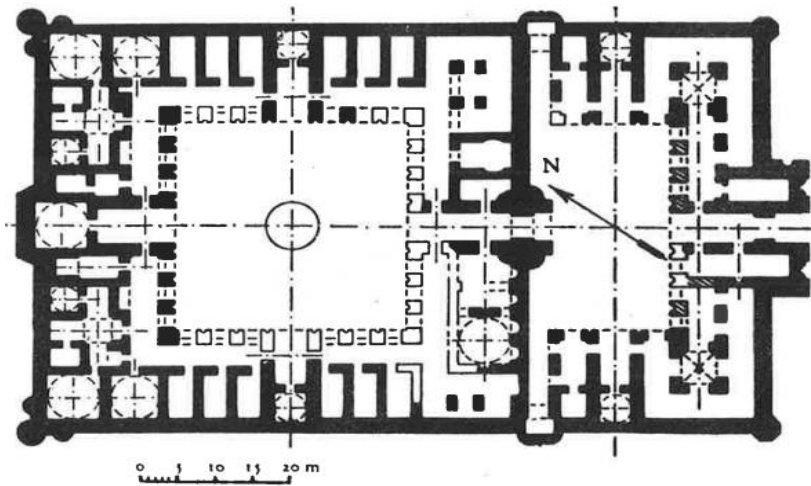


Figure 10) Dayahatyn Caravanserai (Ruslan Muradov)

Ribat-1 Sharaf caravanserai, located on the desert routes of the Silk Roads and built in the early 12th century, is situated between Merv and Nishapur. Built in the form of a fortified castle, Ribat-1 Sharaf structure consists of two interconnected courtyards (Figure 11). It also forms an architectural complex with the cistern located to the west. It stands out as an important example of a caravanserai where the four iwan arrangement is fully integrated into the facade layout. The courtyards are arranged in a concentric pattern.



(Figure 11) Ribat-1 Saharaf Caravanserai (Mustafa Cezar)

The front courtyard is where animals are kept, while the rear courtyard contains guest and traveler cells. According to some researchers, considering the wide arched porticoes and decorative elements of the second courtyard, it is believed that Ribat-1 Sharaf was a caravanserai serving only the Seljuk dynasty. The enclosed units on the right and left sides of the entrance iwan corridor are cells where guards were stationed. Compared to the station and han structures that emerged in the early period, caravanserais built during the Karakhanid and Seljuk periods were more complex, systematic in terms of security and trade, and increased in development and functional diversity. The “Razi style,” which was fully developed in Central Asia during the Seljuk period in terms of facade decorations and roof arrangements, shares similarities with the common principles of Iranian architecture in terms of definition and theoretical explanation (Mousavi Haji 2018: 10).

Conclusion

The strategic locations, courtyard layouts, and plan types of the building types that formed the prototype of the Ghaznavid, Karakhanid, and Seljuk caravanserais, as well as their architectural layout techniques and fortified construction, constitute a systematic example of unity for this period. The caravanserais examined in this study are understood to have been structurally influenced by the postal stations of the Achaemenid period and the han structures built in the Early Ages. In terms of plan layout, they were influenced by the small-scale han and caravanserais within Early Middle Ages settlements. Moreover, the inns and caravanserais around the Early Period settlements continued to function until the end of the Middle Ages.

During the Middle Ages, especially from the beginning of the 10th century to the end of the 12th century, the Silk Roads served as important resting and accommodation points for caravans, merchants, and animals in caravanserais of historical importance. Ancient public buildings constructed for security and accommodation existed almost everywhere on the Asian continent. Among these, post stations and inns that served for centuries shared similar functional characteristics with caravanserais built within empires. As trade developed, product diversity

increased, and political struggles intensified, such public structures were compelled to adopt broader, more systematic, and fortified features.

The fundamental element of interaction between civilizations was the establishment of secure and profitable communication. In this regard, cultural, commercial, and demographic changes were made possible by the existence of accommodation areas built along central routes. The caravanserais that emerged along the Silk Roads were organized in such a way as to meet all kinds of needs and demands. It has been observed that the Karakhanids built caravanserais on an inter-civilizational scale in the Maveräünnehir and Turkistan regions, while the Ghaznavids and Seljuks did so in the northern and central Khorasan regions. These structures, built between the 11th and 13th centuries, developed with a layout centered around a courtyard. In this diverse design, passenger cells, storage areas for goods, stables for animals, and sometimes even prayer areas were typically arranged around the courtyard. In postal stations and early caravanserais, there was a narrow corridor between the passenger cells and the courtyard, while in Karakhanid and Seljuk caravanserais, access to the passenger cells was provided through a porticoed courtyard. However, in Seljuk caravanserais, the porticos were quite deep. Again, during this period, it can be seen that iwan arrangements developed around the courtyard. The four iwan arrangement enabled the expansion of caravanserais and increased their functional diversity in terms of structure and function. One of the advantages of this design method is that it provides shade for travelers day and night by organizing the scattered appearance of the courtyard. The entrance gate arrangement in caravanserais is also an example of architectural art. In early period accommodation structures, there was an entrance opening the size of the body wall, while the crown gates in the Ghaznavid, Karakhanid, and Seljuk caravanserais were built protruding outward from the main body walls and with protective features.

Karakhanid caravanserais, in terms of functional and decorative arrangement, have more local and traditional features like other types of architectural works. However, the Ghaznavid and Seljuk caravanserais followed the Persian and Sasanian tradition in their architectural arrangements and the Sasanian and Islamic traditions in their decoration programs. Within the scope of this subject, it is seen that the caravanserais on the Silk Roads have largely survived in ruins due to climatic conditions, political conflicts, and topographical settlement, and have reached the present day through periodic restoration work.

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