

## Topographic Illustration among the Ottomans in the 16<sup>th</sup> Century through the Works of Piri Reis and Naşūh Matrakçı

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### Abstract

This study aims to introduce the art of topographic illustration and cartography among the Ottomans. The exploration will encompass the emergence and development of this field, followed by an in-depth discussion of its principal characteristics and features during the 16th century, analyzed through selected examples. Specifically, two notable figures are examined: the famous sailor and geographer Piri Reis, known for his world maps and his renowned book "Kitāb al-Bahrīyah" and the historian and mathematician Naşūh Matrakçı, who also gained fame in the 16th century. For Piri Reis, the focus will be on his world maps and his famous book. For Naşūh Matrakçı, the study will examine his three manuscripts, which include illustrations and topographic maps: "Süleymannâme," "Tārīkh al-Sultān Bāyazīd," and "Bayān Munāzil Safar 'Irāqayn." Particularly, the last manuscript in which he details the events of Al- Sultān Sulaymān al-Qānūnī campaign to Iraq, featuring 128 illustrations depicting stages of the campaign, many of which are topographic illustrations of various cities and places .

### Keywords

illustration; maps; Naşūh Matrakçı; Ottoman Era; Piri Reis; Topographic illustration .

## 1. Introduction :

Among the most important arts that spread, flourished, and saw significant development among Muslims is the art of painting. This art initially encountered reluctance and disinterest

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from Muslims during the early periods of Islam, undoubtedly for religious considerations. However, it witnessed considerable development later on, particularly during the Ottoman Empire era. This Islamic state, which ruled for six and a quarter centuries, saw a great renaissance in the art of painting among various other arts. The subjects included in this art were diverse and numerous, among which we find topographic illustration or cartography. This form occupied a significant place in Ottoman art, as it is represented in a collection of artworks from this period.

In our research, we will attempt to address the circumstances of the emergence and development of this type of, its main characteristics and features, and its most famous figures during the aforementioned period.

### 2. The Emergence of Painting among the Ottomans :

Although the history of the Ottoman state begins at the dawn of the 14th century, the reality is that we know nothing about the art of painting during this era. Professor 'Abdul'aziz Marzūq has gone further than this, stating: "... we know nothing about the art of painting during the period preceding the reign of Sultān Muhammad al-Fatih (1451-1481 CE), but examples of this art have been found since his reign"<sup>1</sup> . However, this opinion is contradicted by the writer Aslanapa (1987), who speaks of an Ottoman manuscript narrating the story of Al-Iskandar., written in Amasya in the year 1416 CE during the reign of Sultān Muhammad Shalabi<sup>2</sup> , and this manuscript included a collection of illustrations and drawings. In general, nothing has been found regarding Ottoman painting before this period, or at least this is the current belief, pending the discovery of other works pertaining to this era that might refute the previous opinion.

Through tracking the collections of images received from that period, we find that they can be divided into two main groups:

#### 1. Independent paintings.

## 2. Illustrations seen in manuscripts<sup>3</sup> .

As for independent paintings, they particularly revealed the art of portraiture, which garnered significant interest during this period, especially from the Ottoman sultans. It was greatly influenced by European painting, especially Italian<sup>4</sup> .

Regarding the second type, which is illustrative images in manuscripts, we find that it encompasses a range of important subjects, including topographic map painting, which is of particular interest in our research. Based on the samples we have received, we find that this type of painting found its way into Ottoman manuscripts starting from the early 16th century, and then it took significant strides during subsequent periods.

## 3. The Development of Topographic Mapping among the Ottomans :

Before delving into the discussion on the advancement of this genre of photography, it is prudent to provide a concise overview of the concept of topography. Topography is the science concerned with "the delineation and depiction of natural and artificial features within a geographic area on a canvas or paper utilizing conventional symbols and a standardized scale, encompassing four principal categories: map interpretation, field sketching, aerial imaging, and desert navigation"<sup>5</sup> . Through this delineation, we can comprehend and delineate the essence of topographic illustration, which constitutes the documentation and analysis of geographical characteristics through cartographic representations and depictions.

Initially, it is important to note that maps and geographical depictions were familiar to Muslims from the beginning of the 4th century Hijri. The pioneering figure in geography was Sheikh Abu Zaid al-Balkhi<sup>6</sup>, who emerged as the foremost geographical illustrator in Islam. His book, entitled "Suwar al-Aqalim al-Sab'a.", comprised a collection of images describing those regions<sup>7</sup> .

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Regarding the Ottoman era, we can expound upon the evolution of topographic illustration through the works of eminent luminaries in this art, highlighting two figures in particular. The first one is the celebrated mariner and captain, "Piri Reis," while the second is the distinguished military strategist, historian, and geographer, "Naşūh Matrakçı".

### 4. The Works of the Ottoman Admiral and Geographer "Piri Reis" :

Also known as Muḥī al-Dīn Piri Reis; he was Ahmed bin Al-Hajj Muhammad from the Qaramanid family<sup>8</sup>, born in Gelibolu. The precise date of his birth remains uncertain, but Dr. Kemal Özdemir suggests that he was born between 1465 and 1470 CE<sup>9</sup>.

He began his professional life at a young age under the guidance of his uncle, Kemal Reis, navigating nearly all the coasts of the Mediterranean Sea. During these expeditions, he had the opportunity to dock at numerous ports, including those in Spain, France, Tunisia, Algeria, and the Adriatic. During these stops, he recorded his observations about the nature and geography of navigation, as well as the topography of these regions. Over the approximately 14 years that Piri Reis spent alongside his uncle, his personal experience blended with what he learned from Europeans and others. He often utilized European captives to provide him with the latest information in the field of navigation<sup>10</sup>. Piri Reis was killed in 1554 CE<sup>11</sup>.

The legacy of this great geographer in the field of illustration and topographic mapping is summarized in three important works: the first world map he drew in 1513 CE, his book "Kitāb al-Baḥrīyah" (Book of Navigation), and the world map of 1528/29 CE.

#### 4.1. The World Map of 1513 :

This map is considered the first topographic cartographic work by this esteemed geographer. It remained forgotten for an extended period until its discovery in 1929 in the library of Topkapı Palace. Initially, it was believed to be the work of the explorer Columbus. In 1935, the Turkish Historical Society published the map accompanied by an explanatory booklet titled "Piri Reis Haritasi"<sup>12</sup>. It is noteworthy that this map not only included the Old World but also depicted the New World, encompassing the American continent. Piri Reis utilized both Eastern and European sources in its creation, employing various colors and adding illustrative drawings. For instance, he depicted portraits of rulers in capitals such as Spain, Portugal, Marrakech, and Guinea. Additionally, he drew images of an elephant and an ostrich in Africa, several ships in the Atlantic Ocean, and a large fish in the north with two figures on its back<sup>13</sup>. Through this map, it can be asserted that Piri Reis succeeded in accurately identifying the locations of Madeira and the Canary Islands, while Florida, the Bahamas, Haiti, Cuba, the Dominican Republic, and Jamaica are also clearly visible<sup>14</sup>. Unfortunately, only about a third of this map has survived to the present day. (Picture 01)

#### 4.2. Kitāb al-Baḥrīyah (The Book of Navigation) :

Piri Reis first authored Kitāb al-Baḥrīyah in 1521, and achieved renown. He then revised and expanded it, completing the final version in 1526, which he subsequently presented as a gift to Sulṭān Sulaymān al-Qānūnī. This book is divided into two parts, with an introductory section and a poetic conclusion. The first part provides information on the difficulties of navigation, including tides, sea winds, storms, and anchorage points<sup>15</sup>.

The second part offers a detailed description of coastlines and information about ports and harbors, including how to approach them, with a particular emphasis on rocky reefs (floating rocks). All this information is accompanied by a series of topographic maps for clarity. This section includes descriptions of

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Algerian ports such as Dellys, Tenes, Bejaia, Jijel, Annaba, and Marsa al-Kharaz<sup>16</sup> (Pictures 02, 03, 04, 05) .

Haji Khalifa noted that Piri Reis completed the composition of this book in 930 AH (1523/1524 CE) and that there are two versions, one simpler with poetic verses at the beginning and the other without<sup>17</sup> .

Western interest in Kitāb al-Baḥrīyah began in the 18th century. "Cardonne," then Secretary of the French Foreign Ministry, published a critical edition of the book, titled "Le Flambeau de la Méditerranée" (The Torch of the Mediterranean). Additionally, the German scholar "Kahle" translated part of it into German. While The sections concerning Algeria and Tunisia were translated into French by "R. Montran" and "E. Esin"<sup>18</sup> .

#### 4.3. The World Map of 1528-29 CE :

This map is considered the last work of Piri Reis, completed fourteen years after his first map. It was also drawn in Gelibolu. Unfortunately, like his first map, this one did not survive in its entirety; only one-sixth of it remains, which is currently preserved in the Topkapı Palace Library. The remaining parchment measures 68 by 69 cm and covers the northwestern parts of the Atlantic Ocean, where Greenland and the New World can be seen, that is, North and Central America, as well as Florida. This map was drawn in color and bears Piri Reis's signature along with the date 935 AH / 1528-29 CE<sup>19</sup> .

The notes on this map are brief compared to the first one. Piri also included a scale on this map, indicating that the distance between two sections is fifty miles, while the distance between two points is ten miles. This map demonstrates Piri's keen interest in the new discoveries being made by Europeans<sup>20</sup> (Picture 06) .

#### 5. Works of Naşūh Matrakçı :

The era of Sulṭān Sulaymān al-Qānūnī (1520-1566 CE) witnessed a period of Ottoman expansion and prosperity. This period of expansion and affluence coincided with significant advancements in the art of topographic mapping and cartography, notably associated with the distinguished warrior, historian, mathematician, and artist, Naṣūḥ Matrakçı.

Before delving into his contributions to topographic illustration, it is prudent to provide a brief introduction to Naṣūḥ Matrakçı himself. Naṣūḥ Afandī al-Salāḥī bin Abdullah Karaközoğlu, known colloquially as Naṣūḥ al-Silahi, Mutraqi Zadeh, or Naṣūḥ Matrakçı. He was a historian, traveler, and mathematician born in Visoko, the Bosnian province, during its affiliation with the Ottoman Empire. He joined the military in his youth, and ascended through the ranks, exhibiting prowess in equestrian arts and martial techniques, earning the epithet "Al-Mutrāqī" derived from the term for a leather-clad shield utilized by mounted combatants. His intellectual acumen extended to mathematics and arithmetic, a profound understanding of historical and geographical disciplines through reading. Consequently, he was appointed to serve within the Imperial Council as a scribe, accompanying Sulṭān Selīm I during his campaign against the Mamlūks in the Levant and Egypt (1516-17). Additionally, he accompanied Sulṭān Sulaymān al-Qānūnī on numerous military expeditions, including those in Hungary and Belgrade (1521), against the Safavids in Iran (1534-36), which ended by the conquest of Iraq, his campaign against Moldavia (Romania), and many others<sup>21</sup>.

Naṣūḥ's multifaceted talents in writing and painting garnered him widespread acclaim, assigning him to chronicle the military campaigns he joined, which he embellished with drawings and detailed maps of the cities and regions traversed by the army. Naṣūḥ fulfilled this duty with consummate skill<sup>22</sup>.

In fact, Naṣūḥ's talents were prodigiously manifold and diverse. His aptitude spanned history, geography, mathematics,

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military engineering, combat arts, and the deployment of war machinery. Additionally, he exhibited proficiency in painting and illustration, and was an eloquent poet, and a capable translator. Among his voluminous works across diverse domains, noteworthy works include<sup>23</sup> :

- Majma' al-Tawārīkh: A translation of the "Tārīkh al-Rusul wa al-Mulūk" by Al-Tabari, translated directly from the original Arabic. Before this, there were two translations from Persian.

- Süleymannâme: Documenting the first campaign of Sultān Sulaymān al-Qānūnī against the Safavids.

- Fathnā (Maḥqarah Būghdān): This work covers the events of Sultān Sulaymān's campaign in Romania, finalized in 1538.

- Tārīkh Faṭḥ Shalqūsh wa Āstarghūn wa Āristūf Bilaḡrād: written during Sultān Sulaymān's campaigns against these cities between 1537-1543.

- Tawārīkh Āl 'Uthmān: Detailing the history of the Ottoman sultans exceptionally, it covers events up to 968 AH (1561 CE).

- Tuhfat al-Ghuzat: Focused on the art of warfare, combat, horsemanship, and the utilization of war machinery, completed in 1532.

- Umdat al-Hisab: Addressing mathematical computations, finalized in 1547.

- Jamal al-Kassab wa Kamal al-Hisab: Concluded in 1517.

- Bayan Manazil Safar 'Iraqayn: Recording the conquest of Iraq.

Regarding the domain of topographic mapping and illustration, we have selected three of his manuscripts to study as exemplary modals of his proficiency in this field.

### 5.1. Manuscript "Bayan Manazil Safar 'Iraqayn " :

One of the foremost works of this artist is the manuscript "Bayan Manazil Safar 'Iraqayn" or "The Conquest of Iraq". Accompanying Sulṭān Sulaymān al-Qānūnī during the conquest of Iraq (1534-35), this artist managed to compile a book narrating the story of those conquests. He adorned it with 128 miniatures depicting the stages of that campaign. Within this work are topographic illustrations of several cities, including Istanbul, Baghdad, Diyarbakir, Aleppo, and Tabriz, with descriptions of these cities as they were at that time. Additionally, places where the campaign halted briefly or those of particular significance were depicted. All of this was executed with simple lines, yet remarkably skillful and lively; which is evident in the city walls and fortresses, with a focus on the distinctive features of each city. Moreover, mountains, trees, and animals such as rabbits, deer, elk, and various types of ducks were drawn, all in vibrant colors reflecting a profound love for nature<sup>24</sup> (Pictures 07,08,09) .

## 5.2. The manuscripts ‘Süleymannâme’ and ‘ Tārīkh al-Sulṭān Bāyazīd’ :

There are two other manuscripts by this artist: "Tārīkh al-Sulṭān Bāyazīd" and "Süleymannâme". The first book includes miniatures narrating the story of the conflict between Sulṭān Bāyazīd and Sulṭān al-Saljūqī Jam Sulṭān. It depicts scenes of castles and fortresses such as Kolk, Īnābahtī, and Mutūna, dating back to the mid-16th century. All these illustrations appeared in a precise and organized manner<sup>25</sup> .

As for the manuscript "Süleymannâme," it portrays several cities, ports, and fortresses linked to Sulṭān Sulaymān al-Qānūnī's campaigns in Hungary in 1543, as well as the raids of Khayr al-Dīn Barbarossa in the Mediterranean Sea in the same year. The first section, focusing on maritime raids, depictions of ships with cities and rampart in their background, notably in Nice, Toulon, and Genoa. The second section showcases cities such as Budapest, Estergom, Shtol, and Vienna, alongside battlefields and campgrounds where troops were stationed between these cities.

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This did not prevent the depiction of various types of trees, flowers, mountains, and hills. A notable feature in all the miniatures of these three manuscripts is the complete absence of human figures<sup>26</sup> . These topographic illustrations were later employed to create historically accurate depictions of various significant locations<sup>27</sup> .

Regarding Naşūh's color palette, it encompasses red, yellow, blue, green, orange, and occasionally gold, this contrast in colors enriched the depicted subjects<sup>28</sup> . Generally, the colors used were bright, because Naşūh combines romanticism and scientific precision while balancing innocence with complexity<sup>29</sup> .

Through his mastery of topographic illustration, Naşūh Matrakçı emerges as perhaps the sole artist within the Ottoman tradition capable of illustrating an entire city<sup>30</sup> .

### 6. Conclusion :

Through examining the collections of topographic illustrations from the Ottoman period, it is evident that they were of a high level of precision and craftsmanship, despite their rarity and lack of popularity. The reasons for this scarcity are unclear, but several possibilities could explain it. There may be other works related to this art that have yet to be discovered, or perhaps this art did not receive significant attention from artists or from the sultans and princes. In truth, this type of illustration is closer to science than to art, which might have led artists to focus on other subjects such as landscape painting or portraiture.

In conclusion, the emergence of such art during that period demonstrates a clear brilliance in the mentality and vision of the Ottoman artist, despite the absence of modern tools at that time. These attempts provided an important impetus for the subsequent development of an independent field, namely, the science of topography.

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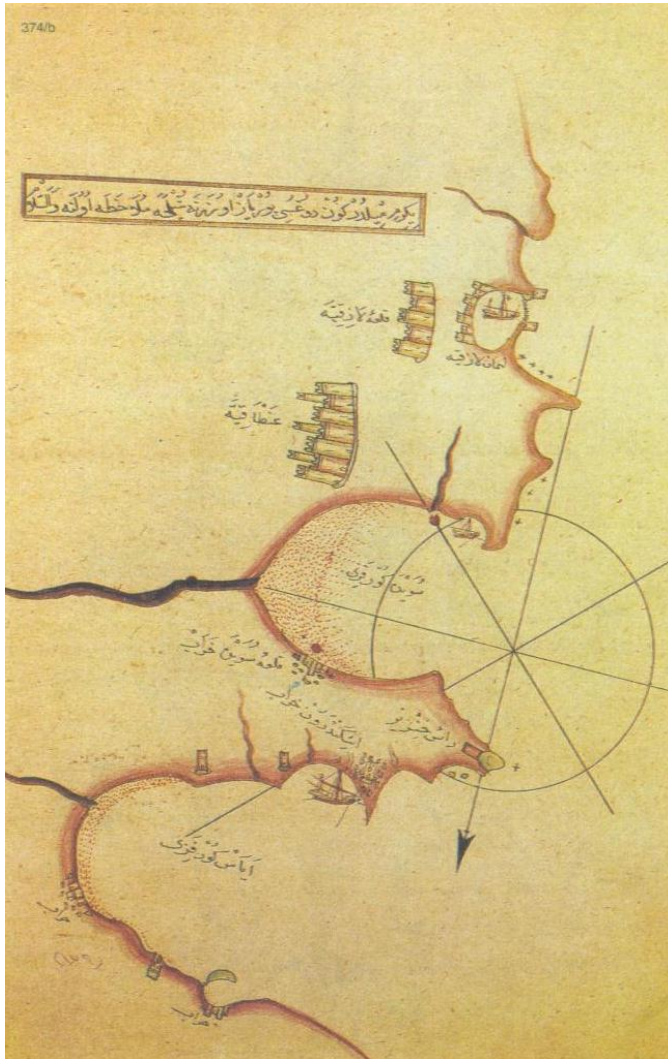
**Zahra Zakia , «An overview of the Ottoman geographer Admiral Piri Reis and his book Kitāb al-Baḥrīyah» , Journal of Historical Studies , N°06 , Algeria , 1992 .**

**8. Appendices :**

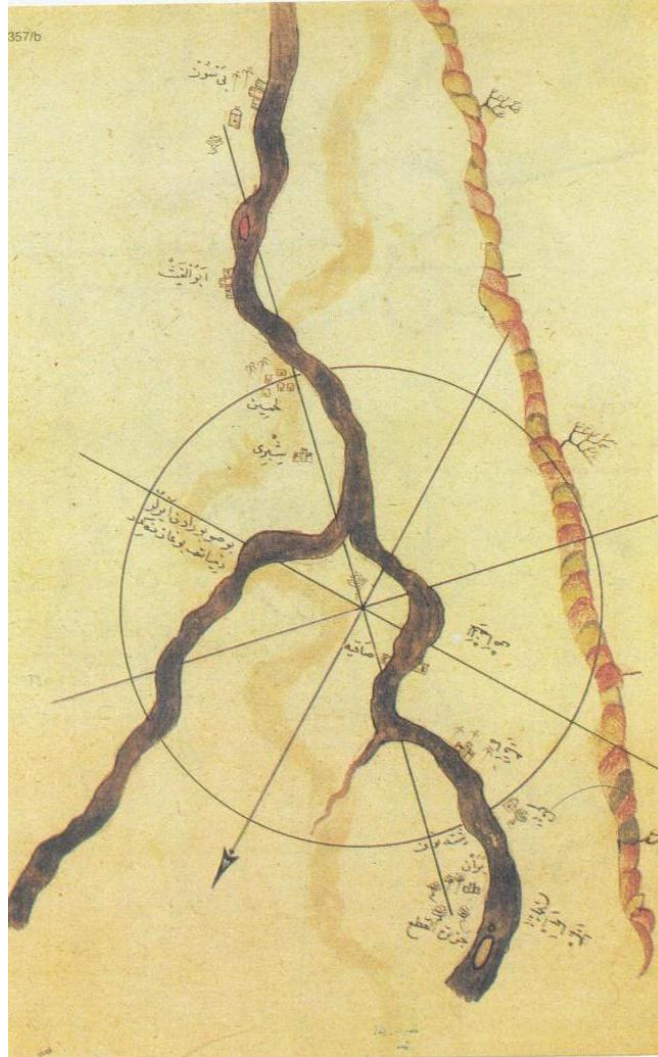


**Picture 01 : The remaining part of the World Map illustrated by Piri Reis in 1513 (Cited by Al-Kandari) .**

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Picture 02 : The coasts of the Levant and Latakia from Kitāb al-Baḥrīyah (Cited by Al-Kandari) .



**Picture 03 : The Nile River from Kitāb al-Baḥrīyah (Cited by Al-Kandari) .**

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Picture 04 : The island of Cyprus from Kitāb al-Baḥrīyah (Cited by Al-Kandari) .



**Picture 05 : The Eastern Coasts of Tunisia and the Island of Djerba from Kitāb al-Baḥrīyah (Cited by Al-Kandari) .**

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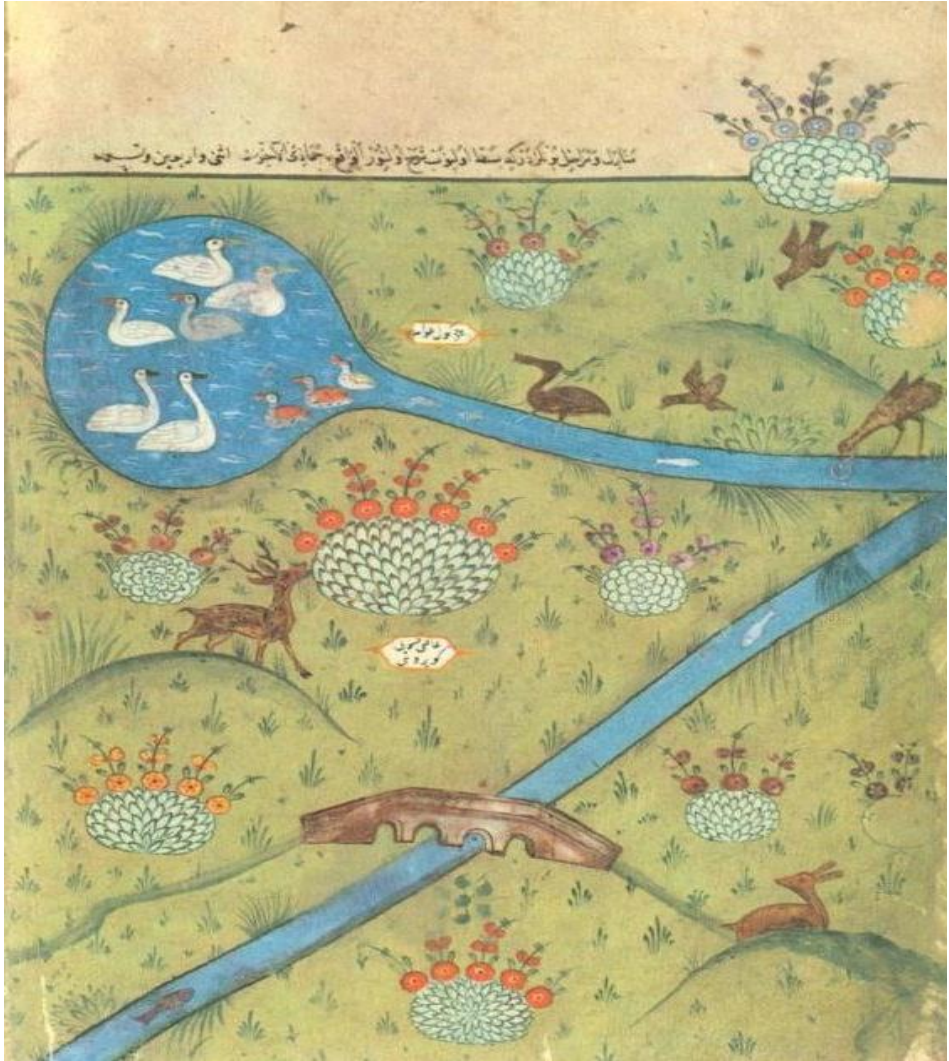


**Picture 06 : The remnants of the second world map by Piri Reis from 1528-29 (Cited by Al-Kandari) .**



**Picture 07 : The western side of Baghdad to the right of Tikrit  
(Cited by Ettinghausen) .**

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Picture 08 : Lake Amik in the Plain of Antioch and the Orontes Valley (Cited by Ettinghausen) .



**Picture 09 : A portion of Galata in the city of Istanbul , with both the Bosphorus and the Dardanelles visible at its ends (Cited by Ettinghausen) .**

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<sup>3</sup> 'Abd al 'aziz Marzūq , op.cit , p 194 .

<sup>4</sup> Oktay Aslanapa , op.cit , p 296 , 297 .

<sup>5</sup> Khalid Bin Suleiman Al-Kharusi , **Topography and the Development of Cartography , Map Reading and Land Navigation** , ed 1<sup>st</sup> , Dar and Library al-Hilal , Beirut-Lebanon , 2006 , p 19 , 20 .

<sup>6</sup> Abu Zayd Al-Balkhi: Ahmad bin Sahl, one of the renowned Muslim scholars of the 3rd and 4th centuries AH. He combine Shari'a sciences with philosophy, literature, and geography. He was born in the village of Shamastiyan in the region of Balkh in 235 AH. His father was a schoolteacher. In his youth, he traveled to Iraq and stayed

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there for eight years to pursue knowledge. His teachers included Abu Yusuf Ya'qub bin Ishaq al-Kindi, from whom he learned philosophy. He also studied astrology and astronomy, excelled in medicine, and explored the foundations of religion. After extensive travels, he returned to Balkh, where the governor appointed him as a private secretary. He was a pioneer in using maps and drawings in his book "Surat al-Aqalim". He left behind a substantial body of work, including "Aqşam al-Ulum," "Shara'i' al-Adyan," "Kitab al-Siyasah al-Kabir," "Aqşam 'Ulum al-Falsafah," "Adab al-Sultān wa al-Ra'iyah," "Fada'il Balkh," "Akhlāq al-Umam," and "Kitab al-Bad' wa al-Tarikh". Al-Balkhi passed away in 322 AH. See : Khair Al-Din Al-Zerikli , **Al-A'lam** , ed 15<sup>th</sup> , Vol 1 , Beirut-Lebanon, Dar al-Ilm Lil-Malayin, Beirut-Lebanon, 2002 , p 134 .

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<sup>8</sup> Zahra Zakia , «An overview of the Ottoman geographer Admiral Piri Reis and his book **Kitāb al-Baḥrīyah**» , Journal of Historical Studies , N°06 , Algeria , 1992 , p 101 .

<sup>9</sup> Fayṣal Al-Kandari , **The Navigator and Geographer Piri Reis** , Geographic Letters 234 , Departement of History , Kuwait University , Kuwait , 1999 , p 6 .

<sup>10</sup> Ibid , p. 9 .

<sup>11</sup> Ḥājī Khalifa , **Kashf al-Dhunun 'an Asami al-Kutub wa Al-Funun** , Vol 1 , Dar Iḥyaa' al-Turath al-Arabi , Beirut-Lebanon , n.d , p 227 .

<sup>12</sup> Fayṣal Al-Kandari , Op.cit , p. 15 .

<sup>13</sup> Ibid , p. 15 .

<sup>14</sup> Ibid , p 16 .

<sup>15</sup> Zahra Zakia , Op.cit , p 106 .

<sup>16</sup> Ibid , p 106 .

<sup>17</sup> Ḥājī Khalifa , Op.cit , p 227 .

<sup>18</sup> Zahra Zakia , Op.cit , p 105 .

<sup>19</sup> Fayṣal Al-Kandari , Op.cit , p 24 .

<sup>20</sup> Ibid , p 25 .

<sup>21</sup> Naşūh Al-Silāhī Afandī , **Riḥlat Muṭrāqī Zādah** , Trad Şubḥī Nāzīm Tawfīq , Dar al-Kutub al-Wataniyah , Abu Dhabi-United Arab Emirates , 2003 , p 5

<sup>22</sup> Ibid , p 5 , 6 .

<sup>23</sup> Ibid , p 6 , 7 .

<sup>24</sup> Oktay Aslanapa , Op.cit , p 298 .

<sup>25</sup> Ibid , p 299 .

<sup>26</sup> Ibid , p 299 .

<sup>27</sup> Richard Ettinghausen , **Turkish miniatures** , from the 13th to the 18th century , UNESCO , Paris-France , n.d , p 16 , 17 .

<sup>28</sup> Oktay Aslanapa , Op.cit , p 299 .

<sup>29</sup> Ettinghausen , Op.cit , p 16 .

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