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The delft city in the netherlands

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Abstract

The author's travels in the Netherlands were organized within the tripartite collaboration of the Faculty of Architecture in Sarajevo with TU Delft, TU Twente (Netherlands) and TU Yildiz (Istanbul, Turkey). Work was done in student workshops on contemporary architectural topics (sustainability). On the part of the Faculty of Architecture in Sarajevo, the workshops were led by Prof. Dr. Adnan Pasic, from TU Delft and TU Twente Dr. Elma Durmievic, and from TU Yildiz Prof. Dr. Bigul Colakoglu. The workshop at TU Delft was also attended by Prof. Mevludin Zecevic, MSc. He is the author of the workshop organized at TU Delft (06-10 April 2008) and at the workshop organized at TU Twente (14-17 June 2010). During the workshop at TU Delft, the author got to know in detail the cities of Delft, Den Haag (The Hague) and Rotterdam, and during the workshop at TU Twente the cities of Enschede and Amsterdam.

Keywords: Netherlands, Delft, Synergy of natural environment, social environment and man

1. Introduction

The author's travels in the Netherlands were organized within the tripartite collaboration of the Faculty of Architecture in Sarajevo with TU Delft, TU Twente (Netherlands) and TU Yildiz (Istanbul, Turkey). Work was done in student workshops on contemporary architectural topics (sustainability). On the part of the Faculty of Architecture in Sarajevo, the workshops were led by Prof. Dr. Adnan Pasic, from TU Delft and TU Twente Dr. Elma Durmisevic, and from TU Yildiz Prof. Dr. Bigul Colakoglu. The workshop at TU Delft was also attended by Prof. Mevludin Zecevic, MSc. He is the author of the workshop organized at TU Delft (06-10 April 2008) and at the workshop organized at TU Twente (14-17 June 2010). During the workshop at TU Delft, the author got to know in detail the cities of Delft, The Hague (The Hague) and Rotterdam, and during the workshop at TU Twente the cities of Enschede and Amsterdam (Figures 1-7).



Fig 1: Map of the Netherlands. (The places the author visited are marked with red squares)



Left: The author gives a lecture at TU Delft as part of a student workshop. Right: The author (far left) at TU Delft (Visiting Prof. Dr. Sevil Sariyildiz)
 Source: Mevludin Zecevic (April 7, 2008)
 Source: Elma Durmisevic (April 7, 2008)

Fig 2: The author gives a lecture at TU Delft



Left: author (right) in Rotterdam. Right: the author at the large dam in Rotterdam
 Source: Birgul Colakoglu (April 8, 2008)
 Source: Mevludin Zecevic (April 9, 2008)

Fig 3: Author in Rotterdam



Source: Adnan Pasic (June 15, 2010)

Fig 4: Author at TU Twente



Source: Adnan Pasic (June 17, 2010)

Fig 5: Author in the Stock Exchange building in Amsterdam (Architect: Hendrik Petrus Berlagae, 1903)



Source: Elma Durmisevic (June 17, 2010)

Fig 6: The author (in the middle) in Amsterdam (Lunch on a boat on one of the many canals)



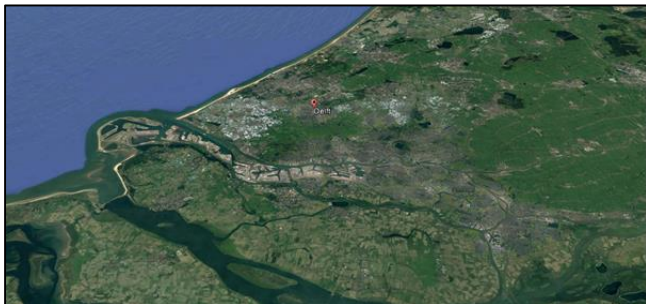
Source: Elma Durmisevic (June 17, 2010)

Fig 7: Author at the City Hall in Amsterdam

Delft is a city (with about 103,581 inhabitants, 2021) ^[1] located in the Dutch province of South Holland, between Rotterdam in the southeast and The Hague in the northwest (Figure 8). Together with Rotterdam, it forms the Rotterdam-Haag metropolitan area. Delft binds as the Dutch center of development of science and technology where the Technical University Delft (TU Delft) plays a key role. Scientists Antonie van Leeuwenhoek (1632-1723) and Martinus Beijerinck (1851-1931) lived and worked in this city, who made a great contribution to the development of microbiology and its sub-disciplines - bacteriology and virology. The city of Delft got its name from the "Delf" canal,

or the term "delven" meaning "digging". The origin of the city dates back to the 11th century, when a village developed that progressed in every respect and (1246) received a charter on its status as a city. The city was closely connected with the House of Orange, after William of Orange (William of Orange, Willem van Orange, 1533-1584) moved his residence there (1572). Willem van Orange was the leader of the Dutch movement for independence from Spanish occupation. At that time, Delft was surrounded by city walls that were crucial for defending the city against Spanish attacks. Willem van Orange's stay in Delft and his resistance to Spanish attacks made this city the capital (1581) of the

Netherlands. After Balthazar Gerards (1557-1584) killed (1584) Willem van Orange in the Prinsenhof Palace, Willem van Orange was buried in the Nieuwe Kerk church (the future Breda cemetery was under Spanish occupation). In this way, the city of Delft remained connected with the House of Orange until today. The city of Delft (October 12, 1654) experienced a great misfortune - the explosion of 30 tons of gunpowder (Delft Thunderclap) which was stored in the former Clarissen monastery in the Doelenkwartier district. Then most of the city was demolished, and many of its inhabitants were killed or wounded. The accident could have been even worse since the fair was being held in Schiedam and The Hague at the time, where many Delft residents participated. In this accident, the famous Dutch painter Carel Fabritius (1622-1654) died as well as his works. Scenes of the doomed Delft were painted by Egbert van der Poel (1621-1664) with a large number of paintings.



Source: Google Earth. Accessed: December 15, 2023

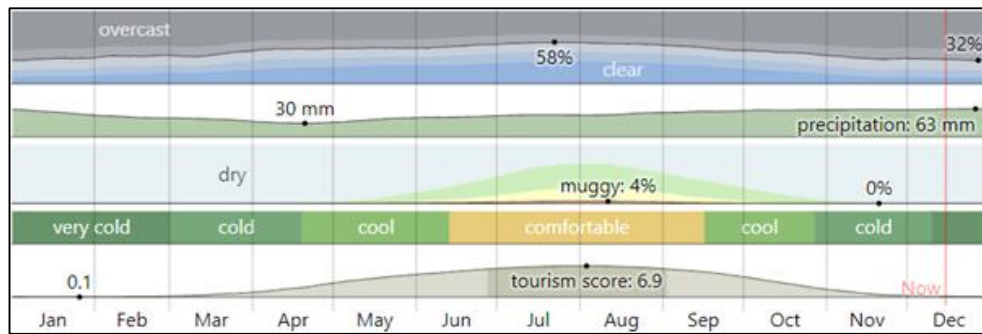
Fig 8: Grad Delft u Nizozemskoj. Location

The aim of the study trips was to get to know the cities on the spot and through their analysis (through 'cabinet work') to contribute to the author's theory of "Architecturally defined space" [2,3,4,5, 6,7,8,9,10,11,12,13,14,15,16,17,18,19,20].

2. Natural resources and sights

The climate in Delft is warm and temperate. There is significant rainfall throughout the year in Delft. Even the driest month still has a lot of precipitation. The climate is classified as Cfb according to Köppen and Geiger. In Delft, the average annual temperature is 10.8 °C. The annual amount of precipitation is 847 mm^[21]. Delft is located in the northern hemisphere. Summer here starts at the end of June and ends in September. There are months of summer: June, July, August, September. Summers are pleasant in Delft; winters are long, very cold and windy; and it is partly cloudy throughout the year. During the year, the temperature usually varies from 1°C to 22°C and is rarely below -5°C or above 27°C. The warm season lasts for 3.0 months, from June 13 to September 14, with an average daily temperature above 18°C. The warmest month of the year in Delft is July, with an average high of 21°C and a low of 14°C. The cold season lasts for 3.8 months, from November 22 to March 15, with an average daily temperature below 9°C. The coldest month of the year in Delft is January, with an average low of 2°C and a high of 6°C. The wet season lasts for 5.1 months, from August 28 to February 3, with a greater than 29% chance of

a given day being rainy. The month with the most rainy days in Delft is December, with an average of 11.1 days with at least 1.00 millimeters of precipitation. The drier season lasts 6.8 months, from February 3 to August 28. The month with the fewest rainy days in Delft is April, with an average of 6.9 days with at least 1.00 millimeters of precipitation. Among rainy days, we distinguish those that have only rain, only snow or a mixture of the two. The month with the most rainy days in Delft alone is November, with an average of 10.5 days. According to this categorization, the most common form of precipitation throughout the year is rain itself, with a peak probability of 36% on December 23rd. It rains in Delft all year round. The rainiest month in Delft is December, with an average rainfall of 61 millimeters. The month with the least rain in Delft is April, with an average rainfall of 31 millimeters. We base the humidity comfort level on the dew point, as it determines whether sweat will evaporate from the skin, thus cooling the body. Lower dew points appear drier and higher dew points appear wetter. Unlike temperature, which usually varies significantly between night and day, dew point tends to change more slowly, so although the temperature may drop at night, a sultry day is usually followed by a sultry night. The perceived humidity level in Delft, as measured by the percentage of time the comfortable humidity level is humid, oppressive, or miserable, does not vary significantly over the course of the year, remaining within 2% to 2% year-round. The average hourly wind speed in Delft experiences significant seasonal variation over the course of the year. The windiest part of the year lasts for 5.3 months, from October 10 to March 19, with an average wind speed greater than 5.9 meters per second. The windiest month of the year in Delft is January, with an average hourly wind speed of 7.0 meters per second. The calmer time of the year lasts for 6.7 months, from March 19 to October 10. The calmest month of the year in Delft is July, with an average hourly wind speed of 4.9 meters per second. The wind is most often out of the south for 1.7 weeks, from January 2 to January 14, and for 2.3 months, from October 5 to December 13, with a peak percentage of 38% on October 31. The wind most often blows from the west for 3.1 months, from January 14 to April 16; for 4.6 months, from May 18 to October 5; and 2.9 weeks, from December 13 to January 2, with a peak percentage of 45% on July 13. The wind is most often from the north for 1.1 months, from April 16 to May 18, with a peak percentage of 29% on April 25. Delft is located near a large body of water (eg an ocean, sea or large lake). This section reports the average surface temperature of that water over a wide area. The average water temperature experiences extreme seasonal variations throughout the year. The season with warmer water lasts 3.1 months, from July 1 to October 5, with an average temperature above 16°C. The month of the year with the warmest water in Delft is August, with an average temperature of 18°C. The colder water season lasts 3.9 months, from December 19 to April 14, with an average temperature below 8°C. The month of the year with the coldest water in Delft is February, with an average temperature of 5°C^[22] (Figure 9).



Source: Climate and Average Weather Year Round in Delft Netherlands

<https://weatherspark.com/y/51370/Average-Weather-in-Delft-Netherlands-Year-Round>

Accessed: December 15, 2023.

Fig 9: Delft weather by month

Similar to other coastal cities of the Netherlands (Amsterdam and Rotterdam, for example) the city of Delft is located in a plain whose altitude is at or below sea level. This unfavorable fact of the natural environment (Delft is about 11 km away from the sea coast) was corrected by the construction of a dense network of canals that provided land space for the development of the city's urban fabric. In this respect, the city of Delft can be compared to Venice. Canals, proximity to the sea and cultivated land have become the main natural resource of this city. Delft was the home port of the Dutch East India Company. However, Delft has established itself as a city of science, where a large number of scientific and research institutions operate: the Netherlands Organization for Applied Scientific Research (INO), Stichting Deltares, Nederlands Normalisatie-Instituut, UNESCO-IHE Institute for Water Management Education, Technopolis Innovation Park ... The rich cultural and historical heritage generates tourism, which is an important economic activity of Delft. Delft has developed a wide range of industrial production, where the processing of clay and the production of products

from it occupies an important place. Well-known companies stand out here: DSM Gist Services BV, De Koninklijke Porceleyne Fles, Exact Software Nederland BV, TOPdesk, Ampelmann... The industry generates many trade chains, wholesale and retail: IKEA, Makro, Eneco Energy NV). Delft is known for a large number of landscaped parks: Delft Forest (Delftse Hout, geographic coordinates: 52°01'N, 04°23'E), Plantagegeer (geographic coordinates: 52°01'02.85"N, 04°21'14.53" E), Nieuwe Plantage (geographic coordinates: 52°01'03.78" N, 04°21'17.29" E), Agnetapark (geographic coordinates: 52°00'57.88"N, 04°20'39.76"E), Kalverbos (geographic coordinates: 52°01'12.43"N, 04°21'28.52"E), TU Botanische Tuin (geographic coordinates: 52°00'26.93"N, 04°22'15.57"E), Arboretum in Delftse Hout (geographic coordinates: 52°00'54.71"N, 04°22'40.87"E), (Figures 10-15).

Delft Wood (Dutch: Delftse Hout) with a lake where there are many well-maintained walking and cycling paths, beaches, restaurants, recreation grounds, horse riding area (Figure 10).





Source: Google Earth, Accessed: December 14, 2023.

Source: https://www.delftsehout.co.uk/facilities/map_, Accessed: December 14, 2023.

Source: https://www.pitchup.com/campsites/netherlands/west-netherlands/south-holland/delft/juliette_tentvakanties_vakantiepark_delftse_hout/, Accessed: December 14, 2023.

Source: <https://citycamps.com/en/camp/camping-delft-citycamp-delftse-hout/>, Accessed: December 14, 2023.

Fig 10: Delft Wood (Dutch: Delfse Hout)



Source: Google Earth

Source: <https://lh5.googleusercontent.com/p/AF1QipMdMRESa50BAAYJS-DgMNysXc6VeaLiuSJMtx9C=h720>

Accessed: December 14, 2023.

Source: <https://lh5.googleusercontent.com/p/AF1QipN8Ud2-E8PulFqn0Jvh6t4sQmjrN3dHyaoAr75d=h720>, Accessed: December 14, 2023.

Source: https://lh5.googleusercontent.com/p/AF1QipMIgOEbNJB7CR8oEEho_6qW2C7tF-s3sdlTeinK=h1440

Accessed: December 14, 2023.

Fig 11: Plantagegeer



Source: Google Earth, Accessed: December 14, 2023.

Source:

https://lh5.googleusercontent.com/p/AF1QipOZbNNVFIEH9DH29Gqj5A_vjZ9wzresqofGeeCl=h720

Accessed: December 14, 2023.

Source:

https://lh5.googleusercontent.com/p/AF1QipNzR8J1mskIbWAZFFHD3qMd4dwVwSkapfT3DR_u=h1440

Accessed: December 14, 2023.

Source:

https://lh5.googleusercontent.com/p/AF1QipPxAfYH-06fJh50jVZI2Mqw9FD_6xRjraZq5omw=h1440

Accessed: December 14, 2023.

Fig 12: Agnetapark



Source: Google Earth, Accessed: December 14, 2023.

Source:

<https://lh5.googleusercontent.com/p/AF1QipNGIb9zcy31WRfjBz5wzVNlovKG2uu35om9mQVH=h720>

Accessed: December 14, 2023.

Fig 13: Botanički vrt TU (TU Botanische Tuin)



Source: Google Earth, Accessed: December 14, 2023.

Source:

<https://lh5.googleusercontent.com/p/AF1QipNQgPfdKyFKyovNy8KGac0v7TxTHtdS Q5eF6PDu=h720>, Accessed: December 14, 2023.

Fig 14: Kalverbos

Main Canal (Dutch: Delftse Schie), (geographic coordinates: 52°00'20"N, 4°21'40"E). Schie is the name for four waterways in the area of Overschie, South Holland, in the Netherlands. There are Delftse Schie, Delfshavense Schie,

Rotterdamse Schie and Schiedamse Schie. The existence of these four canals is a consequence of the medieval rivalry between the cities of Delft, Rotterdam and Schiedam for the rights to collect tolls (Figure 15).



Source: Google Earth, Accessed: December 14, 2023.

Source: <https://www.varendoejesamen.nl/kenniscentrum/artikel/knooppunt-1-15>, Accessed: December 14, 2023.

Source: https://commons.wikimedia.org/wiki/File:Delftse_Schie_-_panoramio.jpg, Accessed: December 14, 2023.

Source: <https://lh5.googleusercontent.com/p/AF1QipNlxg-sgy4KbaCzM2rQM6kEONqCj-VKga4w5R2i=h720>, Accessed: December 14, 2023.

Source: https://lh5.googleusercontent.com/p/AF1QipNA8xmmj2JS2XPtXPDqwonrTz5Gt47JBmw_LeKy=w1280-h720-pd
Accessed: December 14, 2023.

Fig 15: Main Canal (Dutch: Delftse Schie)

3. Architectural cultural and historical heritage

As a city that has an important place in the history of the Netherlands, Delft is rich in significant urban entities and individual buildings.

Old Church (Dutch: Oude Kerk), (geographic coordinates: 52°00'45"N, 04°21'19"E), also known as "Sri John" ("Oude Jan"), is a Gothic Protestant church- basilica located in the old core of Delft (Figure 16). The main characteristic of this church is its 75-meter high tower built of brick. The church

was founded (1246) as the Church of St. Bartholomew on the site of a previously built church from the 11th century. Due to the unstable terrain, the church began to tilt already during construction, which its builders tried to correct by successively moving the vertical walls (leaving higher brick layers). The church was damaged in a great fire that suffered (1654) in the city of Delft, but was later rebuilt, with the negligibility of its tower being corrected.



Source: Google Earth, Accessed: December 14, 2023.

Source: <https://travel.sygic.com/en/poi/old-church-poi:5872>, Accessed: December 14, 2023.

Source: <http://mikestravelguide.com/things-to-do-in-delft-visit-the-old-church-oude-kerk/>, Accessed: December 14, 2023.

Source: <https://zoom.nl/foto/architectuur/interieur-oude-kerk-delft.1625304.html>, Accessed: December 14, 2023.

Fig 16: Old Church (Dutch: Oude Kerk)

Koornbeurs (Dutch: De Koornbeurs), (geographic coordinates: 52°0'42"N, 04°21'28"E) is a building located on the corner of Cameretten and Voldersgracht in Delft (Figure 17). The building was originally built (1295) with a stone-walled basement that served as a meat store in the hall on the ground floor level. The building was destroyed in a fire (1536), after which the hall above the basement was built

again (1650). During the 20th century, the building was used for growing mushrooms and selling eggs. The building housed (1939) the headquarters of the institution for air protection in Delft, and after the Second World War the building had various purposes, mainly as the headquarters of various associations. In recent times, there have been proposals to turn this building into a meat museum.



Source: Google Earth, Accessed: December 14, 2023.

Source: <http://rijksmonumenten.nl/monument/12190/koornbeurs-of-vleeshal/delft/>, Accessed: December 14, 2023.

Source: <http://www.koornbeurs.nl/>, Accessed: December 14, 2023.

Fig 17: Koornbeurs (Dutch: De Koornbeurs)

New Church (Dutch: Nieuwe Kerk), (geographic coordinates: 52°00'44"N, 04°21'38"E) is a Protestant church built (1381-1496) as a burial church for the Dutch kings (Doma Orange-Nassau). The church is located on the Market Square (Markt) in Delft, opposite the City Hall (Stadhuis) building. The mausoleum of King William of Orange (Willem van Orange, 1533-1584) was arranged in this church

(1584), designed by father and son, Hendrick (1565-1621) and Pieter de Keyser (1595-1676). The church tower (the second tallest in the Netherlands, after Domtoren in Utrecht) was built (1872) according to the project of architect Pierre Cuypers (1827-1921). The new church was built on the site of the former Church of St. Ursula from the 14th century (Figure 18).





Source: Google Earth, Accessed: December 14, 2023.

Source: <https://erfgoedstem.nl/70152-2/>, Accessed: December 14, 2023.

Source: <http://www.netherlands-tourism.com/nieuwe-kerk-new-church-delft/>, Accessed: December 14, 2023.

Source: <http://www.stua.com/design/new-church-in-delft/>, Accessed: December 14, 2023.

Fig 18: New Church (Dutch: Nieuwe Kerk)

The eastern gate in Delft (Dutch: Oostpoort), (geographic coordinates: 52°00'40"N, 4°22'05"E) was built around 1400 (Figure 19). Brick Gothic architecture in Europe is an example. These are the only remains of the former city walls

that were demolished during the 19th century. An art gallery and private apartments are arranged in the premises of the East Gate in Delft.





Source: Google Earth, Accessed: December 14, 2023.

Source:

https://commons.wikimedia.org/wiki/File:Oostpoort_Delft,_The_Netherlands_01.jpg, Accessed: December 14, 2023.

Source:

https://lh5.googleusercontent.com/p/AF1QipPamFY1j5p3JOg9gtmRay3dL7IDxQj-I_ane42s=h720, Accessed: December 14, 2023.

Fig 19: The eastern gate in Delft (Dutch: Oostpoort)

Central Market Square (Dutch: Het centrale marktplein), (geographic coordinates: 52°0'42"N, 04°21'32"E) is the main square in Delft that has a multi-purpose function, from the city market to a stage for various artistic performances (Figure 20). On the front sides of the square are the buildings

of the New Church (Nieuwe Kerk) and the City Hall (Stadhuis), while on its longitudinal sides, lined up side by side, are residential buildings with various shops and other service facilities on the ground floor.



Source: Google Earth, Accessed: December 14, 2023.

Source: <http://footage.framepool.com/en/shot/359230419-nieuwe-kerk-delft-market-square-gothic-era>, Accessed: December 14, 2023.

Source: <http://5-five-5.blogspot.com/2016/03/delft-city-hall-delft-netherlands.html>, Accessed: December 14, 2023.

Fig 20: Central Market Square (Dutch: Het centrale marktplein)

Gemelands house (Dutch: Gemeenlandshuis Delfland/Huyterhuis), (geographic coordinates: 52°0'42.41"N, 04°21'19.98"E) is a late Gothic building built (1505) as the family house of Jan de Huyter (Figure 21). Later, this house had various functions, and since 1645 it has

been the seat of the Delfland Water Board. Exhibits of old maps of Delfland are displayed in the house. The facades of the building (made of stone-sandstone) are rich in decorations and coats of arms.



Source: Google Earth, Accessed: December 14, 2023.

Source:

https://upload.wikimedia.org/wikipedia/commons/1/10/Gemeenlandshuis_Delft_DSCF7674.jpg, Accessed: December 14, 2023.

Source: <https://mvdirona.com/2019/02/delft-nl/>, Accessed: December 14, 2023.

Source:

<https://www.pictorem.com/25632/The%20Gemeenlandshuis%20and%20the%20Old%20Church,%20Delft,%20Summer.html>

Accessed: December 14, 2023.

Fig 21: Gemeenlandshuis (Dutch: Gemeenlandshuis Delfland/Huyterhuis)

The Sint-Huybre tower (Dutch: De Sint-Huybrechtstoren), (geographic coordinates: 52°01'0"N, 04°21'38"E) is a tower that is a remnant of the former city walls of Delft (Figure 22). The tower was built at the beginning of the 16th century, and was

named after Saint Hubert, the patron saint of hunters. The hall at the top of the tower, the headquarters of the rowing club De Delftsche Sport (DDS), was built according to the project of the painter Han van Meegeren (1889-1947).



Source: Google Earth, Accessed: December 14, 2023.

Source:

https://nl.wikipedia.org/wiki/Bestand:Meegeren%27s_Rowing_Club_in_Delft_-_angle_B%27-.jpg, Accessed: December 14, 2023.

Source: <https://www.ad.nl/delft/niet-zomaar-een-toren~ae6a37b2/10295114/>, Accessed: December 14, 2023.

Source: <https://rvdds.nl/vereniging>, Accessed: December 14, 2023.

Fig 22: The Sint-Huybre tower (Dutch: De Sint-Huybrechtstoren)

The Princes' Court (Dutch: De Prinsenhof), (geographic coordinates: 52°00'42"N, 04°21'16"E) is a city palace built (1584) as an integral part of the monastery (Figure 23). It later served as the residence of William of Orange (Willem van

Orange, 1533-1584). In this building (1911) the Municipal Museum (The Prince's Court Museum) [23] was arranged, where exhibits testifying to the "Dutch Golden Age" (17th century) are displayed.



Source: Google Earth, Accessed: December 14, 2023.

Source: <https://travel.sygic.com/en/poi/the-prince-s-court-museum-poi:5988>, Accessed: December 14, 2023.

Source: <http://mikestravelguide.com/things-to-do-in-delft-het-prinsenhof-museum/prinsenhof-garden-delft/>, Accessed: December 14, 2023.

Source: <https://www.toptrouwlocaties.nl/museum-prinsenhof-delft.304457.lynkx>, Accessed: December 14, 2023.

Fig 23: The Princes' Court (Dutch: De Prinsenhof)

City Hall (Dutch: Stadhuis), (geographic coordinates: 52°00'41"N, 04°21'28"E) is a Renaissance building located on the Market Square, opposite the Nieuwe Kerk in Delft (Figure 24). The building was erected (1618) according to the project of the Dutch architect Hendrick de Keyser (1565-1621). The building was originally the seat of the city's government, and the dans is where the people of Delft hold their wedding ceremonies. From the time of its construction until today, the building has been remodeled several times. The bell tower (De Steen, English: The Stone) is the oldest preserved part of the town hall, built around 1300. It is famous for the Gobertanger limestone from Wallonia, from which it was built and from which many Renaissance

buildings in the Netherlands were built until 1600. Clocks (made by Hendrick van Trier and Francois Hemony) dating from 1536 are installed in the bell tower. In the basement of the bell tower is the prison where the murderer of Willem van Orange (1533-1584), Balthasar Gérard (1557-1584), was imprisoned. Portraits of the Orange and Nassau families are exhibited in the City Hall building in Delft, among which are portraits made by the painters Michiel van Mierevelt (1567-1641) and his son Pieter (1595-1623), a native of Delft. Next to the staircase, directly behind the massive wooden entrance door to the town hall, a painting of the Court of Solomon by the painter Pieter van Bronckhorst (1588-1661) is exhibited.



Source: Google Earth, Accessed: December 14, 2023.

Source: <https://dutchreview.com/featured/scenic-delft-15-great-photos/>, Accessed: December 14, 2023.

Source: <https://www.flickr.com/photos/time-to-look/29949995537>, Accessed: December 14, 2023.

Source: <https://www.flickr.com/photos/josbuurmansphotography/44095722730>, Accessed: December 14, 2023.

Fig 24: City Hall (Dutch: Stadhuis)

The painter Johannes Vermeer (1632-1675) was born in Delft. Delft, its canals, streets, individual buildings and its natural surroundings were the subject of Vermeer's painting (Figure 25). Besides Vermeer, many painters lived and worked in Delft: Pieter de Hooch, Carel Fabritius, Nicolaes Maes, Gerard Houckgeest and Hendrick Cornelisz van Vliet. They formed the famous Delft school of painting. The

Vermeer Center (Dutch: Het Vermeer Centrum) is arranged in the renovated The Guild of Saint Luke of Delft (geographic coordinates: 52°00'44"N, 04°21'34"E) which dates back to 1545. The Vermeer Center is an information center dedicated to the painter Johannes Vermeer and the work of his contemporaries in Delft.





Source: Google Earth, Accessed: December 14, 2023.

Source: https://www.tripadvisor.com/LocationPhotoDirectLink-g188626-d1574689-i243853355-Vermeer_Centrum_Delft-Delft_South_Holland_Province.html, Accessed: December 14, 2023.

Source: <https://www.tinker.nl/en/work/vermeer-centre>, Accessed: December 14, 2023.

Fig 25: Vermeer Center (Dutch: Het Vermeer Centrum)

Windmill De Roos (Dutch: Windmolen De Roos), (geographic coordinates: 52°0'50"N, 04°21'5"E) was built in 1760, and reconstructed (2013) as a national monument of the Netherlands (Figure 26). It is the only preserved one of the fifteen windmills that the city of Delft had. This windmill still

has its basic purpose - a flour mill. The first mention of a windmill in this place (Street Phoenix) dates back to 1352. The mill (1679) was built within the city walls of Delft. The mill with a hexagonal base got its present appearance in 1760.



Source: Google Earth, Accessed: December 14, 2023.

Source: <http://rijksmonumenten.nl/monument/12159/de-roos/delft/>, Accessed: December 14, 2023.

Source: <https://www.molenwereld.com/molens-actueel/molenaar-jan-is-supertrots-op-molen-roos-delft/>, Accessed: December 14, 2023.

Source: <https://lh5.googleusercontent.com/p/AF1QipPLhB6zX37MmclCXSI4I2VXu7yWmYtSJM8Hi8az=w1440-h1440-pd>
Accessed: December 14, 2023.

Fig 26: Windmill De Roos (Dutch: Windmolen De Roos)

The Former Station Building (Dutch: Voormalig stationsgebouw), (geographic coordinates: 52°00'24"N, 04°21'24"E) was built in 1847 (Figure 27). A few years later (1885), south of the first station, a new, larger station building was built according to the project of the architect Christiaan

Posthumus Meyjes Sr. (1858-1922). This building was in use until 2015 when the New station building was built. As the Old Station Building has the value of a historical cultural monument, it was remodeled with a new commercial purpose.



Source: Google Earth, Accessed: December 14, 2023.

Source: <http://rijksmonumenten.nl/monument/525335/stationsgebouw/delft/>, Accessed: December 14, 2023.

Source: <https://www.nieuwdelft.nl/projecten/monumentaal-stationsgebouw/>, Accessed: December 14, 2023.

Fig 27: The Former Station Building (Dutch: Voormalig stationsgebouw)

Sculpture near the Church (Dutch: Beeldhouwwerk dichtbij de Kerk), (geographic coordinates: 52°00'45.21" N, 04°21'19.04"E) is a statue of Hugo Grotius created (1886) by

the Dutch sculptor Franciscus Leonardus Stracké (1849 - 1919) on the Market Square, next to the New Church (Nieuwe Kerk) in Delft (Figure 28).



Source: Google Earth, Accessed: December 14, 2023.

Source:

https://lh5.googleusercontent.com/p/AF1QipOET8JrzhT6n1v_Nu3LPZZ7de2mDWXe1Gh93Q3q=h1440

Accessed: December 14, 2023.

Source:

https://lh5.googleusercontent.com/p/AF1QipM3gYYfixGABZqtX4JxOVvnV5QuVLstBhOIHqA_=w1440-h1440-pd

Accessed: December 14, 2023.

Source: https://www.tripadvisor.co.uk/LocationPhotoDirectLink-g188626-d2647320-i40432451-StatdsgidsDelft_Guided_Tours_Delft-Delft_South_Holland_Province.html, Accessed: December 14, 2023.

Fig 28: Sculpture near the Church (Dutch: Beeldhouwwerk dichtbij de Kerk)

The Ruisdael Observatory (Dutch: De Ruisdael Observatorium), (geographic coordinates: 52°01'33.30" N, 04°18'51.94"E) was named after Jacob van Ruisdael (1628-1682), a Dutch painter and coppersmith (Figure 29). Today, the observatory is a part of TU Delft where, with the use of highly sophisticated equipment, the parameters of the local

climate and weather are monitored, with the perspective of monitoring these parameters throughout the Netherlands. The observatory building was built (1891) according to the project of the architect Jacobus van Lokhorst (1844-1906) [24] and has the status of a national cultural monument of the Netherlands.



Source: Google Earth, Accessed: December 14, 2023.

Source: <https://ruisdael-observatory.nl/?p=186>, Accessed: December 14, 2023.

Fig 29: The Ruisdael Observatory (Dutch: De Ruisdael Observatorium)

Weigh house (Dutch: Waag Huis), (geographic coordinates: 52°00'40.43" N, 04°21'28.73"E) is a historical building where fish were weighed. The building was built before 1800

(Figure 30). Weighing fish was of key importance for the establishment of market control, i.e. a mechanism for determining taxes. Hence, the weighing house was located

right next to the main market, in the center of the city. This type of building (waag, waage) was characteristic of the

Netherlands, Germany and Poland.



Source: Google Earth, Accessed: December 14, 2023.

Source: https://www.tripadvisor.com/Restaurant_Review-g188626-d1833499-Reviews-Restaurant_Eetcafe_De_Waag-Delft_South_Holland_Province.html, Accessed: December 14, 2023.

Source: <https://lh5.googleusercontent.com/Wxfmacea4kc/WRbr9WAG4WI/AAAAAAAAANFQ/SPBW8qjuxHcqiykmWBR5XeLqoCHn pX8vQCLIB/w408-h306-k-no/>
Accessed: December 14, 2023.

Fig 30: Weigh house (Dutch: Waag Huis)

TU Delft Buildings (Dutch: TU Delft-gebouw), (geographic coordinates: 52°0'6"N, 04°22'21"E). Delft University of Technology (TU Delft) was founded (1842) by King William II (1792-1849). TU Delft is a complex of buildings (faculties, institutes, laboratories, workshops...) connected in a unique system (Figure 31). The buildings are numbered and their numerical designations are used in everyday communication: Building 3 (Science Center Delft, Building 5 (Applied Sciences: Department of Biotechnology, Building 6 (Botanical Garden, Building 8 (Faculty of Architecture and the Built Environment), Building 12 (Applied Sciences - Department of Chemical Engineering), Building 15 (Kramers Laboratory), Building 20 (Aula Congress Centre/Auditorium), Building 21 (TU Delft Library), Building 22 (Faculty of Applied Sciences), Building 23 (Faculty of Civil Engineering and Geosciences, Finance, Human Resources, Administrative Support), Building 26 (De Bouwcampus), Building 26b (Work council, labor unions, student councils), Building 28 (Mathematics and Computing), Building 30a (Education and Student Affairs), Building 30b (Campus and Real Estate), Building 31 (Faculty of Technology), Building 32 (Faculty of Industrial

Engineering), Building 32a (Composites Lab), Building 33a (Puls), Building 34 (Faculty of Mechanical, Maritime and Materials Engineering), Building 34a (Executive Board, Supervisory Board), Building 34b (Processes and Energy), Building 35 (Education and Exams), Building 36 (Faculty of Electrical Engineering, Mathematics and Computing), Building 37 (Sports and culture: Unit Sports), Building 38 (Sports and culture: Unit Sports), Building 43 (Cogeneration plant), Building 44 (Multi-tenant building), Building 45 (Wind tunnel laboratory), Building 46 (Laboratory for processes and energy), Building 50 (Reactor Institute Delft), Building 58 (Applies science: departments of biotechnology, bionanoscience, chemical engineering), Building 60 (Logistics and Waste Maintenance, Plant Maintenance), Building 61 (Aeronautical Engineering: Delft Aerospace Structures & Materials Laboratory), Building 62 (Faculty of Aerospace Engineering), Building 63 (Aerodynamics Laboratory: SIMONA Research Simulator), Building 64 (Aerodynamics Laboratory, Wind tunnels), Building 66 (The Fellowship)... Today, over 21,000 students from the Netherlands and around the world study at this prestigious university.



Source: file:///C:/Users/User/Desktop/Plattegrond_TU Delft.pdf, Accessed: December 14, 2023.

Fig 31: Map TU Delft



Source: Google Earth, Accessed: December 14, 2023.

Source: file:///C:/Users/User/Desktop/Plattegrond_TU Delft.pdf, Accessed: December 14, 2023.

Source: <https://www.innovationquarter.nl/en/bedrijf/initiators/tu-delft/>, Accessed: December 14, 2023.

Fig 32: TU Delft

The Royal Dutch Army Museum (Dutch: Koninklijk Nederlands Legermuseum), (geographical coordinates: 52°0'23"N, 04°21'38"E) is the former National Museum of the Dutch Army (Figure 33). This museum was merged (2013) with the Military Aviation Museum (Militaire Luchtvaartmuseum), based at the air base in Soesterberg, into a unique Army Museum (Militaire Luchtvaart Museum). The

museum was founded on a private collection of exhibits collected by General Frederic Adolph Hofer (1850-1938) and presented to the public at Doorwerth Castle. The museum was opened in 1913 as the Dutch Artillery Museum (Nederlandsch Artillerie Museum), whose curator (until his death) was Frederic Adolf Hofer.



Source: Google Earth, Accessed: December 14, 2023.

Source: <https://twitter.com/airprlibrarian/status/499542395479134210>, Accessed: December 14, 2023.

Source: <http://www.comtourist.com/history/dutch-army-museum/>, Accessed: December 14, 2023.

Fig 33: The Royal Dutch Army Museum (Dutch: Koninklijk Nederlands Legermuseum)

UNESCO-IHE Institute for Water Education (Dutch: UNESCO-IHE instituut voor watereducatie), (geographical coordinates: 52°0'31"N, 04°21'25"E) is a prestigious educational institution where, as part of postgraduate

education, educate people around the world (mainly from developing countries) in the field of water management and hydro-engineering. The institution works within TU Delft (Figure 34). The institute was founded in 1957 (as the

International Course in Hydraulic Engineering, since 1976 known as the International Institute for Hydraulics and Environmental Protection (IHE), and since 2003 as

UNESCO-IHE). To date, more than 15,000 experts from over 160 countries have received their education there.



Source: Google Earth, Accessed: December 14, 2023.

Source: https://en.wikipedia.org/wiki/IHE_Delft_Institute_for_Water_Education, Accessed: December 14, 2023.

Source: <http://www.un-ihe.org/institute>, Accessed: December 14, 2023.

Fig 34: UNESCO-IHE Institute for Water Education (Dutch: UNESCO-IHE instituut voor watereducatie)

The New Station Building (Dutch: Nieuw stationsgebouw), (geographic coordinates: 52°00'24"N, 04°21'24"E) is located on the oldest railway line in the Netherlands, between the Hag Central and Rotterdam Central stations in Delft (Figure 35).

It was built (2015) according to the project of the international architectural firm Mecanoo based in Delft. Next to the station, there is a bus and tram station, as well as parking lots for vehicles and bicycles.



Source: Google Earth, Accessed: December 14, 2023.

Source: <https://www.archdaily.com/604109/mecanoo-s-new-station-hall-in-delft-opens-to-the-public>, Accessed: December 14, 2023.

Source: <https://www.mecanoo.nl/Projects/project/52/Delft-City-Hall-and-Train-Station>, Accessed: December 14, 2023.

Fig 35: Nova zgrada kolodvora (Nieuw stationsgebouw)

Conclusion

The author's travels in the Netherlands were organized within the tripartite collaboration of the Faculty of Architecture in Sarajevo with TU Delft, TU Twente (Netherlands) and TU Yildiz (Istanbul, Turkey). Work was done in student workshops on contemporary architectural topics (sustainability). The author (as dean of the Faculty of Architecture of the University of Sarajevo and professor -

lecturer) participated in the workshop organized at TU Delft (April 6-10, 2008) and at the workshop organized at TU Twente (June 14-17, 2010). . During the workshop at TU Delft, the author got to know in detail the cities of Delft, The Hague and Rotterdam, and during the workshop at TU Twente the cities of Enschede and Amsterdam. Getting to know the cities and landscape of the Netherlands enriched the author's "file" of architecture as a basis for a broad and

complex architectural topic - "Defining Architectural Space (ADS)".

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