

## **Intercultural Understanding Vol.6**

**ISSN 2186-2559**

**Editor:**

Institute of Turkish Culture Studies, Mukogawa Women's University  
1-13, Tozaki-cho, Nishinomiya, Hyogo, 663-8121, Japan  
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**Publisher:**

Mukogawa Women's University

**Date of Issue:**

January 31, 2017

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Printed in Japan

# Intercultural Understanding

Vol.6 2016

## CONTENTS

**003 PREFACE**

**ARTICLES**

**007** The Re-contextualization of the Battle of Gallipoli through Commemorations  
*Sibel Baykut*

**017** The Use of Architectural Design as Mediator in Intercultural Communication and Understanding:  
Japanese Example in Cappadocia-Avanos Location Selection  
*Z. Özlem Parlak Biçer*

**023** Design of Hanshin Electric Railway Naruo Station with Plank Sheets  
*Keisuke Inomata, Shigeyuki Okazaki, Mamoru Kawaguchi, Hiroyuki Tagawa, Noritoshi Sugiura, Junko Morimoto  
and Aya Yamaguchi*

**031** The Spatial Composition of Buddhist Temples in Central Asia, Part 1: The Transformation of  
Stupas  
*Yuuka Nakamura and Shigeyuki Okazaki*

**ACTIVITY REPORTS OF THE INSTITUTE OF TURKISH CULTURE STUDIES**

**045** Inter Cultural Studies of Architecture (ICSA) in Japan 2015

**057** “Silk Road Culture and Architecture” Lecture Series

**064** MWU’s DAAM (Department of Architecture and Architecture Major) Special Lecture

**065** ITCS Seminars

**068** Dr. Hejazi, Mehrdad, Associate Professor at University of Isfahan, Visited Kami-koshien Campus  
and Attended Final Presentations by Graduate Students.

**069** MWU Graduate-school Entrance Ceremony in September was Held and Two Students from  
Turkey Entered the Architectural Major.

**070** Annual Events Apr. 2015- Mar. 2016

**OUTLINE OF THE INSTITUTE OF TURKISH CULTURE STUDIES**

**071** Organization

**072** Rules and Regulations of the Institute of Turkish Culture Studies (ITCS) at Mukogawa Women's University

## PREFACE

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### Dr. Shigeyuki OKAZAKI / 岡崎 甚幸

*Director of Institute of Turkish Culture Studies, Mukogawa Women's University*  
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Since 2011, Mukogawa Women's University has held the lecture series "The Preservation and Restoration of Our Country's Modern Architecture" at the Industry Club of Japan, located in front of Tokyo Station. The new lecture series "Silk Road Culture and Architecture," begun in 2015, is also being held in the same location.

The first lecture meeting, entitled "World Heritage Silk Road and Islamic Architecture," was held on February 28 (Saturday), 2015. Kazuya Yamauchi (Head, Regional Environment Section, Japan Center for International Cooperation in Conservation, National Research Institute for Cultural Properties, Tokyo) gave a lecture entitled "The World of the World Heritage Silk Road." Next, Naoko Fukami (Adjunct Researcher, Organization for Islamic Area Studies, Waseda University) gave a lecture entitled "Islamic Architecture of the Silk Road." Finally, Chalpasah, an Afghan music unit, performed traditional music from Afghanistan.

The second conference, entitled "The Gandhara Buddhist Ruins and Silk Road Merchants" was held on May 30 (Saturday), 2015. Masaya Masui (Professor of the Graduate School of Human and Environmental Studies, Kyoto University) gave a lecture entitled "Investigating and Preserving/Restoring Gandhara Buddhist Ruins." Next, Yutaka Yoshida (Professor of the Graduate School of Letters, Kyoto University) discussed "The Identity of Sogdian Traders Who Supported the Silk Road." Finally, Ryohei Terada (Tuvan music

武庫川女子大学は 2011 年から、講演会シリーズ「わが国の近代建築の保存と再生」を東京駅前の日本工業倶楽部で開催している。2015 年から同会場にて、新たに講演会シリーズ「シルクロードの文化と建築」を開催することとなった。

第1回は、2015年2月28日(土)に「世界遺産シルクロードとイスラーム建築」というタイトルで開催された。山内和也氏(東京文化財研究所文化遺産国際協力センター 地域環境研究室長)による講演「世界遺産シルクロードとその世界」、そして深見奈緒子氏(早稲田大学 イスラーム地域研究機構 招聘研究員)による講演「シルクロードのイスラーム建築」、さらにはちやるばーさ(アフガニスタン音楽ユニット)によるアフガニスタンの伝統音楽の演奏が行われた。

第2回は、2015年5月30日(土)に「ガンダーラの仏教遺跡とシルクロードの商人」というタイトルで開催された。増井正哉氏(京都大学大学院 人間・環境学研究科 教授)による講演「ガンダーラ仏教遺跡の調査と保存修復」、そして吉田豊氏(京都大学大学院 文学研究科 教授)による講演「シルクロードを支えた商人 ソグド人の正体」、さらには寺田亮平氏(トゥバ音楽演奏家、喉歌歌手)によるトゥバ共和国の伝統音楽の演奏が行われた。

第3回は、2016年2月27日(土)に「シルクロードが結ぶ西と東の造形」というタイトルで開催された。前田耕作氏(和光大学 名誉教授)による講演「ヘラクレスの旅: 東洋と西洋の出会い」、そして岡田保良氏(国士舘大学イラク古代文化研究所 教授)による講演「比較ドーム建築論: ローマとシルクロード」、さらにはプーリー・アナビアン氏(ペルシャ伝統楽器サントゥール奏

performer and throat singer) performed the traditional music of the Republic of Tuva.

The third lecture meeting was held on February 27 (Saturday), 2016. Entitled “Shaping of the Silk Road West-East Connection,” the conference began with Kosaku Maeda (Professor Emeritus of Wako University), who gave a lecture entitled “Journey of Heracles: Encounter between East and West.” Next, Yasuyoshi Okada (Professor of the Institute for Cultural Studies of Ancient Iraq, Kokushikan University) gave a lecture entitled “Comparative Dome Architecture Theory: Rome and the Silk Road.” Finally, Pouri Anavian (performer of santur, a traditional Persian dulcimer) and Dalia Anavian (Persian cultural ambassador and Persian music and history guide) performed traditional Persian music.

On June 6 (Saturday), 2015, a special lecture was held by Mukogawa Women University’s Department of Architecture and Architecture Major. Tomoyuki Masuda (Professor of the Faculty of Letters, Arts and Sciences, Waseda University) gave a lecture entitled “Byzantine Art and Architecture.” It provided a good opportunity for the audience to reconsider the value of mural paintings, which have become forgotten in modern architectural space.

As in previous years, ICSA in Japan 2015 was held. On June 23 (Tuesday), 2015, Mukogawa Women’s University welcomed ten students and vice Dean Murat from Bahcesehir University’s Faculty of Architecture and Design in Turkey. Second-, third-, and fourth-year Turkish students sat next to students of the university’s Department of Architecture and participated in design exercises and field trips together.

On July 27 (Monday), 2015, Associate Professor Mehrdad Hejazi of the Department of Civil Engineering, University of Isfahan, located in the ancient capital of Isfahan, Iran, visited Mukogawa Women’s University. He had also visited in the previous year. To conduct comparative research of Japan’s five-storied pagodas and Iran’s minarets, he exchanged information with Associate Professor Hiroyuki Tagawa. Afterwards, he observed a final-jury of

者)、ダリア・アナビアン氏（ペルシャ文化伝道士、ペルシャ音楽と歴史のナビゲーター）によるペルシャの伝統音楽の演奏が行われた。

2015年6月6日（土）には建築学科・建築学専攻の特別公開講演会が開催され、益田朋幸氏（早稲田大学 文学学術院 教授）による講演「ビザンティンの美術と建築」が行われた。現代建築空間が忘れてしまった壁画の価値を再考する、よい機会となった。

例年の通り ICSA in Japan 2015 を開催した。トルコ・バフチェシヒル大学建築デザイン学部の学生 10 人とムラト副学部長が 2015 年 6 月 23 日（火）に来日した。2、3、4 年生のスタジオで武庫川女子大学建築学科の学生と机を並べて設計演習やフィールドワークに励んだ。

2015 年 7 月 27 日（月）、イランの古都イスファハーンにあるイスファハーン大学工学部土木工学科のメハダット・ヘジャーズィー准教授が、昨年引き続き本学を訪問した。日本の五重塔とイランのミナレットの比較研究のために、田川准教授と情報交換を行った。その後、大学院建築学専攻の講評会を見学した。

the university's Architecture Major.

The Graduate School of Mukogawa Women's University held its entrance ceremony on September 15 (Tuesday), 2015. Two students from Turkey entered the Architecture Major. About 50 students and faculty members participated in the ceremony. The two Turkish students graduated from Bahcesehir University. During their studies there, they participated in ICSA in Japan, and decided to study architecture in earnest at Mukogawa Women's University.

The Institute of Turkish Culture Studies hosts a series of seminars every year at Koshien Hall. The theme is the Silk Road and the cultures, histories, and architectures of countries involved in that trade network.

Three seminars were held this year. All the events were deeply fascinating.

For the first seminar on June 4 (Thursday), 2015, Kazuya Yamauchi (Head, Regional Environment Section, Japan Center for International Cooperation in Conservation, National Research Institute for Cultural Properties, Tokyo) and Hiroki Yamada (Associate Fellow, Japan Center for International Cooperation in Conservation, National Research Institute for Cultural Properties, Tokyo) gave a lecture entitled "Iranian Architecture and Culture."

For the second seminar on January 8 (Friday), 2016, Professor Yasuyoshi Okada of Institute for Cultural Studies of Ancient Iraq, Kokushikan University, gave a lecture entitled "Ancient Dome Architecture of Western Asia."

For the third seminar on February 24 (Wednesday), 2016, Lecturer Shunpei Iwai of Ryukoku University discussed "Layout of Ancient Buddhist Temples in Central Asia."

2015年9月15日(火)に、武庫川女子大学大学院9月入学式が行われ、建築学専攻にトルコから2名の学生が入学した。式には在學生や教職員、約50名が参加した。二人はバフチェシヒル大学在籍時にICSA in Japanに参加し、本格的に本学で建築を学びたいと考え留学を決意した。

トルコ文化研究センターは、甲子園会館で、毎年研究会を主催する。そのテーマはシルクロードとそれを取り巻く国々の文化や歴史や建築に関するものである。

今年は3回の研究会を開催した。いずれも興味深い内容のものであった。

第1回は、2015年6月4日(木)に、講師：山内和也氏(東京文化財研究所 文化遺産国際協力センター 地域環境研究室長)および山田大樹氏(東京文化財研究所 文化遺産国際協力センター アソシエイトフェロー)による「イランの建築と文化」であった。

第2回は2016年1月8日(金)に、講師：岡田保良氏(国士舘大学 イラク古代文化研究所教授)による「西アジア古代のドーム建築」であった。

第3回は2016年2月24日(水)に、講師：岩井俊平氏(龍谷大学 龍谷ミュージアム 講師)による「中央アジアにおける古代仏教寺院の伽藍構成」であった。



# The Re-contextualization of the Battle of Gallipoli through Commemorations<sup>1</sup>

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**Keywords:** Battle of Gallipoli, commemorations, Dardanelles, Gallipoli Campaign, identity, monuments, neo-ottomanism, political ideology, remembrance ceremonies, war memorials,

**Abstract:** The Battle of Gallipoli is central to the Turkish republican historical discourse as the final Ottoman win against the Allied Forces, and as the event that introduced the founder of the Republic, Mustafa Kemal, and triggered the War of Independence. Until the 2000s, the historical meaning of the Battle of Gallipoli had been beyond debate; but the Justice and Development Party has shifted the narrative from a victory based on the figure of Mustafa Kemal and his military and political leadership, to an Ottoman victory based on religious faith, thereby eroding the founding myth of the Republic. Having such strong cultural, political and religious connotations, the Gallipoli Campaign and its contemporary commemorations are and will in all likelihood be subject to interventions and alterations of various power groups. This article highlights how the latter has happened in recent Turkish history, which may also serve as a more global example.

## 1. The Gallipoli Commemoration Ceremonies

*Stop wayfarer! Unbeknownst to you this ground  
You come and tread on, is where an epoch lies;  
Bend down and lend your ear, for this silent mound  
Is the place where the heart of a nation sighs.*<sup>2</sup>



Figure 1. 'Dur Yolcu' verse, engraved on the landscape on Eceabat, Gallipoli.

The first two verses of this famous poem engraved into the landscape is the first thing welcoming every visitor to the Gallipoli Peninsula. Known by most Turks, these lines of the epic poem epitomize how the Battle of Gallipoli is remembered collectively in Turkey and what emotions this little peninsula arouses within the context of Turkish Republican history (Kant, 2015, p. 165).

The Battle of Gallipoli, which took place in Anatolia where the Dardanelles connect the Marmara Sea to the Aegean Sea in other words it is where the Asia and Europe continents meet, was

one of the bloodiest of battles fought during World War I. It was one of the last victories of the ailing Ottoman Empire and featured the first significant appearance of Mustafa Kemal Ataturk in Turkish history, as a military leader who would go on to establish the Turkish Republic. For the Ottomans, the Gallipoli victory was an end to the continuous withdrawal that had occurred since 1699 and it increased public morale, which had deteriorated especially after the Balkan Wars (Erdemir, 2008, pp. 529-531). Erdemir argues that if the Ottomans had failed to stop the enemy, the Ottoman Empire would have disappeared then. He thinks that even though the enemy invaded Istanbul after the Armistice of Mondros, this three-year delay caused an opportunity for the nation to get prepared for a "national independence war". Furthermore, like many other historians, he views the Battle of Gallipoli not merely as a part of WWI but as the National War of Independence (Erdemir, 2008, pp. 543-544).

Although there are many reasons why the Battle of Gallipoli has drawn the interest of many people from political, cultural, and historical perspectives, the high number of casualties and the fact that it marks a significant transition in Turkish history could be viewed as the most important ones. The high number of fallen in the battle makes it regarded as a tragedy and a source of nationalistic sentiments. Based on the records of the official sources of the Australian War Memorial Council, the total number of people who died in World War I 'serving their country' is estimated to vary between 9 million and 16 million. During this one of the bloodiest conflicts of all times, 515 thousand soldiers fell in the Gallipoli Campaign that took place on and around the Gallipoli Peninsula.<sup>3</sup> The loss of so many young lives on such a small piece of land makes this peninsula a theatre for one of the greatest tragedies of WW I.

As it is "the place where the heart of a nation sighs", the Gallipoli Peninsula stands at the crossroads of many crucial transitions in the cultural history of Turkey, making it a focus for the clash of controversial ideas. It occupies a place where nationalist, religious, essentialist, militarist and imperialist



discourses compete. As it has been perceived as the founding war of the Turkish Republic, it both marks the end of imperial times and the start of the nation state. For people of nationalistic tendencies, it is a front where the prologue of the Turkish Republic was written and its founding leader, Mustafa Kemal, took center stage for the first time and fought against the powers of colonialism and became the savior of the nation. Also, according to the public myth which is well known amongst Turkish society, this is the battle through which the material supremacy of the Allies was beaten by spiritualism or faith, where, according to one myth which called ‘the long white cloud (aotearoa),<sup>4</sup> Turkish soldiers were accompanied and assisted by a group of angels.

Despite the contesting discourses of various militarist, nationalist, religious or ethnic groups, each of whom claim to have the property rights over the Gallipoli Campaign, the Gallipoli Campaign could also be perceived as a rite-of-passage as it was the threshold of certain changes in cultural and political history of Turkey. In that sense, it can be easily said for the battle as a transformative ritual front where the idea of ummet of the Ottoman Empire coming from various ethnic and religious backgrounds was transformed into fellows of the modern nation of Turkey.

The remembrance practices and monuments for the martyrs of the Gallipoli Campaign are a source of sensitivity for most people in Turkey as the Gallipoli Campaign represents a unique patriotic sacrifice ingrained in the collective cultural memory. In the national narratives, the spirit displayed by the young people who lost their lives in this campaign, inspired the other citizens to fight against the forces of invading countries, which sparked the Turkish War of Independence.

Some scholars highlight the function of these national commemoration ceremonies and monuments in reaffirming state authority and legitimacy. For these scholars, commemoration monuments and practices, or pilgrimages to battlefields, are “intrinsic components of national heritage and identity” and it is the “marriage of nation and mass war” (Rusbook, 2008, p. 48).<sup>5</sup>



Figure 2. Turkish Official Remembrance Day Ceremony, Dardanelles, March 18, 2013.

The Gallipoli Campaign Commemoration ceremonies have been a locus and symbol of national unity, and the collective spirit marking the newborn Turkish Republic. Like its other examples in the world, these ceremonies are also an object of competing ideologies and ideological discourses. As an extension of the recent ideological and cultural changes in state policies, the ceremonies have also become an amphitheater for promoting new political ideologies.

Historians and researchers in Turkey have investigated the Gallipoli Campaign related to the political, sociological and economical aspects of its commemorations as a phenomenon (Azrić 2012; Kurnaz 2013; Bobbitt 2011). Azrić’s dissertation discusses how the Gallipoli Campaign is instrumentalized even

manipulated through the annual remembrance ceremonies by various actors in several aspects today. For Azrić, these special dates (March 18 and April 24-25) are used to affect the organizations towards its ideological belief. For example, the Justice and Development Party, together with many religious groups, highlights the Muslim character of the army of that period and argues that it was the faith of those soldiers that helped the nation get its victory (Azrić, 2012, pp. 116,117,125).

She also points out the role of the state in activities organized strictly by a top-down approach. She underlines the fact that the first state-sponsored organization took place in 1934 when the Montreux Treaty, which gave the Turkish Republic sovereignty over the Straits, was signed (Azrić, 2012, pp. 114,115). She argues that, especially beginning with 1960, politicians shaped the celebration/commemoration according to their political and ideological belief. This included stressing religious aspects, the role of Mustafa Kemal, territorial integrity or even blaming other ethnic groups for not participating in the war (Azrić, 2012, p. 124).

By the same token, in her study, Bobbitt argues that school excursions to the battlefield for children. The author of the thesis claims that the war memorials are used by the government, municipalities and local people for touristic events. She comments that one cannot feel any emotion in a graveyard when there is a souvenir shop at the entrance and says that the memorials/monuments are used less in remembrance of the martyrs and more to train people to feel unity and loyalty (Bobbitt, 2011, pp. 114-116).

## 2. Relationship between memory and identity

Areas with monuments to war casualties become popular sites of collective identity and memory, visited by millions of people from all over the world. Studies deconstructing collective remembrance practices (Bucur T. M., 2004; Gellner, 1983; Giddens, 1991; Gillis, 1994; Nora, 1989; Smith A. D., 1994) mostly view war monuments as state devices reaffirming the power of the state. In most of those studies, the individual remembering is depicted as a passive participant of the remembrance activity with the state as the major actor.

The close relationship between memory and identity provides ground for a politics of identity to shape, construct or suppress things for the community to remember or forget. In this sense, the traumatic experiences of the past become popular and rich sources for a politics of identity, particularly in the form of things not to be forgotten.

In the case of Turkey, the Gallipoli Campaign, and the contemporary public ceremonies commemorating it, presents a perfect source for the discourses of identity and collective history. This also leaves the Gallipoli Peninsula with all its remembrance practices (monuments, ceremonies and visits) vulnerable to interventions by the ruling governments. Thus, both the historic site and the story revolving around the battle have been highly effective sources of community, identity and history making processes.

## 3. Constructing and Reconstructing the Past through the Monuments at Gallipoli

After the war, upon the completion of the burial and cemetery construction processes, it was time to begin erecting monuments on the peninsula dedicated to those who lost their lives in the war. This process has taken almost a century and remains unfinished. Today, with the numerous monuments, military cemeteries, cenotaphs or other memorials on it, the entire peninsula serves as

an open-air museum. Five monuments <sup>6</sup> dedicated to Commonwealth servicemen including British, Indian, New Zealander and Australian forces that served and died in the campaign were built in the first ten years following the end of the war. Interestingly, none of the current 71 Turkish memorials existed in that same decade.

A little-known fact; the first monument was erected during the battle between the years 1915 and 1916 and was made of artillery shells that had been used during the conflict. The place where the monument was erected is of significance as it was one of the original trenches. That earliest memorial had a very modest look and was in the shape of a pyramid and had been created by those who fought there. In a way, these people were the real agents-of-remembrance (Winter, 1999, p. 60) and the monument stood as a symbol displaying these people's collective memories as a reminder of what they had been through. When compared to the more recent massive stone memorials of WWI all around the world, erected by the states or other groups in power, the metal pyramid monument was the first example in Gallipoli representing what Winter called "small-scale collective memory" (1999, p. 60).



Figure 3. Mustafa Kemal in front of the earliest Metal Pyramid Monuments, 1916.

Sharing a similar fate with the actors of remembrance, the humble monument disintegrated over time due to natural causes. In the early years of the aftermath, even the disappearance of the monument might not have been noticed at all. Neither the people nor the government in Turkey had the opportunity to go back and think about commemorating Gallipoli because it was only one of six fronts that Turkey had to fight in those years, each of which had its own tragedies and deserved mourning. Moreover, the people in Turkey had another three years of fighting after WWI for their independence. Thus, Gallipoli would simply have to wait.

Among the Turkish war memorials, the Mehmetcik Monument, also known as the Canakkale Martyrs Monument<sup>7</sup>, is considered the first proper memorial dedicated to the Dardanelles/Gallipoli martyrs. It is the largest and the most remarkable memorial dedicated to the Turkish soldiers fallen at Gallipoli, and stands on Hisarlık Tepe, a spot which is undoubtedly the most eye catching spot of the peninsula. Therefore, the Mehmetcik monument with its M shape symbolizing mehmetcik (Johnny) and standing on four legs is visible from most of the peninsula. The relation between the construction of the monument and the creation of the collective

memory in Turkey has been a reciprocal process. While the monument was shaping collective memory, the monument itself was reconstructed over time. This was and is still true of the other memorials built to date.

### 3.1. 1923-1938

The peninsula had been hosting ANZAC visitors commemorating the war for a few years and Mustafa Kemal had also been invited for the international official ceremonies organized and attended by British, Australian, New Zealander and French governments. As an indispensable part of the official ceremonies, each representative would lay a wreath at his/her monument and the other countries' monuments in the area during the ceremony. When it was time to lay the wreaths at the Turkish monument, there was a crisis as there was no Turkish monument there. The original metal pyramid monument had vanished.

The confused and embarrassed Turkish representatives asked Mustafa Kemal for advice about where to lay the wreath. Gazing at the battlefields, he thought quickly and said: "you are free to lay the wreath anywhere on this land. Every inch of this land soaked with Turkish blood and is thus already a Turkish monument" (Granda, 2008, p. 197).<sup>8</sup> His statement here is noteworthy as it underlines the fact that monuments define what and how to honor the fallen and how memorials replace memory.

The very first idea of erecting a national monument at Gallipoli dates back to 1928, the year when Atatürk visited the city of Dardanelles. During his visit, some local inhabitants told him about their wish for a monument to honor the fallen at Gallipoli. This might have reminded him of his previous experience on the Anzac Remembrance Day ceremonies as he immediately asked for work on the matter (Sipahi, 2014).

To erect a monument for the fallen at Gallipoli, a project was designed and publicized nation-wide in a very short time. There was considerable public interest in the idea of building a memorial dedicated to the fallen at Gallipoli. People of all ages, professions and ethnic backgrounds from all over country donated towards the construction of the monument to honor the fallen at Gallipoli. According to the archival research carried out by Murat Kiray, a number of nationwide charity efforts were made such as free shifts offered by construction workers, blankets with monument motives knitted by women in Siirt, charity concerts given by Jewish singer Dario Moreno and a Monument Cup organized among football clubs (Sipahi, 2014).<sup>9</sup>

Despite the financial support of masses and the emotional influence that the Gallipoli Campaign had over people in Turkey, the funding generated was only enough for ten meters of the entire monument. The project had to be suspended. Unfortunately, what little was constructed by then was later destroyed by a strong storm and collapsed over time (Canakkale Şehitler Abidesi, 2014). Atatürk died in 1938 and was not able to witness the completion of the project.

### 3.2. 1938-1960

Then in the 1940s, the idea about the memorial at Gallipoli was revitalized. This time, the Ministry of National Defense was in charge of the monument. They organized a large-scale project competition in 1944. The winner was the project submitted by İsmail Utkular ve Doğan Erginbaş. However, it took another ten years to start the construction of the monument mainly because of funding problems, and it was launched in April 19, 1954 (Sipahi, 2014).

For Emin Nihat Sozeri, who was a close friend of Mustafa Kemal from the army and the first military pilot during the war, the monument had deeper, more personal meaning. He overcame

all obstacles including lack of funding for the Mehmetcik Monument, which has stood as the largest Turkish memorial erected on the top of a hill <sup>10,11</sup> (Canakkale'de Tarihi Bulusma, 2003) since the 45th anniversary of 2nd Anafartalar Victory. In its entirety, the monument is 41.7 meters high. <sup>12</sup> The height of the monument is of great significance as 40 meters symbolizes the fallen soldiers at Gallipoli and the remaining 1.70 meters symbolizes Mustafa Kemal's own height. Unveiled on August 10, 1960, it was opened to the public still far from complete (Atabay, Erat, & Colakoglu, 2009, p. 18). The proposed project had included a stone Mehmetcik statue at the top of the monument and some lion figures next to it. Unfortunately, those parts of the project were never added.

Starting from the 1950s, with the introduction of multi-party politics, The Republican People's Party, whose political discourse was based on the centrality of the Gallipoli Campaign and Mustafa Kemal's deeds in Turkish history, lost its political power. This also caused state activism around the Gallipoli Campaign to decline. Providing funding for the construction of the monuments was no longer a priority of the government, now with in power (Kant, 2015, p. 153).

There is a common perception that Democrat Party had opposing tendencies with the national (republic) history and its actors (mainly Mustafa Kemal), as they highlight the separation from the Ottoman Empire, which Kant's theory echoes. However, for a long time, the Battle of Gallipoli was indeed beyond debate and kept out of political discussions. In fact, two of the most famous nationalist monuments were unveiled during governance of DP<sup>13</sup>. That is, both Anitkabir (1953) (Ataturk's Mausoleum in Ankara) and the Mehmetcik Monument (1960) were completed and opened to the public during DP's term in power (Gurpinar, 2012, p. 90).

### 3.3. 1970-1981

In the 1970s, the construction of the Mehmetcik monument representing the brave soldiers that fell during the war was still in progress. A few more parts that had been included in the original design such as cenotaphs were added to the memorial in those years. <sup>14</sup> While the long construction process of the Mehmetcik monument went on in the background, other government-led projects took place in the 1980s on the peninsula. The memorials were clearly changing.

The new monuments of the 80s were mostly designed as monoliths (kitabes) or epitaphs (yazits). In the aftermath of the military coup on September 12, 1980, a number of monoliths were constructed such as the Kanlisirt, Kucuk Arıburnu, 27. Alay, the Anzac Cove and Kemalyeri Monoliths. In addition, epitaphs like Kabatepe (Gaba tepe) yaziti, Kirectepe yaziti and Kirectepe military cemetery were also built in 1980s (Universitesi, 2014).

Among these monoliths, the largest and the most famous ones, the Conkbayiri (Chunuk Bair) and Mehmetcik monoliths, stand out for a few reasons. Firstly, most of them were constructed shortly after the 12 September 1980 military coup. The first was completed in 1981 and commissioned by the general leading the 1980 military coup, Kenan Evren.

These first ones exhibit a clearly how the rhetoric around Gallipoli was molded with militarism, nationalism and martyrdom. That also provides some insight into the utilization of Gallipoli by a wide range of political ideologies in different decades.

Conkbayiri (Chunuk Bair), where these monoliths were erected, possesses a prominent character in the nationalist circle attributable to the specific battle that occurred there. Chunuk Bair was the battlefield where Mustafa Kemal ordered his

soldiers to hold tight to their bayonets and crouch down on the ground because their ammunition was depleted. That was where those soldiers fought heroically and won the battle at the cost of their lives in August (Erickson E. J., 2010, p. 52). This spot also became an international landmark pinned by Mustafa Kemal's historic photos taken in the trenches. Therefore, the monoliths on the Chunuk Bair could be interpreted as the anchors of the nation founded and its founder where he first appeared in the pages of history.

These monoliths also stand out with their unique design bearing both religious and nationalist elements. While each of these tablets has a quotation of Ataturk; visually, their architectural design resembles the five fingers of a hand praying to God. Though these interpretations may vary, the design is clearly an integration of a national discourse into a religious one. That is, while quotations from Mustafa Kemal on patriotism, sacrifice and heroism help to reinforce nationalist inclinations, a symbolic religious composition like a hand reaching up to God serves to sanctify these concepts in a nationalist context.

In Islamic scripts, martyrs are perceived as some of the holiest of people and believed to be leading an eternal life as the closest neighbors of the Prophet Mohammed in Heaven. <sup>15</sup> Achieving legitimacy through cultural beliefs and religious scripts, the hand reaching up to God, in a way, glorifies the fallen's fight to defend their land against invasion. The hand praying is also a constant reminder of the sacrifice of the previous generations aiming to provoke visitors' feelings of gratitude. In a sense, through the stone tablets, the agreement of debt between the martyrs and visitors of the site is constantly re-established. This agreement of debt and sense of gratitude could be analyzed within the political philosophy of John Locke. In that a monument for the fallen erected by the state could be viewed as a notice of the "tacit agreement" between the living and the fallen (Locke, 1690, Sec 95-99). Thus, visits to the memorial area might be translated as a kind of reaffirmation of that mutual agreement or a ritual to serve the loyalty of the living. Klosko also concludes, in his theory of political obligations, "[i]ndividuals who benefit from the cooperative efforts of others have obligations to cooperate as well" (2004, p. 34).

An example of the moral obligation that the self-sacrifice of the previous generations of society should be revered is clearly presented in Mehmet Akif Ersoy's poem *Canakkale Şehitlerine* (To the Martyrs of the Dardanelles). The famous poem dedicated to the soldiers who gave their lives at Gallipoli highlights Gallipoli's sacred position in Turkish cultural history. "Even if I erected the Kaaba saying "here is you're your tomb" [...] If I built a ceiling with purple clouds for your mausoleum [...] I can't claim to have honored your memory enough" <sup>16</sup> (Kaplan, 1987; Akkus, 1999, p. 2). Every single line of the poem displays a similar glorification: No matter what the living do to honor the martyrs, the sacrifice made by them cannot possibly be paid off.

### 3.4. 1990-2002

Returning to the history of the constant evolution of the Mehmetcik monument; despite the support and sensitivity of the public and the government, the monument only achieved its current design after 1990. As a reflection of the nationalist tendencies rising worldwide, the peninsula saw a rapid increase in the profile and activities of the Anzacs marking the 75th anniversary of the Gallipoli Campaign in 1990. <sup>17</sup> That, correspondingly, triggered nationalistic tendencies in the Turkish media and refreshed the public interest in the area, which led the government at the time to take up the issue again. Between 1992 and 1995, a series of renovation projects in the battlefield areas including the 57th Regiment and Yahya Cavus, Sargiyeri and the

Ataturk Victory Monument were also initiated and funded by the Ministry of Culture (Goncu & Aldogan, 2006).

The many projects completed resourcefully in the 1990s are noteworthy in that a coalition government was in power at the time - one that included a left and right wing party.<sup>18</sup> The cooperation of opposing ideologies on Gallipoli is a perfect example about how Gallipoli was one of the few issues in which political parties agreed, since the battlefield areas and that part of the national history were widely perceived as sacred. In other words, issues around the Gallipoli Campaign seemed to be a common and uniting element at the national level.



Figure 4. Fire at the Gallipoli Peninsula Historical National Park, October 18, 2014.

The Gallipoli Peninsula has undergone endless transformation, not only due to construction or renovations on the monuments or the cemeteries, but also forest fires. Almost every year, fires break out in the forest, agricultural areas, and even the battlefields in and around the peninsula.<sup>19</sup> Governing bodies are usually blamed for the fires by various ideological groups and environmental activists. Although there might be various reasons for the fires, the current government's policies regarding the environment have led people to doubt the origin of the fires. One of the most common public beliefs is that fires are set on purpose in order to create more areas for residences, which would financially benefit the ruling government (CHP Group Grand National Assembly Research Proposal, 2005).

Once again at the top of the national agenda, the Gallipoli Peninsula was subject to a long-term progress plan including not only members of government but also the representatives of the ruling parties, Ministries of Forest, Culture and Tourism, the Chamber of Architects and the Presidency. The project competition for this plan drew 121 projects from 49 countries (CHP, 2005). In 1995, the Norwegian winning company signed a contract with Middle East Technical University (Ankara, Turkey) for a plan with the theme, peace (CHP, 2005). Surprisingly, despite the changing governments in power, the project was kept alive between 1994 and 2002 by the seven different parties that came into power. However, this grand-scale plan would take years, and a new era was about to start in the history of the Turkish Republic and the Gallipoli War Memorials.

### 3.5. 2002- PRESENT

In 2002, the Justice and Development Party, known for having an Islamic agenda and receiving significant support from non-secular Turks, came into power. Until then, the peninsula with its geographic, historic and architectural elements had been associated with the founding and founder of the Republic in public memory. Regardless of the parties and the opposing ideologies of the past 85 years' governments, it had always been a platform where all political bodies seemed to agree on, but significant changes were underway in national politics. For a beginning, all the ongoing and confirmed projects concerning the Gallipoli Peninsula were cancelled.

Diverting from the previous policies of the state, new projects had a lot of properties to make a shift in both the image and the place of the Gallipoli Campaign in the collective memory (Kant, 2015). To this end, the party launched a series of organizations, media campaigns, legislative regulations and "development projects" on the Peninsula. Opponents assert that most projects not only violated the law prohibiting any construction but also that they targeted new areas for residences and trade centers and thus were commercially motivated (CHP, 2005).

The AKP, whose political perspective could be summarized as New Ottomanism, meant to redefine the link between the nation state and the Gallipoli (Parmaksiz, 2012; Kant, 2015). Unlike the state policies until then that affirmed nation-state discourses and strengthened its founding elements, the AKP established its policies based on revitalizing historical ties with the Ottoman Empire and imperialism. By removing Gallipoli from the national foundation myth and its founding actors from the collective memory, the party in power intended to re-contextualize Gallipoli in the public memory as a part of imperial history (Parmaksiz, 2012).

## 4. Legislative changes reflecting government stance

All the legislations or projects until the 2000s had been carried out under an international commission, the priority being preserving the historical, natural or national heritage within the borders of the peninsula. To ensure the best projects, national or international competitions had been organized each time with a committee of international experts deciding the winner. The changes made to legislations concerning the peninsula through the years seem to reflect how a given government aimed to utilize Gallipoli as well.

The earliest legislation about the status of the peninsula was introduced in 1973. According to the law approved by the Council of Ministers in May 26, 1973, the area covering numerous ancient, military and historical features was designated as a "National Park" under the jurisdiction of the Ministry of the Environment. The official status of a "national park" indicates that it is forbidden to construct any type of residential buildings in the area<sup>20</sup> (Turkey, 2000).

The next law included minor amendments but mostly verified the status of Gallipoli as a national park and announced its name as 'the Gallipoli Peninsula Historical National Park' or 'Peace Park' on November 14, 1980 (CHP, 2005).<sup>21</sup>

In 1983, the Law Numbered 2863 Concerning the Preservation of the Cultural and Natural Assets appointed the Ministry of Culture as the authorized institution for any changes or the development of the buildings and facilities on the Gallipoli Peninsula. Furthermore, the United Nations designated the peninsula as an area of national, historical and cultural importance and included the site in the United Nations List of Protected Areas in 1997 (IUCN, 1997, p. 237).

The 2000s witnessed a new perspective which put the Gallipoli peninsula at the center of a different agenda. With the recent political practices, the peninsula was to be changed. Not only would the new projects be ones criticized for lack quality and for ignoring the historical and archeological assets of the peninsula, but the policies involving it would be utilitarian. According to the opponents of those policies and practices, the governing party perceived the forestry area, battlefields and the other historical assets in the region as sources of funding. Converting war bastions into cafes or restaurants, building toll-gates, constructing roads, parking lots or other facilities hurriedly without any value engineering or archeological research were some of the many projects that drew objections from historians,

archeologists, republicans and nationalists (CHP, 2005).

The greatest challenge limiting the scope of the governing party's projects in the 2000s was the official status of the peninsula. The previous laws had secured the borders of the GP as a national park, forbidding any decrease in its surface area. The only way was to change the status of the Gallipoli Peninsula or the directorate whose jurisdiction the peninsula was under. Thus, a new institution was founded by the government in 2014.<sup>22</sup> This time the name of the authorized institution was Çanakkale Savaşları Tarihi Alan Başkanlığı (Department Of Çanakkale Battles and Gallipoli Historical Area) (Tourism, 2014). Through this regulation, the official status of the peninsula was changed from national park to historical site, which provided the government with relative freedom for the planned construction projects.

### 5. Recontextualization of Gallipoli

The other change launched by AKP in the 2000s was about the context of the Gallipoli Campaign in national, cultural and collective narrations. Until the 2000s, Gallipoli was at the center of national narrations, which used to revolve around Mustafa Kemal and his deeds during this war. His soldiers who fought and died at Gallipoli had been publicized and included into narrations in a manner that strengthened nationalistic accounts. As part of that discourse, the public was reminded of the immense sacrifice made by thousands to defend the land to legitimize the official discourses of nationalism and the sacredness of the nation.

By basing their political discourse and political framework around the nostalgia of the collapsed Ottoman Empire, the political leaders at the ruling government of Turkey interpreted the nation formation process and its founding actors (Mustafa Kemal, Republicans, nationalists and their discursive connotations) for severing the "organic ties" with the past (Parmaksiz, 2012, p. 293). An interview conducted with Ahmet Davutoglu when he was the Minister of Foreign Affairs on September 19, 2012 clarifies the agenda against the official discourses of national history.<sup>23</sup>

Through a policy based on ummetcilik, the party hoped to embrace a wider society including Arabs or some African nations, a formula which had already failed during WWI (Atsız, 2000). However, to achieve this aim, the Justice and Development Party followed the same formula exploited earlier by the nationalist discourses: the notion of martyrdom and the fallen at Gallipoli. This time, the fallen at Gallipoli were presented as the members of another unity (ummet) and presented as an example of the Islamist, multi-national, multi-ethnic aspects of the Ottoman army.

This ideological approach of the party was also visible in the annual commemorations. When approaching the centenary of the Gallipoli Campaign, the public interest in the commemorations had clearly increased. According to the local people, nine months out of the year, almost every local municipality organized yearly free trips.<sup>24</sup> The popularity of the region was partly because its legacy provided governments with a ready-made audience for their political rhetoric. At the same time, it created a kind of obligation for governments to organize various commemorative events to meet public expectations. Thus, by organizing free public trips to the peninsula, the municipalities, most of which were governed by the party in power, aimed to reconstruct Gallipoli in their political rhetoric. To illustrate, for the 2013 commemoration ceremonies, a brand new and a wide-scope project was organized by the Ministry of Family and Social Policies. Within this project, the close kin of the martyrs and veterans fought at Gallipoli were funded to

attend the official ceremonies broadcasted alive. Through their physical existence and witnessing, the fact that how ordinary people of the nation were connected to that part of history and not only the founder of the nation were highlighted. It was also another way of reminding the fact that numerous families have the rights of ownership of the country founded.

Within this project entitled Biz Degil miydik<sup>25</sup> (Wasn't it us?), nearly a hundred of the grandchildren of the soldiers who fought at Gallipoli were funded to join the ceremonies in the province and were welcomed as guests of honour by the Prime Minister of the time, Erdogan, and other statesmen. Among this group, the Kurdish, African and Arab attendees were the most visible with their traditional outfits<sup>26</sup> to the thousands gathered in the stadium. While Turgut Kacmaz who is one of the most well-known figures of the Gallipoli due to being the son of last surviving veteran of the Gallipoli was making his speech in front of his father's monument at the 57th Infantry Regiment Cenotaphs for the press, it was only Ferfure Akyol in her traditional Kurdish outfit who accompanied him in front of the cameras. The multi-ethnic and multi-national dimensions of the campaign were visually highlighted both by these newly created public images and by the banners welcoming these attendees in Kurdish, Arabic or other languages. Governor Tuna added "banners will be in Turkish, Kurdish and Arabic to reach all the people across the country. He highlighted that it is symbolically important to address everybody in their mother tongue" (Guler, 2013).



Figure 4. Cenotaphs for the 57<sup>th</sup> Regiment.

For anyone who might miss the visual emphasis at the event, then Prime Minister clearly stressed the non-Turkish components of the Ottoman army in his speech. He justified their rhetoric against the nation state by utilizing the sacredness of the concept of martyrdom. He said;

*The tens of thousands of martyrs resting right here haven't died. They will live on forever. The martyrs here are not the members of a single race. They are the architects of a great nation. The martyrs are the heroes that shaped our understanding of a nation. They are the children of people from all over Turkey, the Balkans, the Middle East and Africa," emphasizing the multi-ethnic character of the soldiers who fought against occupying powers at Çanakkale.*

By highlighting the multi-ethnicity of the fallen, he continued, "There are Turks here at this cemetery, and Bosnians, and Kurds. There are people who believed in the same values. Çanakkale is a victorious page in our history, but it is also a light for us today." (Turkey commemorates martyrs slain at Çanakkale battle, 2013).

As mentioned previously, there is a strong bond between the Gallipoli Campaign and the concept of martyrdom. The law

concerning the official day of martyrs passed in 2002 also supported that association of Gallipoli. Until 2002, there used to be various remembrance days dedicated to remember the martyrs or veterans of specific wars (i.e., WWI, War of National Independence, Cyprus Peace Operation, South Eastern Operations, etc.). With the law in 2002, March 18th became a day for a celebrating a national victory as well as a National Commemoration day for all martyrs and veterans who fought for Turkey. This change also reinforced the connection between the public perception of martyrdom in Turkey and its primary association with the Gallipoli Campaign (TBMM, 2002).

Parmaksiz argues that in this way, the concept of martyrdom has lost its martial dimension and become civilian. Indirectly, it caused a loosening of the ties and associations between war and martyrdom, helping the Gallipoli Campaign be planted into a more civilian context war (2012, pp. 293-294). For the Justice and Development Party who is claimed to have an issue with Turkey's Republican-militaristic image (Shaoul, 2012), the amendment eased the process of transforming Gallipoli into a more civilian context; from a day to honor the military founders of the Republic to a day for remembering everyday civilian people who fought in wars. Thus, the idea that the Gallipoli battle should be analyzed as part of the history of the empire that collapsed and its multi-national policies became more visible.

In addition to the recent changes in political discourses and the structure of the official remembrance ceremonies related to Gallipoli, the monuments on the peninsula were to change, as well (Bobbitt, 2011). Seemingly insignificant changes on the memorials can make a great impact on individuals by re-shaping the collective memory. Thus, the memorials on the peninsula have become tools for the governments' neo-ottomanist policies just as they were for earlier governments.

In some ways, these newly created civilian public figures (embodied in Turgut Kacmaz and Ferfure Akyol) symbolizing the ummet (multi-ethnic and multi-language society of Ottoman Empire) were gradually replacing the national image of a nation born "on the shores of Gallipoli"<sup>27</sup> founded by the Mehmetcik image embodied by Mustafa Kemal in his uniform and Corporal Seyits.

The new cemetery created in 2007 is a good example of new policies replacing previous ones. In 2007, a symbolic cemetery was constructed on a huge parking lot and a pine tree forest (Atabay, Erat, & Colakoglu, 2009, p. 27). In terms of its impact; in great contrast with the gigantic design of the Mehmetcik Monument, these fiber-glass gravestones the same height as an average person create a sense of closeness between the dead and the visitors. Each tombstone states the names, ranks and hometowns of 36 martyrs. The names of the 60,000 martyrs engraved on the fiber-glass serve as a reminder of the high cost of war in terms of lives lost, and the collective debt to the dead and the expectation of a similar sacrifice should the time come.

Like the monoliths of the 80s in the shape of a praying hand, the rose garden of the 2000s is another religious symbol utilized by the governing political authority of the time. In Islamic literature and cultural narrations in Turkey the flower of rose and its smell are frequently associated with the Prophet Mohammed (Karakas, 2013; Mevlevi, 2013). Although claimed to be unreliable, the hadith about Prophet Mohammed's ascending to the sky and a drop of his perspiration giving life to a red rose is a widely-accepted belief among Muslims. Thus, a rose garden in honor of the martyrs creates or strengthens the association between the sacred (martyrs) and the holy (prophet), a bond already created by the scripts in holy book of Quran.

Although the current rose garden is a recent design and has replaced a former symbolic cemetery, the organization of the current cemetery bears some similarities to the previous one. On

the tombstones in the previous cemetery, the names, ages and the hometowns had been engraved to support the state's narration that people from different cities of Anatolia fought together as one body and formed the state. On the walls of the Mehmetcik Monument, the names of the dead were classified based on their hometowns. Organizing the names in such a way enables visitors to connect people from a wide range of places into a 'nation', therefore reinforcing the feelings of unification (Bobbitt, 2011, p. 42). The inscriptions on the latter symbolic cemetery utilized the same idea of sacrifice but with a slight difference. The cities on the inscriptions were not limited to those in Anatolia.

*In the small cemetery more soldiers' names are set in stone and beneath each one is shown the year of their birth name of their hometown. Moving slowly amongst them, visitors are quickly reminded that the Ottoman Empire of 1915 was much larger and more cosmopolitan than the Anatolian territory that today forms modern Turkey. The dead came from far afield, from Mesopotamia, the Hejaz and the Caucasus, yet they fought together as one people to protect the thing that was central to them all: their homeland. (Steel, 1990, p. 24)*

Despite the agenda of balancing the military power in politics, the redevelopment of the memorial site in 2000s, the items utilized are not very different from the ones utilized by the nationalists. To illustrate, there are stone serpus figures placed as tombstones in the rose garden created in 2007. The headgear of the Ottoman army uniform reminds visitors that it was the Ottoman Empire then. The selection of a militaristic item as a tombstone to serve the purpose of the governing body's neo Ottomanism rhetoric is not so different than earlier statues of Mustafa Kemal in his military uniform once used by the political ideologies supporting a nationalistic discourse.

Visitations to the Peninsula help to turn abstract collective memories into concrete personal experiences. Thus, the places seen and honored play a significant role in constructing a collective memory in line with the ideology of the governing authority. According to local historian Kenan Celik, visitors to the peninsula before the 2000s would be brought to the Mehmetcik Monument, Corporal Seyit monument, the museum of Mustafa Kemal's house in Salonica, the monoliths where Mustafa Kemal ordered his soldiers to hold on to their bayonets and the place where he was shot in the chest during the battle as popular spots. That is, the audiovisual experience of the earlier visitors would be shaped around the centrality of Mustafa Kemal's life and his military memories in the Gallipoli Campaign. However, more recently, the cenotaphs of the 57th Regiment, the Rose Garden and the new symbolic cemetery of fiber-glass tombstones are the new routes visitors are taken/directed to. Unless they ask for a customized visit to the landmarks related to the Mustafa Kemal, the new popular tours skip the spots popular for nationalists.

It is clear that the selection of stories to be told and places to dwell on or skip are the main devices for rewriting the history of the Gallipoli campaign. The route and the narrations accompanying the visits are highly ideological instruments. In the 2000s, with a new regulation in the 2010s, a new project involving the raising and employment of a group of tourist guides called alan rehberi (field guide) were launched. According to the Research Proposal submitted to the Turkish Grand National Assembly, these newly trained professionals were recruited to serve a more religious agenda and to narrate a different version of past in a way to re-contextualize Gallipoli to exclude Mustafa Kemal from the collective memory.

It does not seem that the Gallipoli Peninsula will be off the

agenda of governments any time soon. Its centrality in Turkish history has rendered it vulnerable to constant redevelopments or reconstructions. In the long history of the restorations and regulations of the 'sacred' area, today almost nothing authentic is left from the battlefields of 1915. Rather, it is now more of a symbolic site where different versions of the past have been contested, constructed one on another and displayed.

## Endnotes

- 1 This study is based on the author's unpublished dissertation thesis entitled "An Ethnographic Study on the Notion of Martyrdom in Turkey Reflected on the Commemorations of the Gallipoli Campaign, WWI" submitted to Graduate School of Social Sciences, Yeditepe University.
- 2 From the poem "To a Traveller" (Bir Yolcuya), written for the fallen in the Gallipoli Campaign by poet Necmettin Halil Onan (translation by S. Tanvir Wasti).
- 3 There is disagreement on the number of the casualties of the conflict, usually due to classifications. In this study, the numbers shown in the records of Military Affairs of Turkey and Australia are used (<http://www.awm.gov.au/atwar/ww1.asp>, 1980).
- 4 Buket Uzuner's *The long white cloud: Gallipoli*. (2004) is an epic novel referring to that mystical story revolving around the Gallipoli Campaign.
- 5 To learn more about the functions of the war memorials see Ken S. Inglis (1998), *Sacred Places: war memorials in the Australian landscape*, Melbourne, The Miegunyah Press ; and, A. Hamilton, (1990) 'Monuments and memory', *Continuum: the Australian Journal of Media & Culture*, vol. 3, no. 1 ; for the digger spirit, P. Lindsay (2003) , *The Spirit of the Digger: then and now*, Sydney, Macmillan, 2003, cited by Peter Rushbook (1945) *Lest We Forget: The Kapooka Tragedy 1945 in History of Education Review*, vol. 37, no. 1, 2008, pp. 48-55 Charles Sturt University.
- 6 By the end of 1923, all memorials belonging to the Allied Powers, including the cemeteries, had been constructed. (The Helles Memorial (1924), The Lone Pine Memorial (1915), Hill 60 (1915), Chunuk Bair (1923), Twelve Tree Copse (1920)).
- 7 Mehmetcik Monument is interchangeably used with Canakkale Şehitler Aniti (Monument to the Martyrs of the Dardanelles) in the written and oral narrations. In this work, the term Mehmetcik Monument is preferred.
- 8 The text is excerpted from the memories narrated by Cemal Granda who was the life time waiter of Atatürk and translated by the researcher.
- 9 Archives of Milliyet Gazetesi is a rich source for the historical background of the monument. There is also news about the donations of Presidents, famous singers like Zeki Muren, Müzeyyen Senar, celebrities renting out their luxurious cars as public vehicles, etc. Murat Kiray's photo exhibition displays the news and photos of the state of the historical monument form different years (<http://www.canakkaleninrehberi.com/?Syf=18&Hbr=641833&/%C3%87anakkale-Sava%C5%9Flar%C4%B1nda-%C5%9Fehit-d%C3%BC%C5%9Fen-binlerce-Mehmet%C3%A7ik-an%C4%B1s%C4%B1na-1954-1960-y%C4%B1llar%C4%B1nda-Gelibolu-Yar%C4%B1madasi%C4%B1-Tarihi-Milli-Park%C4%B1nda-41,7-metre-boyunda-in%C5%9Ffa-edilen-%C5%9Eehitler>), accessed May 11, 2015.
- 10 Actually, the place had a historical significance for only the Allies as it was the place where French forces fought.
- 11 For further details, the interview with Emin Nihat Sozeri could be read on (<http://webarsiv.hurriyet.com.tr/2003/03/17/262839.asp>), accessed May 17, 2015.
- 12 Atatürk, for the fallen died in action at the Gallipoli Campaign, said "the rights of the Canakkale heroes cannot be paid even if a 40-meter-high monument was built for them". Thus, the 40 meter in the monument symbolizes the fallen soldiers at the Gallipoli Campaign and 1,70 that is the Atatürk's own height, is added to 40 meters, borrowed from the personal website of Salih Saydam, an amateur

photographer (first highlight belongs to the original text, second highlight belong to the researcher).

- [http://salihsaydam.com/Canakkale\\_En.html](http://salihsaydam.com/Canakkale_En.html), accessed July 26, 2013.
- 13 DP (Demokrat Parti) stands for Democrat Party
  - 14 For the construction of cenotaphs, a national project contest was announced to public in 1983 through the newspapers. However, there is not much information for the results of the contest. <http://gazetearsivi.milliyet.com.tr/Gelibolu%20Yarimadasi%20Tarihi%20Milli%20Parki>, accessed May 22, 2015.
  - 15 See chapter on martyrdom for the scripts from the holy book of Quran. (Quran 3:157-169, Oxford World's Classics edition).
  - 16 The original poem follows as:  
"Bu, taşındır" diyerek Kabe'yi diksem başına;  
Ruhumun vahyini duysam da geçirsem taşına;  
Sonra gök kubbeyi alsam da, rida namıyla,  
Kanayan lahdine çeksem bütün ecramiyle;  
Mor bulutlarla açık türbene çatsam da tavan;  
Yedi kandilli Süreyya'yı uzatsam oradan;  
Sen bu avizenin altında, bürünmüş kanına,  
Uzanırken gece mehtabı getirsem yanına,  
Türbedarın gibi ta fecre kadar bekletsem;  
Gündüzün fecr ile avizeni lebriz etsem;  
Tülenen mağribi, akşamları sarsam yarana...  
Yine bir şey yapabildim diyemem hatıranı".
  - 17 See newspaper headlines about the Anzacs visiting Turkey in the 1990s  
[http://www.radikal.com.tr/yazarlar/ayse\\_hur/23\\_nisan\\_24\\_nisan\\_25\\_nisan\\_yildonumu\\_muharebeleri-1343737](http://www.radikal.com.tr/yazarlar/ayse_hur/23_nisan_24_nisan_25_nisan_yildonumu_muharebeleri-1343737) Accessed Aug 24, 2014. The web archive of Milliyet Gazetesi is quite rich: <http://gazetearsivi.milliyet.com.tr/Anzaklar/> Accessed May 25, 2015.
  - 18 In those years, the government was composed of a coalition of Social Democratic People's Party (SHP) and True Path Party (DYP).
  - 19 The web is quite rich in news about fires on the Peninsula. One is here: (<http://www.haberler.com/tarihi-gelibolu-yarimadasi-nda-korkutan-yangin-6602505-haber/>) Accessed on May 23, 2015.
  - 20 Resolution number: 7/6477
  - 21 The text was excerpted on May 10, 2013 from the official page of New Zealand government for ANZAC which was "launched to coincide with the 90th anniversary of the Gallipoli landings in 2005" to provide the members of the public with some "available information about Anzac Day and material that can be used in Anzac Day events. This site provides some of that information, and also features an interactive adaptation of a guidebook to visiting Gallipoli" (<http://www.anzac.govt.nz/gallipoliguide/>).
  - 22 The regulation for the foundation of the (Directorate of Dardanelles Wars Historical Site)- "Canakkale Savaşları Tarihi Alan Başkanlığı Kurulması Hakkındaki Kanun" was legislated on June 28, 2014 and publicized on Resmi Gazete numbered 29044.
  - 23 See *Hurriyet Gazetesi* published on September 12, 2012. The original statement by Davutoğlu is as follows: "19. yüzyıl ideolojisi olan ulusçuluk Avrupa'da feodalite ile bölünmüş yapıları bütünleştirdi. Bizde ise tarihten gelmiş organik yapıları dağıtarak geçici, suni karşıtlıklar ve kimlikler ortaya çıkardı. Hepimizin bu ayrıştırıcı kültürle hesaplaşma zamanı geldi. (...)" <http://www.hurriyet.com.tr/gundem/21483551.asp> accessed June, 13 2015. (Highlights belong to the author).
  - 24 Kenan, Guide, male, tourist guide, the Dardanelles. March 2013.
  - 25 The other slogan of this project was "1915 Kahramanlarının Torunları Çanakkale'de Buluşuyor".
  - 26 For the last three years, on every occasion related to the Remembrance of the Gallipoli Campaign in Turkey which was organized by the AKP, Ferfure Akyol the Kurdish attendee (according to some news she is from Batman, in others she is from Silvan, Diyarbakir [http://www.istanbulburda.com/ferfure\\_akyol\\_ile\\_turgut\\_kacmaz.htm](http://www.istanbulburda.com/ferfure_akyol_ile_turgut_kacmaz.htm) 1) has become an indispensable part of the remembrance events (<http://www.trthaber.com/video/omur-dedigin-canakkale-ozel->

yayini-15431.html).

During the evening gathering of "1915 Kahramanlarının Torunları Canakkale'de Bulusuyor" at Akyol Hotel, Dardanelles on the Remembrance Day 2013 in a very informal atmosphere, before Feriye Akyol talked, the Governor Tuna made a public announcement that she was going to talk in her native language and a translator (who had been hired to be ready at the meeting) would help her to understand the questions where the entire audience speaks Turkish. To my surprise, she had been speaking in Turkish throughout that day (Field study notes, March 18, 2013, Akyol Hotel, City of the Dardanelles).

- 27 The expression is borrowed from the news headline "Peace Ambassadors: Our nation was born on the shores of Gallipoli" about "four of the great-grandsons of ANZACs (...) in Turkey for the Peace Ambassadors project launched by the AK Party which aims to bring the grandchildren of the war together." [http://www.todayszaman.com/national\\_peace-ambassadors-our-nation-was-born-on-the-shores-of-gallipoli\\_136746.html](http://www.todayszaman.com/national_peace-ambassadors-our-nation-was-born-on-the-shores-of-gallipoli_136746.html), accessed June 07, 2015.

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# The Use of Architectural Design as Mediator in Intercultural Communication and Understanding: Japanese Example in Cappadocia-Avanos Location Selection

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**Keywords:** Design Studio, Cultural interaction, architectural education.

**Abstract:** Architectural design courses are among the main courses of architectural education. Especially during the first years, there is a great deal of knowledge that should be provided during these courses and it is difficult for students who have graduated from high school to grasp the concepts. However, it is also possible to make these courses more efficient, enjoyable and intensive with regard to knowledge. In this study, Architectural Design III course that is part of the 2015-2016 fall semester at the Erciyes University Faculty of Architecture has been considered. A topic that will enable communication between two architectures and two cultures has been studied in this studio. The objective was to make a spatial organization that will enable foreign visitors who will accommodate temporarily to live their own cultures in a local architecture and at a different geography while getting to know local cultures. Japanese culture and Cappadocia were the focus points of the study. We hope that this study will set an example for future studies..

## 1. Introduction

Many definitions have been made for education throughout history. It is possible to say that the words society, individual, practical life, ideal state, thinking have been at the forefront in these definitions. Education is defined as a general teaching method for the teaching of skills, habits and knowledge to new generations and as researching, working etc. as part of a definition that includes these concepts (Dewey, 2001).

Design process that is also defined as the time that passes from the first conception of a project until its completion also includes various sub-processes (Broadbent, 1969). RIBA approaches architectural design process in seven stages. These stages are; preparation, concept design, developed design, technical design, specialist design, construction, use and aftercare (RIBA, 2012).

Architectural design education which is part of the undergraduate education aims to provide students with the line of thought that encompasses putting forth the creative power of students, ensuring their intuitional development, carrying out researches, determining what is necessary, putting these into application, ensuring that the students try them out and inspecting them (MSGÜ, 2012). In addition, the objective of the discipline of architecture is to ensure that students use the knowledge they have for developing their ability for creative thinking since it is part of the design and engineering applications (Yazıcıoğlu, 2013). It can be observed that these skills are used in different stages of design. Therefore, architectural education should include the sub-processes of design as well. In addition, it is known that pursuit for developing creativity lies at the heart of all efforts related with architectural education (Usta, Onur, 2011). Therefore, design studios are environments where students spent the most amount of time and where methods for design are taught (Shoshi, Oxman, 2000). It is known that design courses are the most important courses in architectural education and that design studios are

places where the students can put forth their creativities (Schön, 1984). Design studios are places where formal education is carried out and where knowledge and skills related with design are tried to be passed onto the students. Hence, it is thought that any incident that takes place at design studios should be considered as an experience and indeed part of the process (Usta, Onur, 2011). It is also put forth that the model to be used for design education in architecture should reveal and develop creativity, should be unconditional and limitless, should be novel and indeed should be developed from scratch, should have an imaginative, graphic manner of telling that moves from a divergent way of teaching to a convergent one which is colorful and photogenic (Cappleman, Jordan, 1993; Friedman, 1989; Ertürk et.al., 1999).

Design education which is one of the most important parts of architectural education has the same properties in Turkey much like the rest of the world. There are also national and international equalization studies ongoing in Turkey in the field of architecture. Equalization is important and necessary to enable architects to carry on with their professions at different geographies in the world and to ensure that the architectural product put forth is above a certain level with regard to quality (Yazıcıoğlu, 2013). Information on different nations should be put forth as input during the design process.

It is important to put forth knowledge for design and to put the design into application. Physical data that will enable the generation of a dream is important for putting forth knowledge. Cultures feed architecture just like architectural schools and the education provided at these schools feed the culture of architecture. Education on design, reaching the information required for design and the process of putting the design into practice are given at undergraduate level architecture courses. Design activity has its own internal dynamics. There are also many scientific studies that examine this activity. While examining the many aspects of design action; designs that are the results of culture and traditions which are important for defining

the society have been considered during a workshop carried out as part of a design course. Japanese culture and its various elements have been determined by the student as input. The student has developed his/her own project based on the pre-determined cultural elements.

## 2. A Sample Workshop Study For Department Of Architecture Design Education In Turkey

Architectural design courses make up the basis of architectural education. It is important that the other courses will provide knowledge that will support this main course. Especially, design 1-2 and 3 studios have a separate importance for the first years of architectural education in which it is expected to develop design ability. Architectural Design III studio that is carried out during the 2015-2016 fall semester by Assoc. Prof. Z. Özlem PARLAK BİÇER and Research Assistant Özlem ATAĞ DOĞAN which is carried out together with the students has an important place for this process. The objectives of this course have been determined as; approaching a design problem with different experiences by examining the environment and the user, going over the knowledge and experiences acquired during previous design courses, acquisition of the ability to analyze functional and environmental problems within an architectural issue, reinforcement of the transformations between different scales of expression, establishing a main idea by way of concepts such as sheltering, accommodation, temporary and long term accommodation, residence, house etc. and acquiring the ability to express this main idea in 2 and 3 dimensions. It was expected from the students within the scope of the study to develop different architectural project suggestions. Sketch works by students were evaluated together with the instructors who also guided the students within this scope. Learning outcomes were determined as the formation of a concept related with architectural design and the development of the design within the analyzed physical environment.

Whereas texture, connections between actions were provided as main topics during the course participated by 20 students, architectural designs of the topics were carried out after which their applicability on the terrain, harmony with the terrain and accessibilities were evaluated. The topic of the course was different than the topic that was given to the same semester students in previous years. A topic was selected that will contribute to the development of a new culture and new architectural understanding in the students while also developing the architectural project. The function of the main topic was determined as long and short term temporary accommodation. It was expected from the students to develop a design that can combine the habits of especially foreign users with the local culture and geography. They were guided towards projects in which there are accommodation units where users can feel comfortable while also participating in courses related with their fields of interest and/or developing their hobbies or where they can make use of recreational areas. The starting point was the idea that people who visit a different country will have established strong intercultural bonds if they also take with them something from their culture while examining the local culture of the country they visit.

Foreign guests to visit Turkey were determined as Japanese. In this regard, it is expected that students will carry out a project study including Japanese architecture, traditions and way of life. Traditional Japanese domestic architecture was explained by way of translations made by faculty and students from the Japanese Literature department, their experiences as well as the Japan experiences of Assoc. Prof. PARLAK BİÇER. In addition to traditional Japanese residences, Japanese handcrafts, sports and

spaces that come into the forefront have been explained. These studies were reinforced by the instructors as well as through the individual and group coursework and studio presentations by the students. The students were then expected to select a Japanese cultural element that they feel an affinity to or that they love. Detailed studies were carried out by students who selected one of the many Japanese cultural elements such as aikido, onsen, tatami, bonzai, origami, ikegami, rice cultivation, Japanese ceramic art.

Field studies and trips for getting to know the terrain have been carried out within the scope of this project. Cappadocia region was selected as the project area which is known throughout the world as well as in Japan and which attracts attention thanks to its geographical structure and location in addition to its local properties. Cappadocia Region is an area covered with lava following the volcanic eruption of Mount Erciyes and it is a unique region where soil erosion has taken place over time and local architecture has been made by carving this rock structure inwards. The location was determined within the borders of Avanos which is one of the regions that strikes out in Cappadocia thanks to the carved rock structures (Photographs 1, 2) and the associated rock architecture (Photographs 3). The reasons for selecting Avanos in Cappadocia were; the general geological structure of Cappadocia in addition to the fact that Kızılırmak, the longest river in the country, passes through the center of the city thus forming a green valley amidst the local texture (Map 1, Photograph 4), that it is a center where traditional handcrafts such as carpet weaving and ceramics art are still practiced (Photographs 5, 6), the fact that traditional viticulture and by extension wine making are still carried out via traditional methods, the fact that it has an architecture in which both rock carving and stone masonry are used in addition to the fact that it is home to the first modern architectural pieces dating back to the final period of the Ottoman Empire and the founding years of the Turkish Republic, that it was an important area of settlement during the Seljuq Period and that it is located on the historical Silk Road which was an important means of intercultural communication at the time.



Photograph 1. Cappadocia Rock Carving Architecture Examples (Taşkın, M., 2016)



Photograph 2. Avanos Traditional Rock Carving Space Example (Taşkın, M., 2016)



Photograph 3. Avanos Traditional Rock Civil Architecture Examples (Taşkın, M., 2016)



Photograph 4. The Area at Cappadocia Avanos Selected for the Course (Taşkın, M., 2016)



Map 1. Avanos-Kızılırmak and Study Area (Googleearth, 2016)



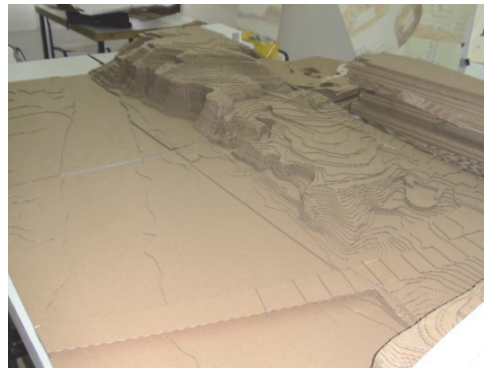
Photograph 5. Avanos Traditional Carpet Weaving (Taşkın, M., 2016)



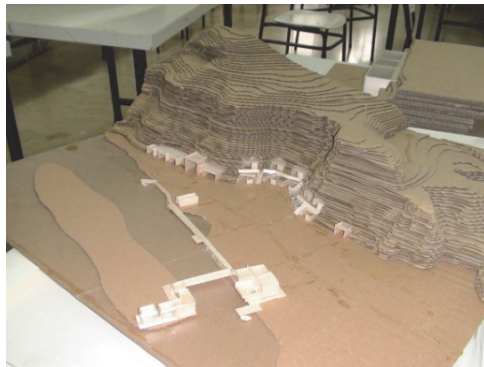
Photograph 6. Avanos Traditional Ceramic Workshop (Taşkın, M., 2016)

Avanos is as important for Cappadocia as Cappadocians important for Turkey. The selected area (Photographs 7) is where intercultural dialogue continued throughout history. It is not a coincidence that the project topic is one which may influence Turkish-Japanese cultures by putting forth their differences-similarities.

Following the selection of location and topic, studies were carried out for carrying out the design encompassing the areas for accommodation, social spaces for mass use, traditional life and hobbies consisting of at least 15 temporary units with Japanese traditional culture as well as daily life elements etc. selected by the students themselves. In addition, it was also expected from the students to consider spaces where they can carry out activities for establishing connections between local culture and traditional handicrafts. In this regard; a student designed an onsen themed rehabilitation center considering the hot springs of the Cappadocia region which can be used by Japanese guests (Photograph 8). Another student completed a project based on the idea that Japanese rice cultivation can be carried out along the coast of Kızılırmak (Photographs 9). 20 different projects carried out within the scope of the course include; spaces for Japanese flower arrangement art of ikebana and bonsai cultivation (Photograph 10), spaces for instructors and students of aikido courses and local folk dances, projects where origami and yoga courses can take place which include spaces for rehabilitation purposes (Photograph 11), designs with spaces that combine traditional sake production and local winemaking (Photograph 12), projects that combine carpet weaving which is a part of the local culture and silk weaving which is an important part of Japanese culture (Photograph 13), projects which combine ceramic workshops comprising an important source of income for the local people with Japanese traditional art of ceramic making (Photograph 14). Some students have enriched their presentations by making origami cherry blossoms (Photograph 15).



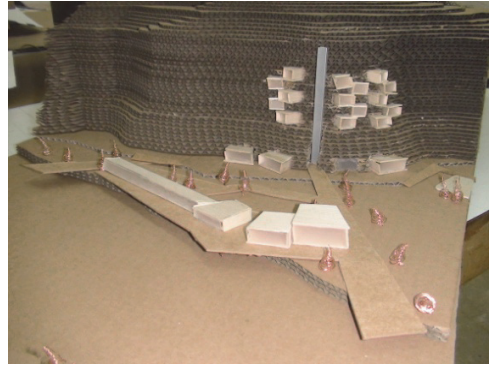
Photograph 7. Project area model (Parlak Biçer, Z. Ö., 2016)



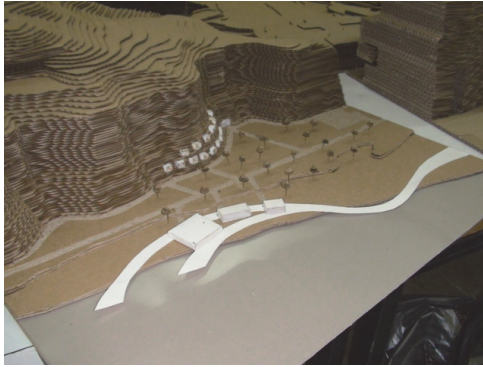
Photograph 8. Design for Japanese Onsen and Traditional Hot Spring for Rehabilitation Purposes (Parlak Biçer, Z. Ö., 2016)



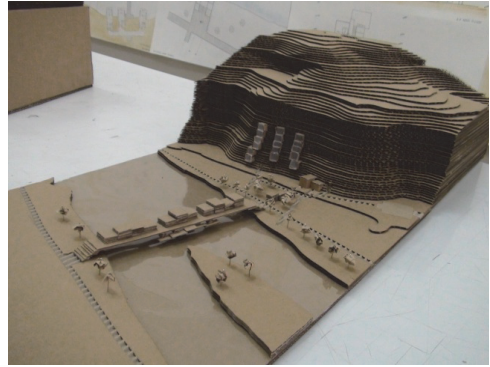
Photograph 9. Design for Japanese Rice Cultivation (Parlak Biçer, Z. Ö., 2016)



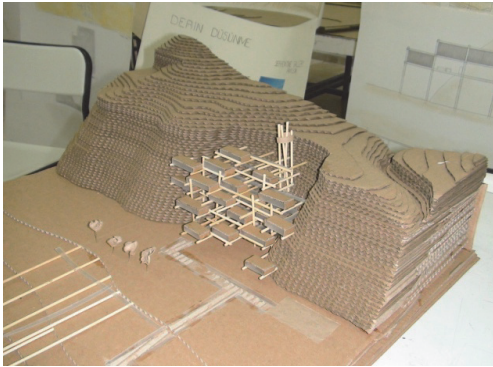
Photograph 13. Design for fabric weaving (Parlak Biçer, Z. Ö., 2016)



Photograph 10. Design for ikebana, bonsai cultivation (Parlak Biçer, Z. Ö., 2016)



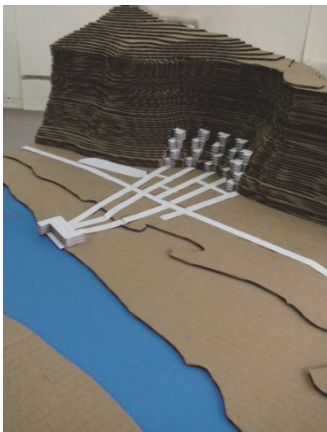
Photograph 14. Design for Japanese ceramic art and local ceramic art (Parlak Biçer, Z. Ö., 2016)



Photograph 11. Examples of Student Projects (Parlak Biçer, Z. Ö., 2016)



Photograph 15. Origami Cherry Blossom Model (Parlak Biçer, Z. Ö., 2016)

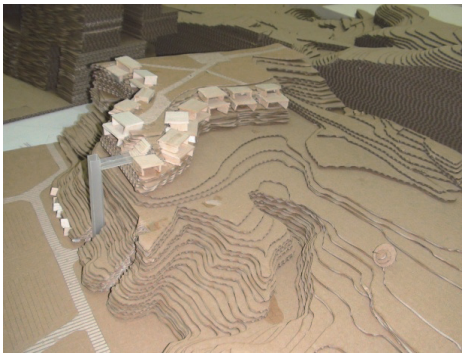


Photograph 12. Design for traditional sake and wine making (Parlak Biçer, Z. Ö., 2016)

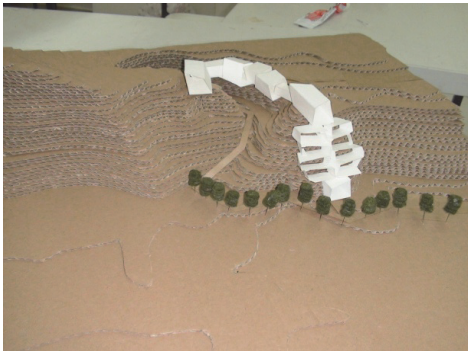
In addition to these projects, topics related with the interests of the students considered to be also attractive for Japanese tourists were included. A few of these were determined as spaces for those who wish to work on Oriental style painting (Photographs 16), designs for horse rearing which is carried out locally (Photograph 17), spaces for producing Oriental style incense (Photograph 18) and designs that combine traditional Ryokan style hotels with modern hotel concept (Photographs 19, 20), designs that combine traditional Japanese and Turkish kitchens (Photographs 21). It was also expected from the students to make larger scale models for the accommodation units (Photographs 22, 23). Especially those who make rock carving accommodation space designs supported their studies with large scale models.



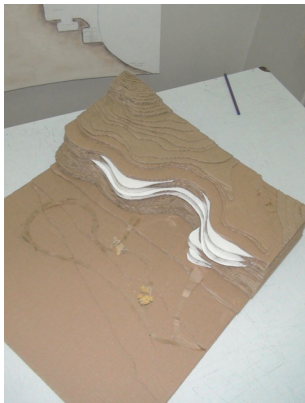
Photographs 16. Center for Oriental Style Painting (Parlak Biçer, Z. Ö., 2016)



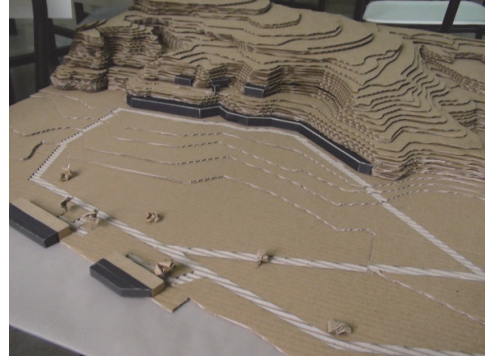
Photograph 17. Traditional Horse Rearing (Parlak Biçer, Z. Ö., 2016)



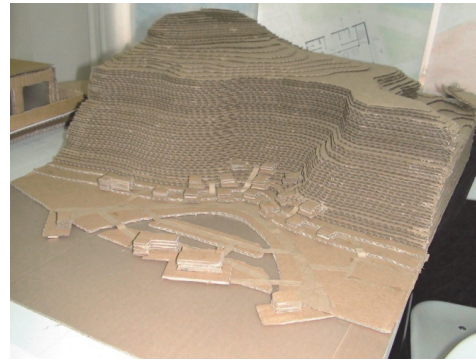
Photograph 18. Design for Producing Oriental Style Scents (Parlak Biçer, Z. Ö., 2016)



Photograph 19. Accommodation Unit with Rock Carving and Modern Materials (Parlak Biçer, Z. Ö., 2016)



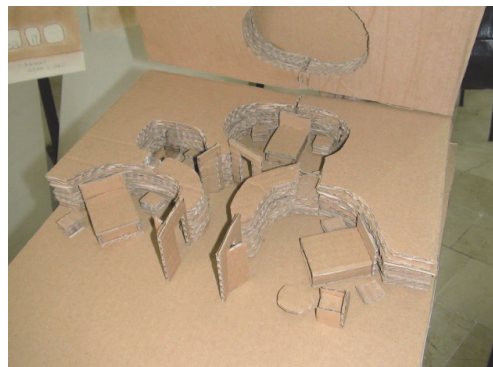
Photograph 20. Rock Carving Accommodation Unit (Parlak Biçer, Z. Ö., 2016)



Photograph 21. Design for Japanese kitchen and traditional kitchen (Parlak Biçer, Z. Ö., 2016)



Photograph 22. Rock Carving Accommodation Unit (Parlak Biçer, Z. Ö., 2016)



Photograph 23. Rock Carving Accommodation Unit (Parlak Biçer, Z. Ö., 2016)

The use of Kızılırmak and geological structure of the region were at the forefront when carrying out these functions. The terrain provided to the students covers large planes on the Kızılırmak valley as well as a rock mass with a cliff that has a high elevation difference (Photograph 4). Students used both the sloped and non-sloped sections of the terrain. Rock carving spatial designs were carried out similar to the local architecture for sections with sheer slopes. The students worked hard to apply the functions considered above that will be used by the Japanese guests.

It was possible to accomplish the fundamental goals of this design studio as is the case for project courses. In addition, students who took this course gained an increased interest in another culture and architecture, their interest was not limited solely to local architecture and was directed to encompass another culture and architecture. Thus, their interests in Japanese culture and architecture also increased as a result. It was tried to ensure that students gain an awareness that an architect should not make architectural arrangements intended for a specific human profile but that he/she should make architectural projects taking into consideration people from all cultures and styles of life. Of course, this does not mean that basic life standards of people should be changed or architectural designs should reflect the properties of a single culture only. Strengthening intercultural dialogue should also be mentioned within the scope of the courses in addition to a universal mentality. Thus, it will be ensured as a social goal that one society will get to understand another society. It is apparent that the geographical and cultural bind attained via the Silk Road can be continued in our day through the topics selected in architectural education and the means for treating these topics. What is lacking in this study was the fact that it was not carried out in cooperation with the students and instructors of a Japanese school of architecture. It will be beneficial for future project courses that dialogues will be attained between schools, studios, instructors and that the projects will be carried out in cooperation. It is hoped that this study will be a guide for selecting topics in architectural design courses and for increasing mutual understanding between cultures.

### 3. Conclusion

The development of students via different knowledge provided to them during design education and workshops which are important for architectural education have been examined in this study. Distinct elements of Japanese culture have been selected as the topic during the workshop which is the topic of the study and projects have been developed under the light of this. This study has set an example both for the operations of an architectural studio and the architectural interaction of the country as a whole. The importance of knowledge input for different cultures in the globalizing world has been observed. It is hoped that the study will contribute to understanding different cultures and architecture as well as studies that can be used in architectural designs.

### Acknowledgements

We would like to thank the Japanese Literature Department Instructor from Erciyes University A. Volkan ERDEMİR and his students for providing information about Japan required for the course, to Research Assistant Özlem ATAK DOĞAN who provided full support for carrying out the course and to all the students who took this course for their efforts.

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## Design of Hanshin Electric Railway Naruo Station with Plank Sheets

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**Keywords:** Hanshin Electric Railway Naruo Station, plank sheet, measurement of surface temperature, structural experiment

**Abstract:** This paper reports a Japanese railway station's design that consists of minimal architectural materials and a structural experiment with plank sheets as an element of shell structure. The station's space is created by unifying walls and ceilings with plank sheets that do not require any support. Stairs, escalators, elevators, and signs are clearly visible as symbolic components for the passengers.

### 1. Introduction

Graduate students in Mukogawa Women's University's (MWU) Architecture Major participate in on-going projects both on and off of campus and experience involvement in such practical training as the design of new buildings, reconstruction, preservation, and restoration in a class called, "Practice in Architectural Design," under the supervision of a first class authorized architecture design office: Architecture and Urban Design Studio, MWU. At the Hanshin Electric Railway Naruo Station, which is located just minutes from MWU, students have worked on CG perspective drawings, mock-ups, researched costs and construction methods, and proposed such designs as exteriors, platforms, and concourses. In meetings, the students themselves conducted presentations and used their own drawings and mock-ups. The construction of Naruo Station's down-platform was completed in March, 2015, and now the up-platform is under construction. This paper reports a station design that consists of minimal architectural materials and

a structural experiment of plank sheets as shell structure elements.



Figure 1. Birds-eye view of Hanshin Electric Railway Naruo Station



Figure 2. View from southeast side



Figure 3. View of east end of platform from southeast side





Figure 4. Meeting with Hanshin Electric Railway



Figure 5. Explanation of construction method using 1/10 scale model



Figure 6. Explanation of appearance design using 1/10 scale model



Figure 7. Explanation of appearance design using 1/30 scale model

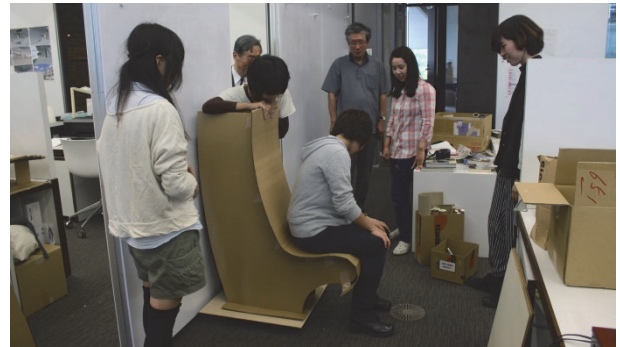


Figure 8. Consideration on the shape of a chair by mock-up



Figure 9. Chair on train platform made of curved steel plates. Lightness was imagined by adopting curved thin steel plates as material, preserving the atmosphere produced by curved surfaces of plank sheets. We investigated the seat surface's height and the required curvature of the back surface comfort by producing full-scale, cardboard mock-ups and actually sitting in them. The seat surface is deep, and the waist part is convex so that the chair's back surface does not press the stomach and make contact with the entire backs of people. A 2.3-mm-thick steel plate was used for the supports, and decorative veneered plywood was used for the seat's surface.



Figure 10. Analyzing lighting plan using 1/10 scale model



Figure 11. Confirmation of scale sensitivity using full-scale drawings



Figure 12. Scrutinizing luminaire and cable rack mock-ups



Figure 13. Scrutinizing a mock-up sign

## 2. Design Concept of Station with Plank Sheets

### 2.1. DESIGN FASHIONING IMAGES OF HISTORICAL AND TRADITIONAL LANDSCAPES

In ancient times, the Naruo area was considered a scenic spot by Waka poets, a sentiment that has vanished. Wind through rows of pines on the seashore and sailing boats coming and going can be imagined. The curves of plank sheets that cover the station platforms are inspired by sails filled with wind.



Figure 14. View from south west side

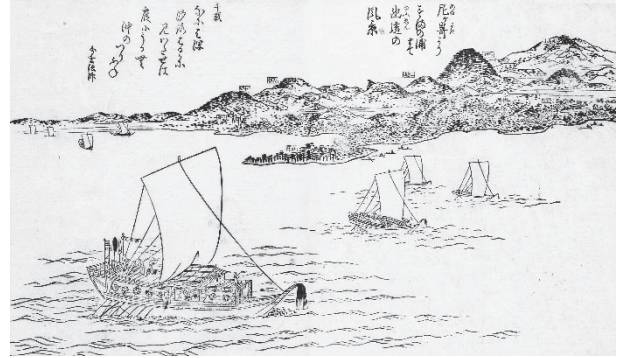


Figure 15. Sightseeing scene from Amagasaki to Sumaura in "Setsumeisho-zue" from Mukogawa Women's University Library

### 2.2. SYMBOLIC SPACE

Symbolic characteristics, which is generally required for station spaces, denotes the relationship between objects and people, such as the color of traffic lights; people act unconsciously when they see red, for example. Symbolic space has characteristics that cause people to act unconsciously. Owing to symbolic spaces in stations, when a person sees a staircase after getting off a train, she unconsciously walks toward it, or when she sees an entrance gate, she walks toward it to find the exit. At train stations, stairs, entrance gates, escalators, elevators, and signs function as symbolic components for passengers as well as the colors of traffic lights. Such symbolic components must be clearly visible without being interrupted by other components of the space. Such other components as structures, facility equipment, and advertisements (except symbolic components) should be inconspicuous. However, since these non-symbolic components are not regulated at all in stations in Japan, they are scattered everywhere, complicating comprehension of the perception of space. Naruo Station was designed with plank sheets to create a symbolic space.



Figure 16. View east of platform

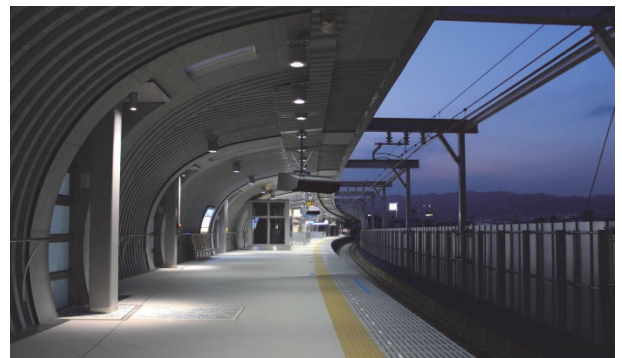


Figure 17. View west of platform at night

### 2.3. SIMPLE AND HOMOGENEOUS SPACE CREATED BY PLANK SHEETS

Plank sheets are mainly used for the civil engineering structures of bridges, pedestrian decks, retaining walls, and so forth. We used plank sheets with a 2.7-mm thick, 100-mm high steel plate that is curved gently and fixed them at two points: the roof of the railway track side and the floor of the track's opposite side. Plank sheets do not require any support or finishing materials. Each platform is composed of the curves of the uninterrupted sheet that consist of the roof and the walls. Such plank sheets provide the meaning of symbolic space by highlighting such necessary compartments in stations as stairs and their role as a dynamic station component in harmony with high-speed trains that represent advanced technologies. Plank sheets also have sufficient strength that signs can be hung on them.

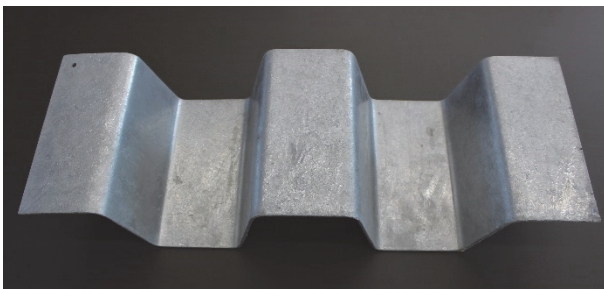


Figure 18. Plank sheet with a 2.7-mm thick, 100-mm high and 570-mm wide steel plate

### 2.4. MEASUREMENT OF SURFACE TEMPERATURE OF PLANK SHEETS

A plank sheet is a corrugated steel plate that we used as a constructional material that covered the platform without requiring any finishing. Because its steel surfaces are exposed, they can be easily touched by the station users. To determine the temperature incensement of plank sheets exposed to the summer heat, an experimental measurement was carried out using a mock-up at Kami Koshien campus of Mukogawa Women's University in August 2012. The mock-up faced south to simulate the down platform on the south side that receives large heat loads from solar radiation. We measured the surface temperatures of several points (500, 1000, 1500, and 2000 mm above the ground) in each direction. In addition, we conducted a water sprinkling experiment in August to determine how to decrease the surface temperature.



Figure 19. Plank sheet mock-up



Figure 20. Measurement of plank sheet's surface temperature

The maximum temperature during the measurement period was 49°C. The daily maximum temperature was around 45°C, which was measured between 10:30 AM and 14:00. The east surface's temperature was highest in the morning, and the temperatures of the south, west, and north surfaces followed in descending order. While the temperature of the west surface was highest in the evening, the south, east, and north temperatures followed in descending order. In the water sprinkling experiment, we sprinkled 24-29°C tap water from the top of the mock-up of the plank sheet. In each case, the surface temperature of the north surface (the platform side) became constant five minutes after the sprinkling started and dropped to about 30°C. This result suggests that a small amount of tap-water sprinkling can effectively decrease the surface temperature.

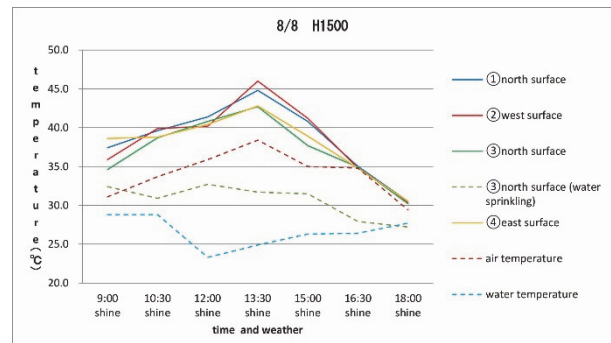


Figure 21. Measurement results of surface temperature of plank sheets



Figure 22. Water sprinkling experiment of plank sheets. We sprinkled 24-29°C tap water from the blue hose.

## 2.5. CONSTRUCTION OF PLANK SHEETS

Hot-dip galvanizing, phosphate-treated plank sheets were used as a construction material that covered the platform. 7500-mm long, 570-mm wide plank sheets were attached to the roof on the rail side and to the floor on the platform side. Curved plank sheets were connected with high-strength bolts at 500-mm intervals in both vertical and horizontal directions and function as a structural element to transmit the in-plane shear force.



Figure 23. Plank sheet mock-ups



Figure 24. Plank sheets temporarily placed at construction site



Figure 25. Steel frame before setting up plank sheets



Figure 26. Set-up of plank sheets



Figure 27. View east of platform

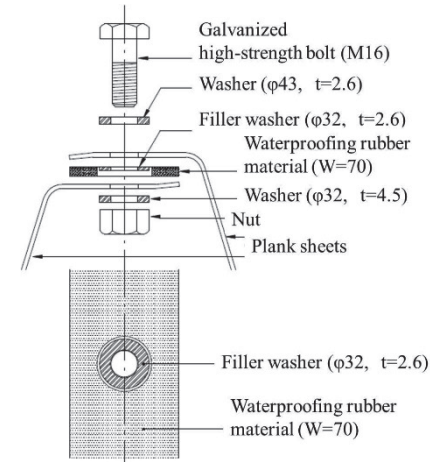


Figure 28. View west of platform

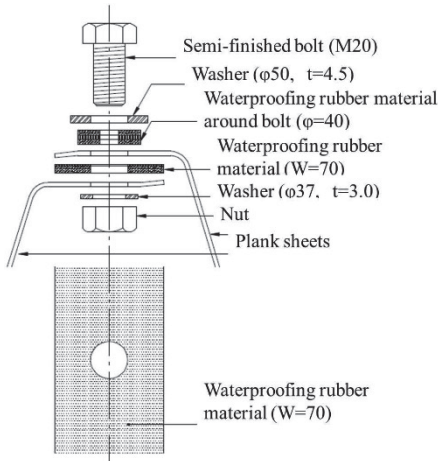
## 3. Structural Experiment with Plank Sheets

This project also conducted a structural experiment on the connection between plank sheets applied to the design of Naruo Station. Generally, plank sheets are connected with semi-finished bolts (Fig. 29(a)) at intervals of around 500-mm, and the shear transfer between plank sheets through the bolts is not considered in the design. In this project, we proposed and examined the connection details with high-strength bolts (Fig. 29(b)) by relying on the frictional resistance between plank sheets. The shear performance and capacity of the connections between the

plank sheets using high-strength bolts were investigated and confirmed through structural experiments.



(a) Connection with high-strength bolt



(b) Connection with semi-finished bolt  
Figure 29. Connection details

### 3.1. EXPERIMENT SET-UP

We conducted a structural experiment on the connection between plank sheets using a large-scale experimental apparatus installed at the Structural Laboratory in MWU’s Architectural Department (Fig. 30). This apparatus enables pseudo-static cyclic loading in one horizontal direction and one vertical direction to simulate earthquake loading. The specimen arrangements in the experimental apparatus and its loading mechanism are shown in Fig. 31. Each specimen consists of plank sheet A (width: 1,640 mm, height: 570 mm) and plank sheet B (width: 2,000 mm, height: 570 mm). These sheets were connected with three bolts (Fig. 32). The specimen details consisting of plank sheets A and B are shown in Fig. 33. To minimize their flexural deformation, several channel members were transversely welded to them. We investigated three specimens with a connection using high-strength or semi-finished bolts (Table 1). The connection details are shown in Fig. 29. Specimens 1 and 2 had connections using the high-strength 3-M16 bolts that we proposed in this project and examined. Specimen 3 had connections using semi-finished 3-M20 bolts, which are typically used. Both types of connections were waterproofed with rubber material.



Figure 30. Large-scale structural experiment apparatus

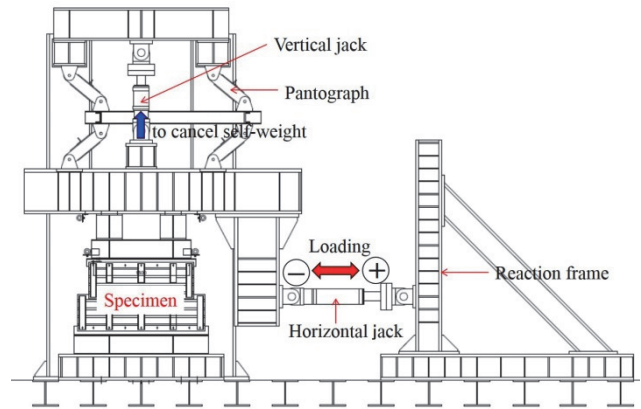


Figure 31. Test set-up

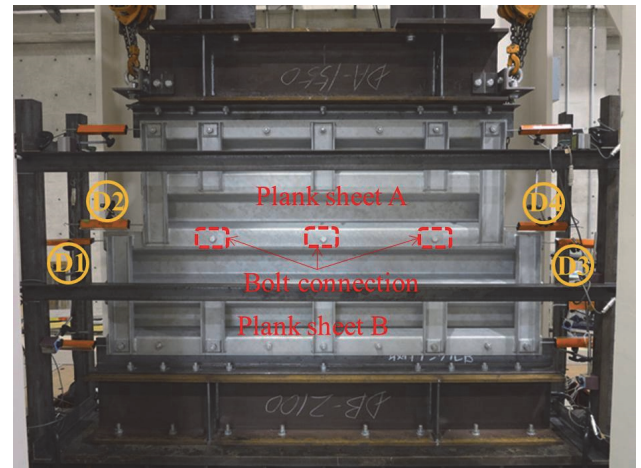


Figure 32. Plank sheet specimen

A horizontal jack provided the specimen with cyclic shear loading, and a vertical jack provided it with upward force to cancel the self-weight of the specimen and the experimental apparatus to subject the connection to pure shear loading (Fig. 30). The loading history of each specimen is provided in Table 2. Since it was intended to evaluate the shear performance and the capacity of the connection between plank sheets under many loading reversals during earthquake excitations, we selected

cyclic loading in both positive and negative directions. Specimen 2, which has the same connection details as Specimen 1, was loaded up to a relatively small displacement cycle of  $\pm 5$  mm to observe the damage around the bolt connection under service loading after the experiment and disassembling the specimen. We measured the shear deformation at the connection by four displacement transducers, D1, D2, D3, and D4 (Fig. 32), and defined the shear deformation at the connection as an average value of the relative displacement of D2 to D1 and the relative displacement of D4 to D3.

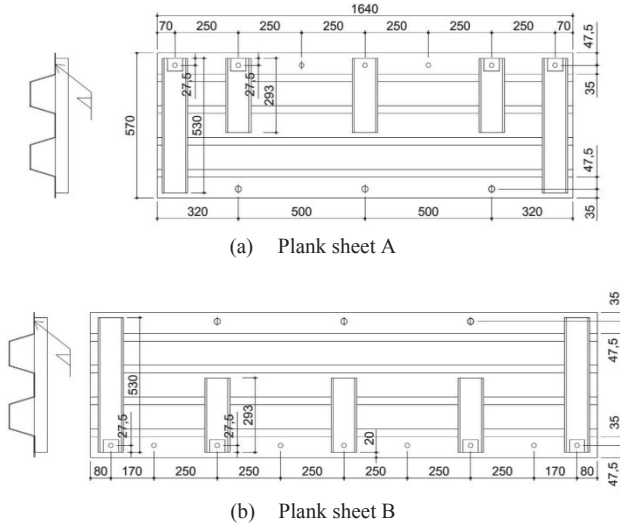


Figure 33. Details of plank sheet specimen

Table 1. Specimens with connection details

| Specimen | Connection                            | Hole diameter |
|----------|---------------------------------------|---------------|
| 1        | M16, High-strength bolt<br>(proposed) | 18 mm         |
| 2        |                                       |               |
| 3        | M20, Semi-finished bolt               | 24 mm         |

Table 2. Loading history

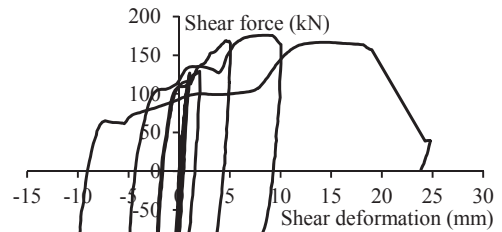
| Specimen | Target load or displacement  |
|----------|--|
| 1        | $\pm 51$ kN $\rightarrow$ $\pm 102$ kN $\rightarrow$ $\pm 1$ mm $\rightarrow$ $\pm 2$ mm $\rightarrow$ $\pm 5$ mm<br>$\rightarrow$ $\pm 10$ mm $\rightarrow$ $\pm 20$ mm |
| 2        | $\pm 51$ kN $\rightarrow$ $\pm 102$ kN $\rightarrow$ $\pm 1$ mm $\rightarrow$ $\pm 2$ mm $\rightarrow$ $\pm 5$ mm  |
| 3        | $\pm 2$ mm $\rightarrow$ $\pm 5$ mm $\rightarrow$ $\pm 10$ mm $\rightarrow$ $\pm 20$ mm $\rightarrow$ $\pm 30$ mm  |

### 3.2. TEST RESULTS

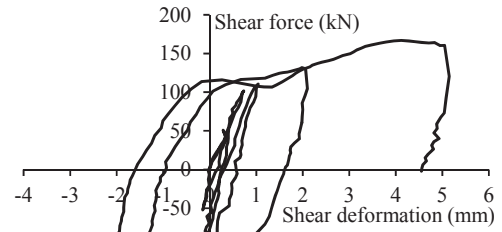
Figure 34 shows the relations of the shear force and the shear deformation at the connections between the plank sheets for all the specimens. The shear force was measured by load cells installed at the horizontal jacks. Fig. 35 shows the relations of the shear force and the shear deformation around the stage of the occurrence of the slip behavior for Specimens 1 and 2. Here, the stage is shown when slip behavior was observed. The damage observed around the bolt connection at the end of the loading for each specimen is shown in Fig. 36. Specimens 1 and 2 with a high-strength bolt connection exhibited large hysteretic loops, resulting in large energy absorption (Figs. 34(a) and (b)). This was due to the frictional resistance between the plank sheets provided by the high-strength bolts. The failure pattern of Specimen 1 was caused by the rupture of the plank sheets in the out-of-plane direction around the bolt (Fig. 36(a)). Also, in Specimen 2, there was very slight damage after  $\pm 5$  mm displacement (Fig. 36(b)). In contrast, Specimen 3 with a semi-

finished bolt connection exhibited slip-pinching behavior, which is typical of bearing connections (Fig. 34(c)). This was caused by no frictional resistance between the plank sheets provided by the semi-finished bolts, and shear force is transmitted between the plank sheets and bolts by the bearing force. Therefore, when the bolt was not in touch with the edge of the bolt hole, there was almost no resistance and only the displacement increased. The failure pattern of Specimen 3 bore the failure of the plank sheets, and elongation of the bolt holes due to bearing force was observed (Fig. 36(c)).

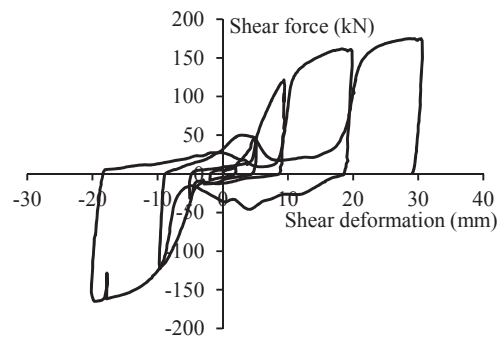
Table 3 summarizes the capacity of the high-strength bolt connections to the slip obtained in our experiment. Here, the capacity to the slip per bolt was calculated as the force at the occurrence of the slip behavior in Fig. 35 divided by the three connecting bolts, which were 47.9 kN and 47.7 kN for Specimens 1 and 2. Since the allowable slip strength for the design is 34.0 kN for high-strength M16 bolts, the safety margins for Specimens 1 and 2 are 1.41 and 1.40. Therefore, the connection between the plank sheets using high-strength bolts possessed sufficient slip capacity. Also, the connection with the high-strength bolts possessed much larger hysteretic energy absorption than the one with semi-finished bolts (Fig. 34).



(a) Specimen 1 (high-strength 3-M16 bolts)

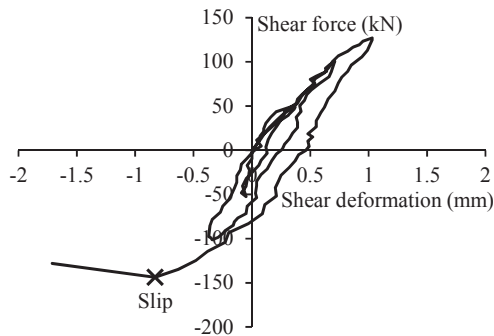


(b) Specimen 2 (high-strength 3-M16 bolts)

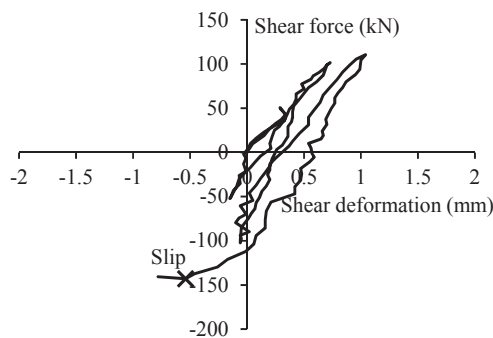


(c) Specimen 3 (semi-finished 3-M20 bolts)

Figure 34. Relations of shear force and shear deformation

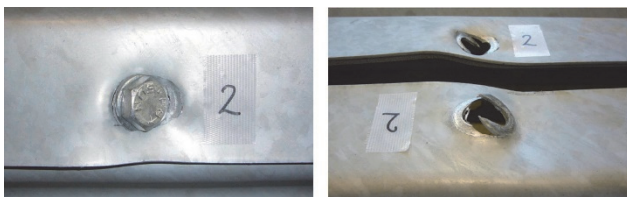


(a) Specimen 1 (high-strength 3-M16 bolts)

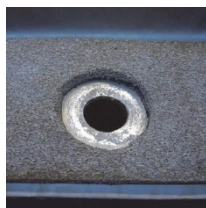


(b) Specimen 2 (high-strength 3-M16 bolts)

Figure 35. Relations of shear force and shear deformation



(a) Specimen 1 (high-strength 3-M16 bolts)



(b) Specimen 2 (high-strength 3-M16 bolts)



(c) Specimen 3 (semi-finished 3-M20 bolts)

Figure 36. Damage around connection observed at end of experiment

Table 3. Capacity of bolt connection to slip

| Specimen | Displacement at slip (mm) | Force at slip (kN) | Capacity to slip per bolt (kN) | Safety margin |
|----------|---------------------------|--------------------|--------------------------------|---------------|
| 1        | -0.83                     | -143.8             | 47.9                           | 1.41          |
| 2        | -0.54                     | -143.0             | 47.7                           | 1.40          |

### 3.3. CONCLUDING REMARKS

We proposed high-strength bolt connections by relying on frictional connections, even under a condition where we inserted waterproofing rubber material, to transmit shear force between plank sheets. We confirmed that high-strength bolt connections between plank sheets outperformed the semi-finished bolt connections in terms of stiffness and hysteretic energy absorption. Based on experimental data, sufficient fundamental knowledge was obtained to design plank sheets as structural elements to transmit in-plane shear force.

### 4. Summary

This paper reported a design of the Hanshin Electric Railway Naruo Station and a structural experiment of plank sheets as an element of shell structure. A platform with plank sheets does not require any support, and stairs, escalators, elevators, and signs are clearly visible as symbolic components for passengers. This project showed the effectiveness of plank sheets, which aren't generally used as architectural materials, especially in finishing or structural materials. Our method, which used plank sheets as a structural element and composed architectural space with minimal materials that unified the walls and ceilings in Naruo station, will be effective in designing such architectures as stations where symbolic characteristics are required.

### Acknowledgements

The authors thank Ryoma Murata from Ryoma Murata Building Studio (formerly Kawaguchi & Engineers Inc.) and Assoc. Prof. Takuya Nagae from Nagoya University (formerly National Research Institute for Earth Science and Disaster Prevention, part-time lecturer at Mukogawa Women's University) for the planning and report writing of Section 3.

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Imaji, K., Takata, Y., Ozaki, A., Tani, N., Okazaki, S., Uzawa, Z., Inomata, K., Morimoto, J., & Yamaguchi, A. (2016). The Picture of "Pine Tree in Naruo" as the Historic Landscape at Naruo Station of Hanshin Railway. *Summaries of technical papers of annual meeting Architectural Institute of Japan, 2016*, 400-401.

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# The Spatial Composition of Buddhist Temples in Central Asia, Part 1: The Transformation of Stupas

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**Keywords:** Buddhist Temple, Spatial Composition, Architectural Vocabulary, Spatial Component

**Abstract:** This study focuses on the transformation of main stupas in terms of architectural spatial components based on bibliographic surveys concerning 59 documented Buddhist temple remains (excluding cave temples) in Central Asia. We prepared a database of Buddhist remains, and analyzed the spatial composition of each temple, judging from the extracted spatial components. We divided temples into 4 types based on their spatial composition characteristics: stupas, shrines, monasteries, the other inferior complexes; we created three-dimensional spatial schemas of each type and showed visually presented the spatial compositions of temples and the forms of stupas.

## 1. Introduction

There were many prosperous Buddhism cities in Central Asia, including Taxila, Gandhāra, Termez and Qocho<sup>1</sup>. As these cities were sufficiently well-known, Chinese priests, such as Xuangzang and Faxian, visited for pilgrimages and expeditionary parties of the Great Powers of the West competed over them in the 19<sup>th</sup> century. The numerous sculptures that have been excavated in the district of Central Asia have attracted considerable attention. The features of Buddha statues which were considerably influenced by the Greek and Roman cultures and remain beautiful today, holding a fascination different from that of the statues currently seen in Japan. The statues were excavated in the construction of the Buddhist temples where many monks and nuns lived and several benefactors visited. The Buddha statue was not only placed in small shrines but also used in stupas which symbolize Nirvana to grant them magnificence.

Multiple studies in art and archeology have focused on these sculptures and their excavation. From Japan, a Kyoto University expedition including Mizuno, Nishikawa and Higuchi has conducted surveys in this area and published a detailed report of their detailed investigation<sup>2</sup>.

Multiple articles by Kuwayama have been published concerning the transformation of the Buddhist temples in Gandhāra and Taxila<sup>3</sup>. In addition, the chronology of the Buddhist remains in this area is well known and has been examined and compared with the masonry chronology at Taxila's temple produced by Marshal<sup>4</sup>. Recently, there have been studies concerning the plinths of Buddhist temples in Gandhāra, Taxila and Swāt by Kato and others<sup>4,5</sup>.

Kurt Behrendt (2004) who conducted extensive investigations and analysed, divided the Gandhāran Buddhist temple into a "Sacred Area" and a "Monastic Area". He distinguished the shrines as the worship objects on the basis of the type and the placement of various remains of ancient structures such as "Relic Shrine", "Image Shrine" and "Two-celled Shrine", and advocated his theory about the transformation

of temples. Likewise, he considered the difference in the forms of shrines in terms of worship objects such as Buddhist statues, stupas, and relics<sup>6</sup>.

In these studies, about the transformation of temples in each area has been collected in detail. However, as for the development way, it was not mentioned to what kind of architectural spatial component is followed and removed and added. In this study, we analyze the spatial composition, which focuses on the architectural spatial components forming temples. Our aim was to determine which spatial components developed became dominant in the Buddhist temples between around 2 B.C. and the 7<sup>th</sup> century.

In this study, we first address transformations in the forms of the main stupas, which are the most important objects of worship in Buddhist architecture.

This study focused on temples in the region bounded to the south by Taxila and Gandhāra near the Peshawar basin, to the north by Chuy valley in Kyrgyzstan, to the east by Miran in the Xinjiang Uyghur autonomous region, and to the west by Termez (Fig.1). The subjects of the study are the Buddhist remains presented in Table 1. These Buddhist remains have been excavated and drawn in reports, allowing us to distinguish their spatial compositions.

## 2. Method

On the basis of a literature search, we prepared a database of the locations, construction years (centuries), dynasties, cultures, drawings, and photographs of the 59 Buddhist temple remains situated above the ground. The spatial composition of each structure was analyzed and considered based on the database.

We modeled the spatial compositions according to 4 functions (stupas, shrines, monasteries and the other types of complexes) after having classified their characteristic spatial compositions. We also constructed three dimensional schemas considering to the architectural spatial components.



Table 1. Buddhist Remains of Study Subject

| The Name of remains  | Location                       | Date   | No. of architectural special components included in the remain*1 |
|--|--------------------------------|--|--|
| 1. Akhauri A, C  | Taxila (PAK*)                  | A.D.1-5c?                                    | 2,5,6,7,15,17,27,28,29   |
| 2. Akhauri B   |                                | A.D.1-5c?                                    | 2,3,4,6,7,15,17,22,24,25,27,28,29,32                             |
| 3. Bhamala   |                                | A.D.4-8c                                     | 1,3,4,5,6,7,9,15,17,18,20,22,23,24,25,27,28,29,33                |
| 4. Dharmarajika  |                                | B.C.1c-A.D.2c                                | 1,2,3,5,6,7,9,14,16,17,18,21,23,24,25,27,28,29,32                |
| 5. Jaulian   |                                | A.D.2-5c                                     | 1,2,5,6,7,9,15,17,27,28,30,31,32,33                              |
| 6. Kalawan Monastery B,C,F   |                                | A.D.3-5c                                     | 1,7,15,17,27,28,29,31  |
| 7. Kalawan Stupa Court A   |                                | A.D.3-5c                                     | 1,2,3,5,6,7,9,15,17,18,19,21,23,24,25,27,32                      |
| 8. Khader Mohra D1   |                                | A.D.1-5c?                                    | 2,5,6,7,14,15,17,19,28,29  |
| 9. Kunala  |                                | A.D.2-5c?                                    | 1,2,5,6,7,17,27,28,30,33   |
| 10. Mankiala Stupa   |                                | B.C.2c-A.D.7c                                | 3,5,6,7,9  |
| 11. Mohra Moradu   |                                | A.D.3-5c                                     | 1,2,3,5,6,7,9,13,15,17,27,28,29,33                               |
| 12. Pippala  |                                | A.D.1c                                       | 1,2,3,5,6,7,15,27,28,29,33                                       |
| 13. Double Headed Eagle Stupa of Sirkap, A(Block G) Stupa of Sirkap ※Jain temple |                                | A.D.1c-<br>A.D.1c-                           | 2,5,6,7,8<br>2,5,6,7,9   |
| 14. Jamal Garhi  | Gandhāra, Peshawar basin (PAK) | A.D.1-5c                                     | 1,2,3,5,6,7,9,15,18,19,27,28,29,32                               |
| 15. Mekhasanda Outlying Mountain Monastery                                       |                                | A.D.3-6c                                     | 15,18,27,28,32   |
| 16. Mekhasanda Sacred Area   |                                | A.D.3-6c                                     | 1,2,5,6,7,9,15,17,19,27  |
| 17. Ranigat East Sacred Area   |                                | A.D.2-7c                                     | 1,2,5,6,7,9,15,17,19,27  |
| 18. Ranigat Southwest Sacred Area  |                                | A.D.2-7c                                     | 1,2,5,6,7,9,15,17,27,28,30,33                                    |
| 19. Ranigat South Monastic Area  |                                | A.D.2-7c                                     | 14,15,17,19,27,28,32,33  |
| 20. Ranigat West Sacred Area   |                                | A.D.2-7c                                     | 1,2,5,6,7,9,15,18  |
| 21. Shah ji ki Dheri (Kanishka stupa)  |                                | A.D.2c-                                      | 1,4,5,6,7,9,10   |
| 22. Shahri-Bahlol Site A   |                                | A.D.2c-8?                                    | 1,7,14,15,17,23,24,27,29,33                                      |
| 23. Shahri-Bahlol Site G   |                                | A.D.2c-8?                                    | 3,4,5,6,7,9  |
| 24. Takht-i-Bahi Main Sacred Area  |                                | A.D.2-4c                                     | 1,2,5,6,7,9,15,17,18,22,23,24,25,27,28,29,30,31,32               |
| 25. Tharali  |                                | A.D.3-6c                                     | 15,17,27,28,32   |
| 26. Thareli Sacred Area D  |                                | A.D.3-6c                                     | 1,2,3,5,6,7,9,15,17,28,30  |
| 27. Thareli Upper Sacred Area C  |                                | A.D.3-6c                                     | 1,2,5,6,7,15,17,18,27,28,30,32,33                                |
| 28. Amluk Dara   |                                | Swāt (PAK)                                   | A.D.3-10,11c   |
| 29. Butkara I  | B.C.2-A.D.8c                   |  | 2,3,5,6,7,17,23,24,25  |
| 30. Butkara III  | B.C.2c-                        |  | 1,2,3,5,6,7,9,15,17,23,24,25,27,33                               |
| 31. Gumbat Shrine  | A.D.8-9c                       |  | 2,5,6,7,15,18,24,25,27   |
| 32. Marjanai   | A.D.1-5c?                      |  | 1,2,3,5,6,7,8,9,14,15,17,18,23,23,27                             |
| 33. Nimogram   | A.D.1-3c                       |  | 1,2,5,6,7,9,14,15,17,18,27,28,32,33                              |
| 34. Panr   | A.D.1-5c                       |  | 2,5,6,7,8,9,14,17,18,27,28,32,33                                 |
| 35. Saidu Sharif   | A.D.1-5c                       |  | 2,3,5,6,7,8,9,14,15,17,18,19,27,28,29,33,38                      |
| 36. Tokar Dara   | A.D.1-3c                       |  | 1,2,5,6,7,8,9,12,14,15,17,18,24,27,28,30,33,34                   |
| 37. Shankardar   | A.D.4-5c (B.C.4c-)             |  | 2,5,6,7,9  |
| 38. Parihasapura (Parihaspora)   | Kashmir (PAK)                  | A.D.7c                                       | 2,4,5,6,7,14,15,17,27,28,29,33                                   |
| 39. Bagh Gai   | Hadda (AFG*)                   | A.D.3-4c                                     | 1,2,5,6,7,9,10,15,17,23,24,25,27,28,30                           |
| 40. Tapa-i-kafariha  |                                | A.D.3-4c                                     | 1,2,5,6,7,9,15,17,27,31  |
| 41. Tapa Shotor  | A.D.4-5c                       | 1,2,5,6,7,9,15,18,19,23,24,25,27,28,29,30,38 |  |
| 42. Qol-i-Nader  | Bagrām (AFG)                   | A.D.2c-                                      | 2,5,6,7,9,15,17,18,19,27,28,29,33                                |
| 43. Shotrak  |                                | A.D.3c                                       | 1,2,5,6,7,9,10,13,15,17,19,27                                    |
| 44. Tapa Sardar  | Ghazni (AFG)                   | A.D.3-7,8c                                   | 1,2,3,4,5,6,7,9  |
| 45. Ahin Posh  | Jallalabad (AFG)               | A.D.2-3c                                     | 4,5,6,7,9,15,17,19,27,32   |
| 46. Gul-Darrah   | Kābul (AFG)                    | A.D.3-4c                                     | 1,2,4,6,7,9,10,12,13,14,15,17,27,28,29,33,34                     |
| 47. Kamari   |                                | A.D.1-5                                      | 2,5,6,7,9  |
| 48. Kurrindar-Locakan  |                                | A.D.4-5c                                     | 2,5,6,7,9  |
| 49. Seh topan  |                                | A.D.3-6                                      | 2,5,6,7,9  |
| 50. Shiwaki (Shevaki)  |                                | A.D.5-7c                                     | 2,5,6,7,9  |
| 51. Fayaz Tepe   |                                | Termez (UZB*)                                | B.C.1c-  |
| 52. Karatepa   | A.D.2-4c                       |  | 1,2,5,6,7,13,17,19,27,28,33,34                                   |
| 53. Ajina tepa   | Kurganteppa (TJK*)             | A.D.7-8c                                     | 1,4,5,6,7,12,13,15,17,18,19,25,27,28,33,34,35,36                 |
| 54. Ak-Beshim No.1 Temple  | Chuy valley (KGZ*)             | A.D.7-8c                                     | 1,14,15,17,19,22,25,27,34,35,36,37,38                            |
| 55. Ak-Beshim No.2 Temple  |                                |  | 2,4,14,15,18,23,24,26,27   |
| 56. Rawak  | Khotan (Xīn*)                  | A.D.3-5c                                     | 1,4,5,6,7,14,15,17,24,25,27                                      |
| 57. Qocho City 高昌  | Qara-hoja (Xīn*)               | A.D.5c-14?                                   | 1,2,7,11,12,13,14,15,17,19,22,24,25,27,34                        |
| 58. Yar City (Jialhe Ruins) 交河故城   |                                | A.D.5c-14?                                   | 1,2,4,5,6,7,11,13,14,15,17,19,22,24,25,27,33                     |
| 59. Stupa at Miran   | Miran (Xīn*)                   | A.D.2-5c                                     | 1,3,5,6,14,16,18,25,27   |

\* PAK= Pakistan, AFG= Afghanistan, UZB= Uzbekistan, TJK= Tajikistan, KGS= Kyrgyzstan, Xīn= Xinjiang Uyghur

\*1 Refer to Figure 2. about the list of the architectural spatial components.



Figure 1. Map of Study Areas

Our study areas included the east-west Turkistan, Afghanistan and northern part of Pakistan.

Thirty-eight architectural vocabularies were provided as the architectural spatial components when the schemas were constructed. In these vocabularies, the objects with spatial and material characters were mixed; however, this was done without distinguishing them. Spatial components with material character are comprised existing Buddhist statues, mounds and drums, which are known as the objects. On the other hand, the components with spatial character comprised domes and corridors that directly constitute the architectural space.

Figure 3 is an example of the process of creating schemas. This spatial composition is seen in Gandhāran temples of Jaulian and Ranigat East sacred area, and Tapa Shotor and Bagh-gai. There is a characteristic spatial composition by which the main stupa is surrounded by small stupas, and these small stupas are surrounded by shrines row. In other words, we can assume this spatial composition as a type of plot. The architectural spatial components seen in these temples were mounds, drums, square bases, stairways, rectangular plans, and Buddha (or Buddhist) statues. We have created three-dimensional schemas by placing these spatial components together.

In such a process, the spatial compositions of the remains in our study areas were classified as stupas, shrines, monasteries, and other types of complexes. In this study, our subject was the main stupas which were a main worship object in temples in Central Asia. We considered the transformation in the forms of the main stupas from the viewpoint of the architectural spatial components based on previous studies, and expressed our results in a flow chart with the constructed schemas. Furthermore, we used the drawings and sketches of Buddhist temples to prove our considerations.

### 3. Schematization of the spatial composition

We analyzed 59 Buddhist temples as study subjects and classified the characteristic types. In addition, the three-dimensional schemas were created focusing on the previously mentioned architectural spatial composition. We executed grouping the spatial compositions and schematized the constructions regarded as having similar spatial compositions. Otherwise, individual compositions related to those of other temples (even if they could only be seen in locations such as Gumbat, Ak-Besim and Qocho City) were considered<sup>7</sup>. As for other types of complexes, there were the spatial compositions seen at some temples or only one site, and also several examples include the schemas which expressed whole parts of temple. We classified the structures as “stupas (including main stupa, main stupa and small stupa)”, “shrines (including shrine, main stupa and shrine, shrine which includes Buddhist statue)”, “monasteries (including monastery, monastery and main stupa)”, and other types of complexes (Figure 4).

In addition, Buddhist temples contain a dining hall and an assembly facility. However, we thought that the main function is divided into sacred area and did not make it study subject for analysis about the functions to need for the life except monasteries.

We did not describe the architectural spatial components other than the main stupas in this study in terms of space requirement. However, research on shrines or monasteries other than the main stupas should be conducted in the future.


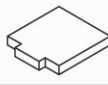
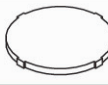





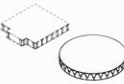




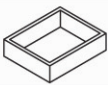
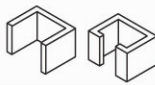
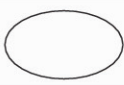
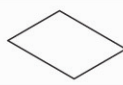
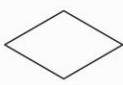
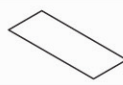
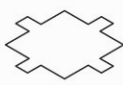

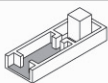
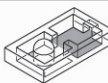

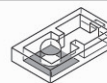

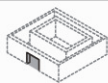
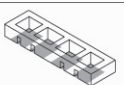
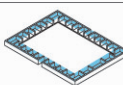
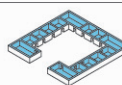

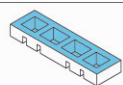
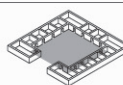

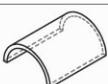

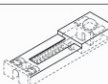
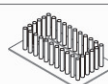
|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| No.   | 1   | 2   | 3   | 4   | 5   | 6   |
| Architectural Spatial Component   | Buddhist statue   | square base   | circular base   | cruciform base  | mound   | drum  |
| Schema  |    |    |    |               |    |    |
| 7   | 8   | 9   | 10  | 11  | 12  | 13  |
| stairway  | freestanding columns  | pilaster (parallel wall)  | bastion   | square pillar   | squinch arch  | niche   |
|    |    |    |    |               |    |    |
| 14  | 15  | 16  | 17  | 18  | 19  | 20  |
| boundary wall   | enclosing wall  | circular plan   | rectangular plan  | foursquare plan   | long rectangular plan   | cruciform plan  |
|    |    |    |    |               |    |    |
| 21  | 22  | 23  | 24  | 25  | 26  | 27  |
| octagonal plan  | front court   | antechamber   | main chamber  | corridor  | double corridor   | entrance  |
|    |    |    |    |               |    |    |
| 28  | 29  | 30  | 31  | 32  | 33  | 34  |
| cell  | □-shaped plan   | C-shaped plan   | L-shaped plan   | I-shaped plan   | courtyard   | dome  |
|  |  |  |  |             |  |  |
| 35  | 36  | 37  | 38  | * The Architectural Spatial Component may be changed and added by advancing analysis in future. |   |   |
| vault   | iwan (eyvān)  | flat roof   | peristyle   |   |   |   |
|  |  |  |  |   |   |   |

Figure 2. The List of Architectural Spatial Components

These are the 38 architectural spatial components which are found in the temples of study area. We considered the spatial composition by focusing on these components.

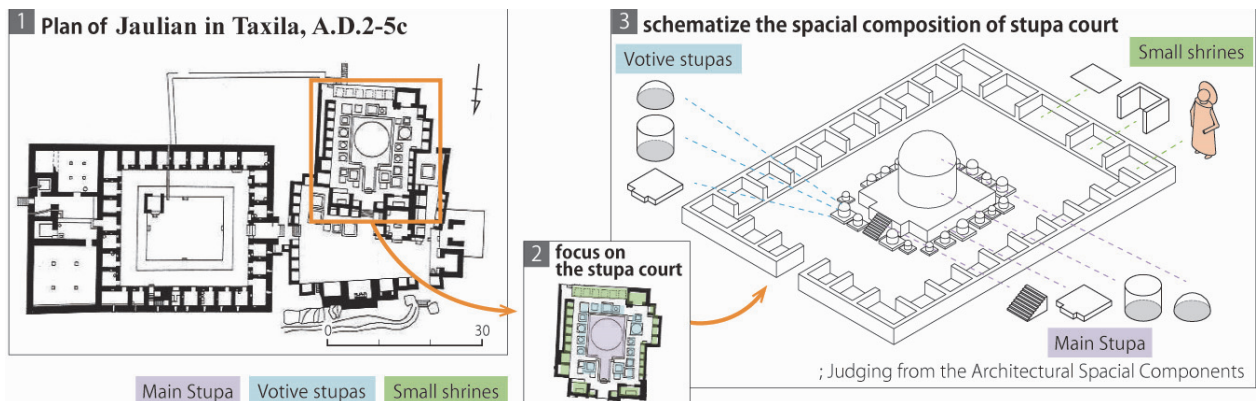


Figure 3. One Example of the Schematization in 3D of the Spatial Compositions

We created the schema by focusing on the architectural spatial components.

In this way, the form of temples has been schematized abstract; we took the characteristic spatial composition with division of function such as stupa, shrine and monastery, in order to show the one prototype.

In this schema, it showed that the stupa court (it means the complexes of the stupa and the shrine) was extracted and schematized.

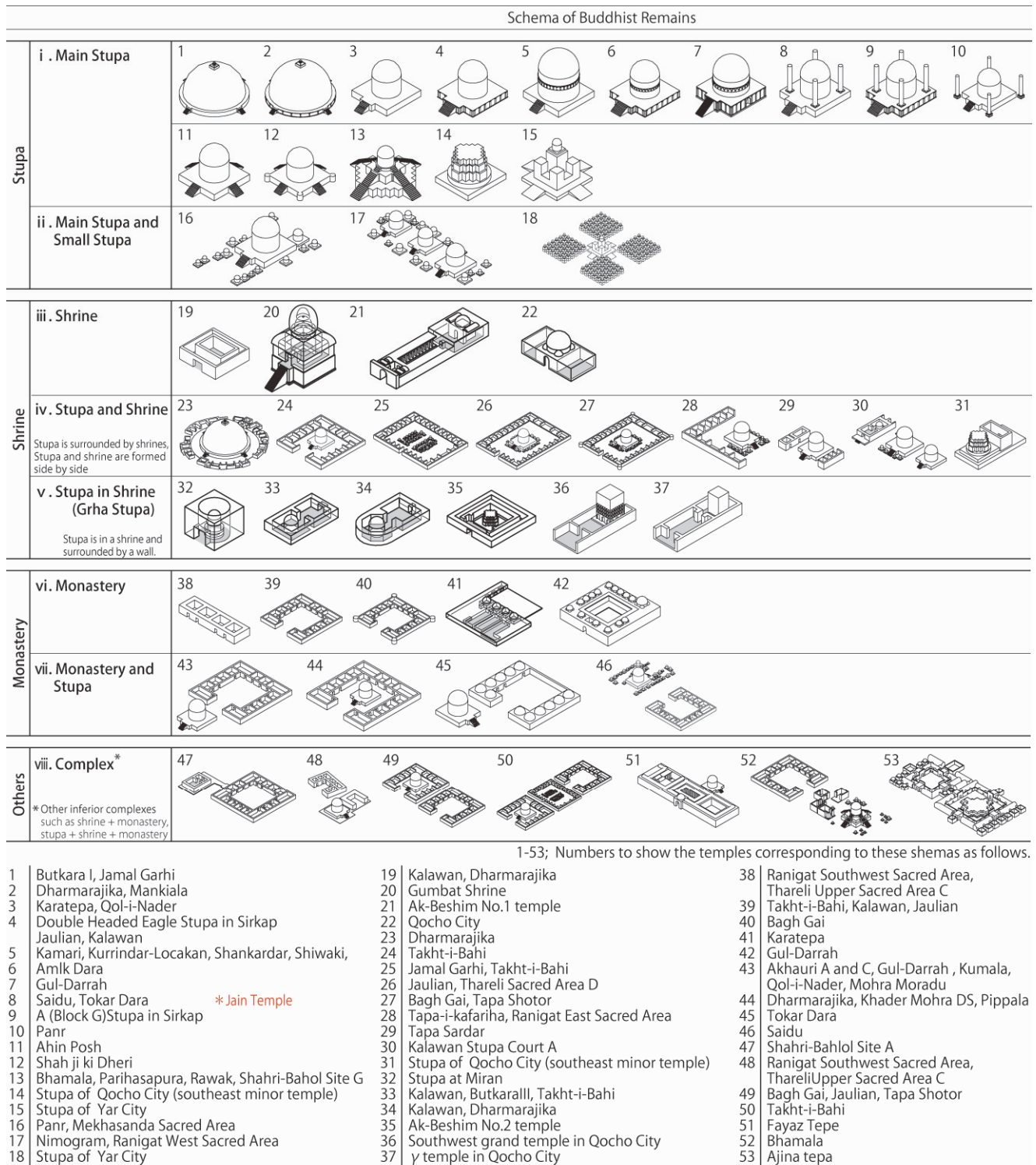


Figure 4. Schemas of Spatial Composition Based on the Architectural Spatial Components

As a result of analyzing the 55 temples based on the literature searches, we classified the spatial compositions into stupas, shrines, monasteries and the other inferior complexes.

#### 4. Discussions about the transformation of stupas and the architectural spatial components constituting stupa such as a stairway, freestanding columns and pilasters

Besides sacred areas of worship, temples included priests' living quarters in the monastery (bedroom affairs), a dining hall, an assembly facility, a kitchen, and the warehouse where Buddhist monks lived. The worship objects, such as stupas or the Buddha

statues, are placed in the sacred areas by considering various aspects and compositions.

Therefore, in this study, we considered the transformation in the forms of stupas, the most important worship object in the sacred areas, from the viewpoint of architectural spatial components such as stairways, free-standing pillars and pilasters associated with stupas.

The schema [1] is the primitive form of the Buddhist architecture<sup>8</sup>. There have been examples of inverted bowl-shaped

stupas with a circular base, Jamar Garhi in Gandhāra (Figure 5), Butkara I in Swāt I (Figure 6), including India. The spatial components at this stage comprise a "circular base", a "mound (anda)" and a "stairway". Based on this schema, it is thought that the oldest structure is the 1<sup>st</sup> great stupa at Sanci in India whose form originated in approximately the 2<sup>nd</sup> century B.C. The beginning of Buddhist architecture is this mound-shaped stupa (schema [1] in Figure 7).

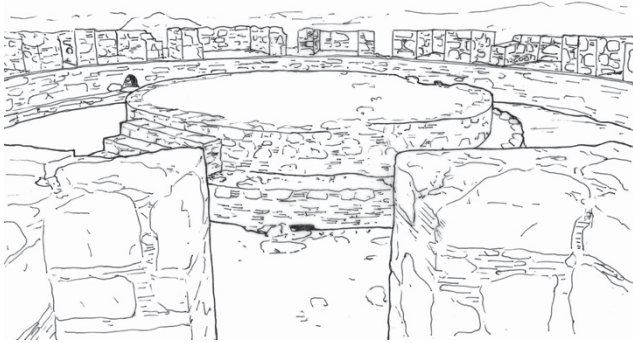


Figure 5. Main Stupa and Relic Shrine of Jamal Garhi, Court 1, in Peshawar basin

The construction of this temple had been continued about 5<sup>th</sup> century from 1<sup>st</sup> century A.D. according to the excavated coin. The stupa with a circular base is surrounded in a circle by shrine. At the south side under the sixteen steps stairway from stupa court, there is the sacred area (named court 3) including many small stupas and shrines using rectangular plan.



Figure 6. Plan of Butkara I in Swāt (modified from Faccenna, 1980, vol.3, no.1, pl. VI)

The construction of this temple had been continued about 8<sup>th</sup> century from 2<sup>nd</sup> century B.C. judging from the excavated coin.

The complexes which choked up with the constructions for worship are placed. The oldest construction is the main stupa in the middle of stupa court. The small stupas form on a circle through the corridor, and various size of stupa are placed around them.

| Schema | Architectural Spatial Components | Applicable Remains   |
|--------|----------------------------------|--|
| [1]    |                                  | <ul style="list-style-type: none"> <li>• Butkara I B.C.2-A.D.8c</li> <li>• Jamal Garhi A.D.1-5c</li> </ul> |

Figure 7. Architectural Spatial Components of Schema [1] and the Remain Concerned

The spatial components are as follows: 3. circular base, 5. mound, 7. stairways. Refer to Figure 2 about the number of the components.

Schema [2] added a pilaster to the circular base of schema [1]. There are examples of Dharmarajika (Figures 9, 10) and Manikiala (Figure 11) in Taxila.

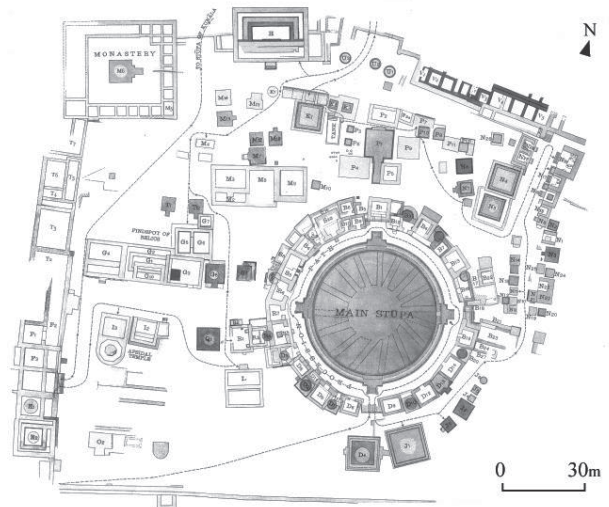


Figure 8. Plan of Dharmarajika in Taxila (modified from Marshall, 1951, pl.45)

It was thought that the construction of this temple had been started from 2<sup>nd</sup> century B. C., according to the excavated coins of the Indo-Greek Kingdom. Around the main stupa, small shrines surround it in a circle.

There was plain cell forming lengthways line (I-shaped monastery) at the east side. At the south side, there was also the slightly large quadrangular monastery with the stupa placed in the middle. The grha stupa was enshrined in the main chamber, and the shrine constituted two cells and antechamber was built. It was evident that, judging from a variety of buildings and the function, this temple was continued constructing and the extending a building and also was used for a long time.



Figure 9. Main Stupa and Relic Shrine of Dharmarajika This shows the present situation of the main stupa at Dharmarajika. The base part was decorated by the pilasters.

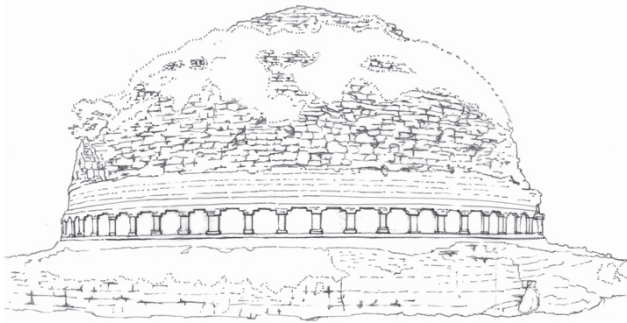


Figure 10. Manikyara stupa in Taxila

This large stupa as well as Dharmarajika was built in Taxila.

The pilasters went around the base. The detail survey about this stupa has not been carried out. However, it is one example of typical stupa which is the mound type with the circular base.

The construction of this temple goes back to the 2<sup>nd</sup> century B.C.

| Schema | Architectural Spatial Components | Applicable Remains   |
|--------|----------------------------------|--|
| [2]    |                                  | <ul style="list-style-type: none"> <li>• Dharmarajika B.C.1c-A.D.2c</li> <li>• Mankiala B.C.2c-A.D.7c</li> </ul> |

Figure 11. Architectural Spatial Components of Schema [2] and the Remain Concerned

The spatial components are as follows: 3. circular base, 5. mound, 7. stairways, 9. pilaster. Refer to Figure 2 about the number of the components.

After stupas shaped like grave mounds, the cannonball-shaped stupas that are prevalent in Taxila and Gandhāra became mainstream in Central Asia<sup>9</sup>.

Afterward, a significant change occurred, namely changing the base to square from circular and raising its height. The long drum was built under a mound or a short drum. The proportions of stupas dramatically changed in this manner. The stupa rose high and had the axis of upward direction by having been given a drum. Generally, the circular base had stairs in every direction. However, with a square base, it became customary to establish one stairway, thereby creating a direction for worshipers to meet at a stupa.

| Schema | Architectural Spatial Components | Applicable Remains   |
|--------|----------------------------------|--|
| [3]    |                                  | <ul style="list-style-type: none"> <li>• Karatepa A.D.2-4c</li> <li>• Qol-i-Nader A.D.2c-</li> </ul> |

Figure 12. Architectural Spatial Components of Schema [3] and the Remain Concerned

The spatial components are as follows: 2. Square base, 5. Mound, 6. Drum, 7. Stairways. Refer to Figure 2 about the number of the components.

Furthermore, the famous Double Headed Eagle Stupa of Sirkap in Taxila, used pilasters on a square base, as shown in schema [4]. The base of the stupa was decorated by molding, cornices, and pilasters like a Corinthian order carved of canthus leafs (Figure 13).



Figure 13. Double Headed Eagle Stupa in Taxila, Sirkap

It was thought the construction was 1<sup>st</sup> century A.D.

Most stupas seen in Sirkap are low, and the pilaster went around the square base.

The Double Headed Eagle Stupa has the most sophisticated outward appearance among the six stupas which were discovered in Sirkap. In the front of right and left base, there are three niches like imitated Indian Torana, the wife side of chaitya and the gabled roof of Greek temples.

The pilasters decorating the exteriors of stupas and display pillars were created on bases. Later, pilasters appeared on a drum. On the main stupa of Dharmarajika and Butkara I, the pilaster was turned around the surface of the base. The most famous architecture is the great stupa of Shankardar in Taxila, unfortunately, the damage to the base part of this building is serious. However, the drum and the mound parts have been well protected, and evidence suggests that a pilaster existed on the drum part (Figure 14, schema [5]). Other examples include Shiwaki which has recently been excavated by Franch expedition in Kābul (Figure 15), Kamari, and Kurrindar-Locakan<sup>10</sup>. Although the base is well preserved, the main body of the above-mentioned stupa of Sirkap, has not survived. We cannot confirm which decoration is early between a drum and a base in this sense. Even so, it can be supposed that the decoration of base is earlier from examples of Dharmarajika and other constructions.

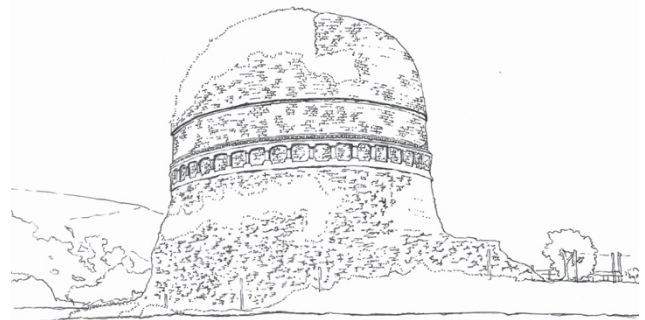


Figure 14. Shankardar in Swāt

It is thought that the stupa was visited by Xuanzang once.

It was considered that the one of the ashes which was distributed eight after Buddha entered nirvana had been buried here, in the legend.

Therefore, the original construction dates back to the 4<sup>th</sup> century B.C.

The present stupa was built between around 4<sup>th</sup> and 5<sup>th</sup> centuries.

The temple remains excluding the stupa have not been discovered. Most of the foundation was broken. The part of drum stays well. Besides, it can be seen the decoration of pilaster, the cornice, and the molding.

The huge cannonball shaped stupa is 20m in diameter and 30m in height.

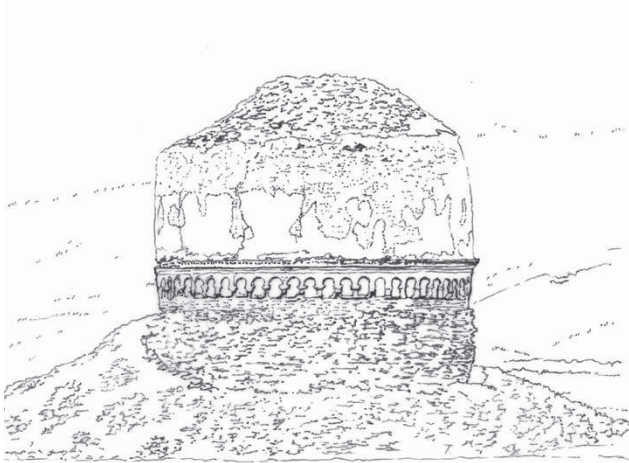


Figure 15. Shiwaki in Kābul

This is the one of stupas in which the state of preservation is the best in Kābul. The part of base almost collapsed, but the frieze has been preserved beautifully. The inscription was written with Kharosthi script, the inscription of Kushan and the coin of Roman Empire have been excavated.

| Schema | Architectural Spatial Components | Applicable Remains  |
|--------|----------------------------------|---|
| [4]    |                                  | <ul style="list-style-type: none"> <li>• Double Headed Eagle Stupa in Sirkap A.D.1c-</li> <li>• Jaulian A.D.2-5c</li> <li>• Kalawan A.D.3-5c</li> </ul> |

Figure 16. Architectural Spatial Components of Schema [4] and the Remain Concerned

The spatial components are as follows: 2. square base, 5. mound, 6. drum, 7. stairways, 9. pilaster. Refer to Figure 2 about the number of the components.

Stupas can be decorated by cornices and moldings, as well as by friezes of niches displaying Buddhist statues. There is a wide variety of such friezes of niche, trapezoidal and barrel vaulted niches<sup>11</sup>. There are several ways: placing two types of niche in turn, or repeating one type of niche. In schema [5][6][7], we did not classify small differences in decorations on the drums of stupas. We also did not express differences in cornices and moldings.

| Schema | Architectural Spatial Components | Applicable Remains  |
|--------|----------------------------------|---|
| [5]    |                                  | <ul style="list-style-type: none"> <li>• Kamari A.D.1-5</li> <li>• Kurrindar-Locakan A.D.4-5c</li> <li>• Shankardar A.D.4-5c</li> <li>• Shiwaki A.D.5-7c</li> </ul> |

Figure 17. Architectural Spatial Components of Schema [5] and the Remain Concerned

The spatial components are as follows: 2. square base, 5. mound, 6. drum, 7. stairways, 9. pilaster. Refer to Figure 2 about the number of the components.

The main stupas developed into a solemn construction afterward because their bases became higher and the surfaces of both the bases and drums were decorated. Schemas [6][7] include these aspects. The examples include Amlk Dara in Swāt (Figure 18, and schema [6]), and Gul-Darrah in Kābul (Figure 20, and schema [7]).

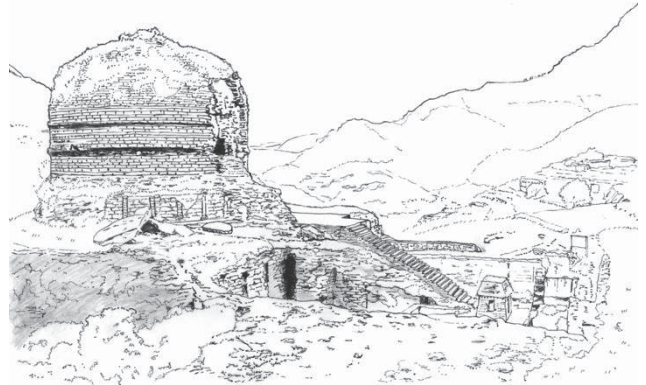


Figure 18. Amlk Dara in Swāt

The damage of the base part is intense. It is understood that the base is higher than the stupas of Gandhāra and Taxila, according to the remains of ancient structure. The circular base of approximately 30m in diameter was built on the square base with one side of approximately 37m and 10m in height.

The drum of diameter approximately 23m and 18m in height was constructed above the circular base.

The huge stupas exceeding 30-meter height were built in Swāt frequently.

| Schema | Architectural Spatial Components | Applicable Remains  |
|--------|----------------------------------|---|
| [6]    |                                  | <ul style="list-style-type: none"> <li>• Amluk Dara A.D.3-10,11c</li> </ul> |

Figure 19. Architectural Spatial Components of Schema [6] and the Remain Concerned

The spatial components are as follows: 2. square base, 5. mound, 6. drum, 7. stairways, 9. pilaster. Refer to Figure 2 about the number of the components.



Figure 20. Gul-Darrah in Kābul

It has been thought that this temple was erected between 3<sup>rd</sup> and 4<sup>th</sup> century. This stupa is the best preserved state in Kābul, and was refined beautifully. There was once the monastery at the northeast. There is a stairs on the southwestern side of the stupa.

| Schema | Architectural Spatial Components | Applicable Remains       |
|--------|----------------------------------|--------------------------|
| [7]    |                                  | • Gul-Darrah<br>A.D.3-4c |

Figure 21. Architectural Spatial Components of Schema [6] and the Remain Concerned

The spatial components are as follows: 2. square base, 5. mound, 6. drum, 7. stairways, 9. pilaster, 13. niche.

Refer to Figure 2 about the number of the components.

Furthermore, a stupa was built with free-standing columns on the four corners of a square base, as one of the classifications of the stupa bases. It was found in Saidu and Tokar dara.

Besides, the existing architecture is the A (Block G) stupa in Sirkap to being thought Jainism (Figure 23, and schema [9]). An example of the same level of stupa above the ground is found in Panr at Swāt (Figure 24, schema [10]). It is thought that in many cases, lion images were probably appeared on the heads of these columns.

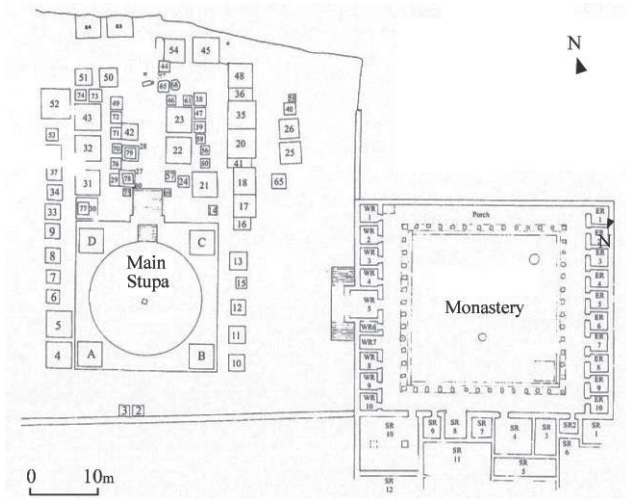


Figure 22. Plan of Saidu in Swāt (modified from Faccenna, 1995, figs.22, 23)

Saidu is the largest temples of satellites of Butkara I. The main stupa was reconstructed. It is thought that the construction was between 1st century and 2nd century A. D. The tall free-standing columns with a lion image on a capital stand in the four corners of the main stupa's base. In addition, the narrative frieze (narration sculpture of the Buddhism) decorated the drum.

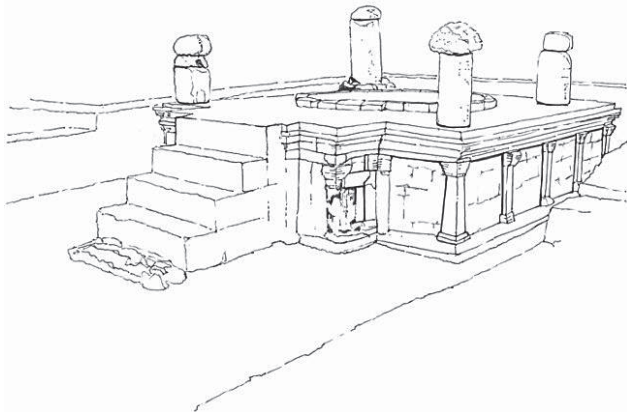


Figure 23. A (Block G) Stupa in Taxila, Sirkap

This is the "A stupa" of the Jainism. The pillars stand in the four corners of square base. It is quite thought with construction from the 1st century B.C. to 1st century A.D.

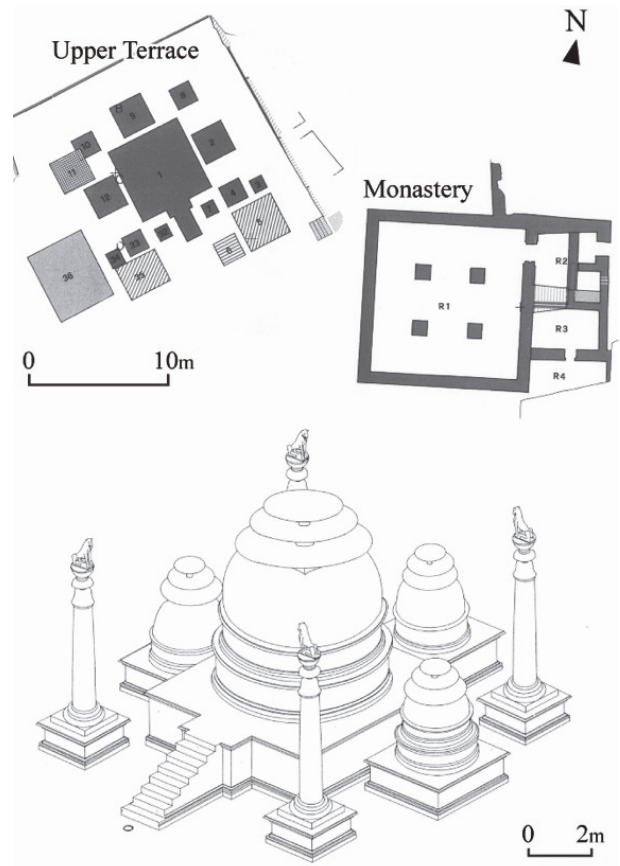


Figure 24. Plan and Axonometric Reconstruction of Upper Terrace at Panr, in Taxila (modified from Faccenna et al., 1993, figs.87, 139)

As well as Saidu, this temple is the satellites of Butkara I. Four free-standing columns stood outside of the square base of stupa, at upper terrace. The coins of Great Kushan were excavated.

| Schema | Architectural Spatial Components | Applicable Remains  |
|--------|----------------------------------|---|
| [8]    |                                  | • Saidu<br>• Tokar Dara<br>A.D.1-5c<br>A.D.1-3c             |
| [9]    |                                  | • A(Block G) Stupa<br>in Sirkap *<br>A.D.1c<br>*Jain Temple |
| [10]   |                                  | • Panr<br>A.D.1-5c  |

Figure 25. Architectural Spatial Components of Schema [8], [9], [10] and the Remain Concerned

The spatial components of schema [8] and [10] are as follows: 2. square base, 5. mound, 6. drum, 7. stairways, 8. free-standing columns.

The spatial components of schema [9] are as follows: 2. square base, 5. mound, 6. drum, 7. stairways, 8. free-standing columns, 9. pilaster.

Refer to Figure 2 about the number of the components.

On the other hand, stupas with cruciform plans, as an alternative development of the cannonball-shaped stupa, also



appeared. This cruciform plan had a square base, including stairs in every direction. The examples include Ahin Posh (schema [11]) and Shah ji ki Dheri (Kanishka stupa), which attached circular bastions to the four corners of the wall (Figure 27 and 28). Moreover, examples of another developmental type of cruciform-shaped stupa included, Bhamala (Figure 29 and 30), Shahri-Bahol Site G, Parihasapura, Rawak (Figure 31 and 32) and others (schema [13]). Differences from Ahin Posh included the fact the cruciform having projections at the four corners of a square base, had a more sophisticated plan, and was raised to greater height by piling up the bases on several stages.

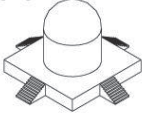




| Schema  | Architectural Spatial Components  | Applicable Remains   |
|---|---|----------------------|
| [11]<br> | 5<br> 4<br> 7<br> 6<br> | • Ahin Posh A.D.2-3c |

Figure 26. Architectural Spatial Components of Schema [11] and the Remain Concerned

The spatial components are as follows: 4. cruciform base, 5. mound, 6. drum, 7. stairways. Refer to Figure 2 about the number of the components.

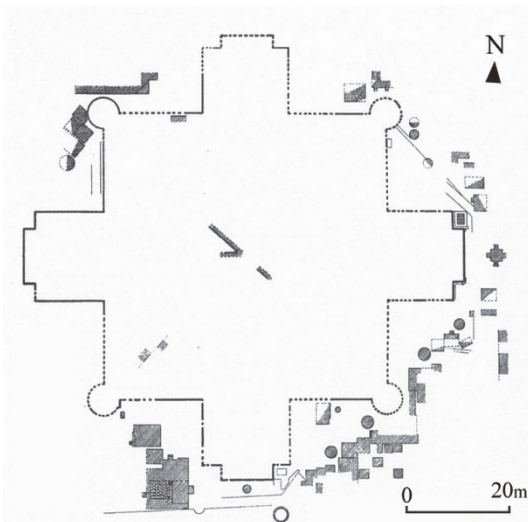


Figure 27. Plan of Shah ji ki Dheri in Peshawar basin (modified from Hargreaves, 1914, pl.XIII)

This is the great stupa that Foucher has identified as the construction by Kaniska. The construction was the 2nd century A. D., according to him. As a result of excavation, it became clear that the stupa with a circular base changed forms for three times into a square and a cruciform. This stupa is the one example to become a model in discussing about the transformation of the stupa form.

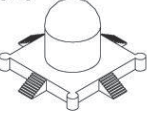





| Schema  | Architectural Spatial Components  | Applicable Remains         |
|---|---|----------------------------|
| [12]<br> | 5<br> 10<br> 7<br> 6<br> 4<br> | • Shah ji ki Dheri A.D.2c- |

Figure 28. Architectural Spatial Components of Schema [12] and the Remain Concerned

The spatial components are as follows: 4. cruciform base, 5. mound, 6. drum, 7. Stairways, 10. bastion. Refer to Figure 2 about the number of the components.

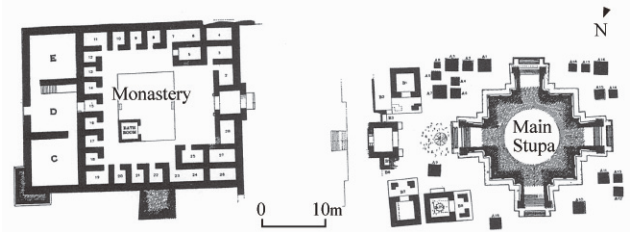


Figure 29. Plan of Bhamala in Taxila (modified from Marshall, 1951, pl.114)

The coins of between middle 4th century and 5th century were excavated. However, the main stupa was a cross-shaped plan, and it resembled the stupa seen in Kashmir and Afghanistan between about 7th and 8th centuries. The shrines are seen in the west of sacred area. The grha stupa is enshrined in the B8 shrine. The cruciform stupa is very rare in Taxila.

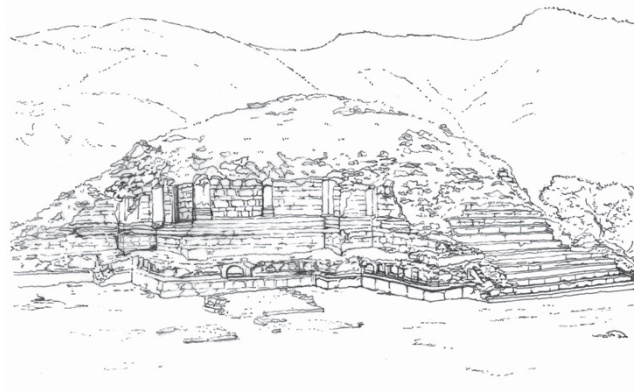


Figure 30. Main Stupa of Bhamala

This is the stupa having cruciform base. The upper part above the drum has not been preserved, but it is one of the few examples that can confirm the condition of the base in a cruciform stupa.

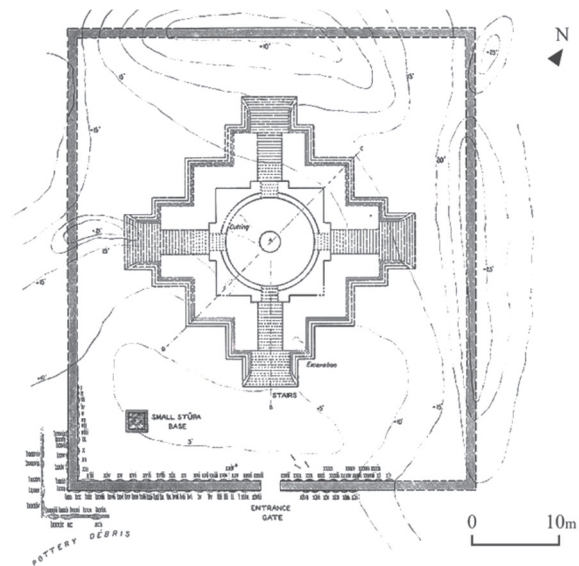


Figure 31. Plan of Rawak in Khotan (modified from Stein, 1907, fig. XL)

The cruciform stupa was built in the center of the courtyard surrounded by double boundary walls.

It is thought that it was constructed in the 3th to 5th centuries.

The statues were attached onto the internal and external boundary walls so that statues face to the corridor surrounded by walls.

The inside wall is the short side 33.5m and the long side 40m.

The boundary wall has the deep relations with the cruciform-shaped stupa.



Figure 32. Main Stupa of Rawak

The foundation was approximately 24 square meters and 9.5m in height. Long stairs with 12m spread out in every direction from the central stupa. The width of stairs is 4.3m.

| Schema | Architectural Spatial Components | Applicable Remains  |
|--------|----------------------------------|---|
| [13]   |                                  | <ul style="list-style-type: none"> <li>• Bhamala A.D.4-8c</li> <li>• Parihasapura A.D.7c</li> <li>• Rawak A.D.3-5c</li> <li>• Shahri-Bahlol Site G A.D.2c-8?</li> </ul> |

Figure 33. Architectural Spatial Components of Schema [13] and the Remain Concerned

The spatial components are as follows: 4. cruciform base, 3. circular base, 5. mound, 6. drum, 7. stairways. Refer to Figure 2 about the number of the components.

The stupa of Qocho City in Xinjiang Uighur had a form by which cruciform-shaped layers with projection were piled onto a circular base and a square base. This stupa was excavated and documented by Oldenburg (Figure 34). Unfortunately it is impossible to confirm the top of them, but it is thought the development type of the form with a base which attached convex corners in four directions, for example, Bhamala and Rawak. However, the stupa was placed next to shrine there, and stairs were not established (schema [14]).

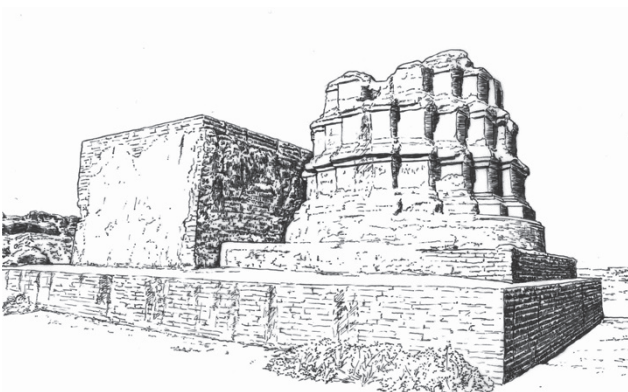


Figure 34. Stupa at Qocho City(southeast minor temple)

It is thought with the construction of from 5th century to 7th century.

This stupa is the form that piled the cruciform layers on the square base and circular base. The stairs to access the stupa directly were not seen. The quadrangular shrine is next to the north side of this stupa.

| Schema | Architectural Spatial Components | Applicable Remains  |
|--------|----------------------------------|---|
| [14]   |                                  | <ul style="list-style-type: none"> <li>• Qocho City A.D.5c-14?</li> </ul> |

Figure 35. Architectural Spatial Components of Schema [14] and the Remain Concerned

The spatial components are as follows: 4. cruciform base, 3. circular base, 4. Square base, 13. niche. Refer to Figure 2 about the number of the components.

At Yar City, which was also excavated by Oldenburg, there was a great stupa with a higher and more sophisticated base (Figure 36). Close to the longer side of the highest tower of the central foursquare plan, four towers with square plans of approximately the same area soared into the sky. This configuration gave the viewer a feeling of the direction of the sky. It is a very symbolic form and has no directionality of east, west, north, and south. It was presumed that there was a circular base, drum and mound in the upper parts of this high cuboid stupa based on photographs and record by Oldenburg. One hundred small stupas formed an orderly line around the main stupa. This spectacle may have presented dynamic effect, giving worshippers solemn feelings.



Figure 36. Stupa at Yar City

This huge stupa is believed to be built between 5th and 7th centuries in the most western part of Yar city. There were stairways in every direction.

Four cuboid towers were built along the high cuboid centered-tower. It is the symbolic form letting us feel the axuality to the upward. Around the main stupa, a hundred small stupas form in an orderly line. It can be assumed that it is the last arrival point of the bases, by the high stratification and increasing in the size.

| Schema | Architectural Spatial Components | Applicable Remains  |
|--------|----------------------------------|---|
| [15]   |                                  | <ul style="list-style-type: none"> <li>• Yar City A.D.5c-14?</li> </ul> |

Figure 37. Architectural Spatial Components of Schema [15] and the Remain Concerned

The spatial components are as follows: 2. cruciform base, 5. mound, 6. drum, 7. Stairways, 11. square pillar. Refer to Figure 2 about the number of the components.

Based on the above considerations, we conclude that stupas transformed in the following way: the base of the stupa was changed to cruciform from circular or square shape, and became higher. Therefore, the form of the stupa transformed from a simple plan to a sophisticated plan. In addition, the axially of the vertical direction rising up into the sky was created because the drum was given by changing the form of the base from a circle

into a square. At the same time, the stupa with the mound putting on the circular base has changed to the stupa having the drum. The verticality of stupas was emphasized afterward by raising the base higher and increasing the sizes of stupas themselves. It may also be said that the surfaces of the stupa came to be decorated with Buddhist statues and other sculptures, pilasters, friezes and cornices, using various techniques (Figure 38).

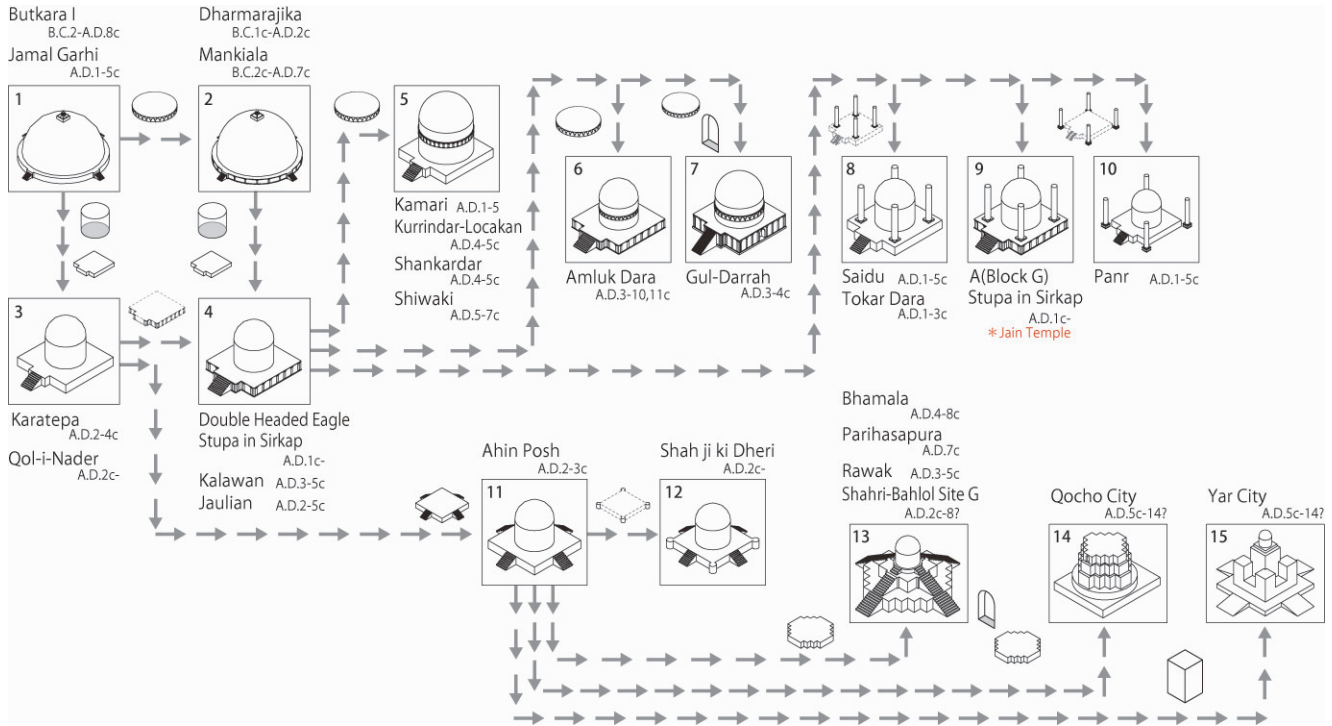


Figure 38. Transportation of Stupas

The primitive stupa with the mound built on the circular base, had transformed into the stupa which the mound built on the drum and the square base, and were given the high degree of decorativeness. The stupa had changed into cruciform plan between around 7th and 8th century, and became high stratification and increased in the size.

### 5. Conclusion

The final goal of our study is to establish a new method in for clarifying the architectural spatial compositions of Buddhist temple remains in Central Asia, treating these remains as an architectural space and considering about their transformation by modeling their spatial compositions.

As the first stage of this project, we were able to propose types of the spatial composition according to 4 functions (stupas, shrines, monasteries and other types of complexes) using visual techniques. The spatial composition of Buddhist temples in a wide area were analyzed and schematized using this method. Furthermore, we examined stupas, which are the most important constructions in Buddhist temples, and described their transformation with respect to their forms based on previous studies with drawings and sketches which were used in support of our consideration. Schematizing the spatial composition provides us with a common understanding of the visual transformation of temples. Moreover, this method can consider the transformation of the spatial compositions, Buddhist temples in this study area as well as of other areas. The method constitutes effective way to gauge cultural interchange with other areas.

In the future, when we schematize the spatial composition, we will closely re-examine that we express what kinds of component as schema and omit it, and arrest it as a common component. Because there is the possibility may overlook the

thing which is an important component when we consider the transformation. The extraction of the architectural spatial components targeted remains provides valuable knowledge for clarifying the sorts of transformations through which the Buddhist architecture passed. Applying this knowledge, we will consider the transformation of Buddhist spatial composition from the viewpoint of the architectural spatial components in the future. In addition, we are planning to consider the temples that we were unable to treat in this study as well as shrines, monasteries and other types of complexes, for schematizing their spatial transformation processes.

### Endnotes

1. Central Asia: We defined that it includes East-West Turkestan, Afghanistan and the northern part of Pakistan.
2. Refer to the references from No.21 to No.26 about the documents by Kyoto university expeditions.
3. Refer to the references from No.27 to No.29 as to the main book of Kuwayama about the transformations of Taxila and Gandhāran temples.
4. Refer to the references No.14 and No.15 about the chronology of masonry work in Taxila temple according to Marshall.
5. Refer to the references from No.16 to No.18 about the transformations of stupa plinths in Taxila, Gandhara and Swāt.
6. Refer to the references No.3and No.4 about the transformation of Gandharan temples by Kurt Behrendt. In addition, Behrendt lumps a

wide range of areas having the same cultural sphere together using expression called Greater Gandhāra, but Gandhāra generally points to the Peshawar basin in a narrow sense.

7. Gumbat, Ak-Besim and Miran etc. Conversely, as for the building which we judged to be irregular, and having the character that was different from the tide, we did not schematize it (e.g. Butkara III etc.).
8. We schematized them with omitting Torana and Vedika.
9. We schematized them with omitting Chatra, Harmika and Yasti. Because it is rare that the upper parts of the drum have been preserved, also the details of them were missing. We did not schematize Vedika for a similar reason either.
10. Refer to the reference No.11 about the report of the temples in Kābul where the French expedition performed excavation in recent years.
11. Barrel vaulted niche : the niche having the pointed arch that the top became narrower / Trapezoid niche : the niche which the upper side is shorter than the downside

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## **ACTIVITY REPORTS OF THE INSTITUTE OF TURKISH CULTURE STUDIES**

### **Inter Cultural Studies of Architecture (ICSA) in Japan 2015**

In accordance with the general exchange agreement between Mukogawa Women's University (MWU) and Bahçeşehir University (BAU), students and professors from BAU's Faculty of Architecture and Design joined us at Koshien Hall and the Architecture Studio on MWU's Kami-Koshien Campus from June 23 to August 1, 2015.

BAU students tackled second-, third- and fourth-year MWU student design projects. By participating in this program, they gained knowledge, learned techniques, and increased their awareness of architectural design. They also joined basic design studios of first-year MWU students and had the opportunity to experience traditional Japanese culture, such as Ikebana (Japanese flower arrangement under Ryuho Sasaoka, headmaster of the Ikebana Misho-ryu Sasaoka in Kyoto) and woodwork (with Sadahide Kanda, a master carpenter in Hyogo). They also participated in fieldwork on Saturdays, exploring the cities and architecture of Japan, such as Amanohashidate or the Itsukushima Shrine.

#### **Participants**

Professors: Associate Professor Murat Dündar, Instructor Belinda Torus

Students: Perihan İdin, Şira Dila Tuncer, Emine Bedriye Sungur, Cemre Kabakçı, Selin Özeren, Gülbahar Emir, Ece Paşalıoğlu, Başak Gül, Aygül Çınar, Cana Somay Panayırıcı

#### **1. Greetings**

##### **1.1. Welcome Party: June 24**

Ten students and one teacher from Bahçeşehir University were greeted by the students and teachers of Mukogawa Women's University. Prof. Dr. Shigeyuki Okazaki (Chair, Department of Architecture, MWU) and Assoc. Prof. Dr. Murat Dündar (Vice-Dean, Faculty of Architecture and Design, BAU) spoke and the BAU students and teacher introduced themselves in Japanese.

Afterwards, two former exchange students, who experienced ICSA in Japan when they were BAU students, are now research students at MWU, and will start graduate school next September, gave advice to the BAU students about life in Japan. Following this, MWU undergraduate students gave a speech in English and MWU graduate students gave a welcome speech in Turkish.



Welcome message by Prof. Shigeyuki Okazaki



Greeting in Japanese by Assoc. Prof. Murat Dündar.



Each BAU student gave a self-introduction in Japanese.



Advice from research student who had experienced in ICSA in Japan and will begin graduate school at MWU.



Advice from research student who had experienced in ICSA in Japan and will begin graduate school at MWU.



MWU fourth-year students greeting in English.



MWU third-year students greeting in English.



MWU second-year students greeting in English.



MWU graduate students greeting in Turkish.



Prof. Shigeyuki Okazaki gives MIC card to all the exchange students.

## 1.2. Courtesy Call on Chancellor Ryo Okawara and President Naosuke Itoigawa of MWU: July 7

The BAU students and Assoc. Prof. Dr. Murat Dündar visited MWU's Central Campus and paid a courtesy call on MWU's Chancellor Ryo Okawara and President Naosuke Itoigawa, who welcomed them and gave them words of encouragement. The students introduced themselves and described their impression of Japan since arriving. Their accounts, from their fresh perspectives, were extremely varied, ranging from daily life in Japan such as food and bicycles to MWU's learning environment and the Japanese culture, which is extremely refined and places great value on tradition. Afterwards, Prof. Shigeyuki Okazaki gave a tour of the Interdisciplinary Research Center and Hanshin Naruo Station. The MWU Department of Architecture was involved in their design.



Meeting with Chancellor Ryo Okawara and President Naosuke Itoigawa.



A commemorative photograph with Chancellor Ohgawara and President Itoigawa



Visit to the Interdisciplinary Research Center



Visit to the Hanshin Naruo Station

## 2. Design Classes

### 2.1. Architectural Design Studio I: Design of Small-scale Architectural Space through Combination of Planes 'A Student Hall' : June 26 to July 23

Three of the BAU students tackled the same project as MWU's second-year students in their studio, which was to design a student hall for the MWU Kamikoshien Campus. They first thoroughly investigated the spatial composition of Barcelona Pavilion, acclaimed as a masterpiece of modern architecture, and designed the student hall based on their investigations. They made models, and drew plans, elevations, sections, and perspectives. They also received advice from teachers, which they used to improve their initial ideas. Lastly, they presented their final submissions to the final-jury.





Discussion about what a student hall is.



Presentation at the inter-jury.



Commenting by teacher during the inter-jury.



Conversing among BAU and MWU students.



Lecture of hand-drawn perspective drawing.



Conversing with a teacher.



Presentation at the final-jury.



A MWU student commenting on a presentation by a BAU student.



Presentation at the final-jury.



Presentation at the final-jury.

## 2.2. Architectural Design Studio III: Rebuilding Hanshin Koshien Station with a Membrane-Structured Roof: June 26 to July 24

Three of the BAU students tackled the same project as MWU's third-year students in their studio. They addressed how to safely move a large number of passengers and how to make membrane roofing for the platforms. The students visited Hanshin Koshien Station after a baseball game. They then created membrane roof models, drew perspectives, and planned layouts, elevations, and sections. They also received advice from teachers and Akihiro Noguchi, a membrane expert from Taiyo Kogyo Corp., and used this advice to improve their initial ideas. Lastly, they made their final submissions and presented them to the final-jury.



Teachers explaining to the students how to create tensional forces on a membrane.



Presentation at the inter-jury.



Studying a membrane-structured roof.



Commenting by teacher during the inter-jury.



Conversing with a teacher.



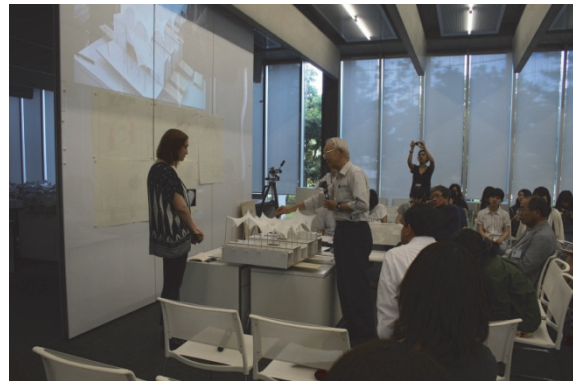
Presentation at the final-jury.



Presentation at the final-jury.



Presentation at the final-jury.



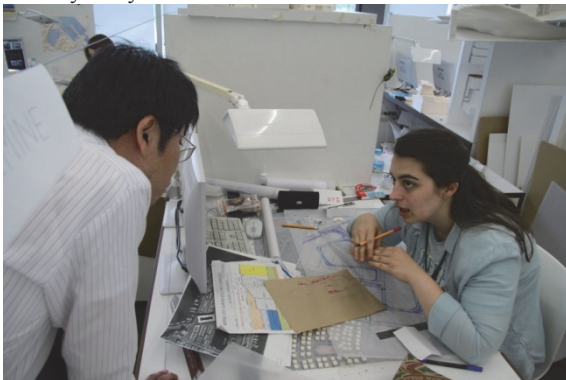
Dr. Mamoru Kawaguchi, Honorary Professor at Hosei University, commenting during the final-jury.

### 2.3. Architectural Design Studio V: Waterfront Paradise : June 25 to July 24

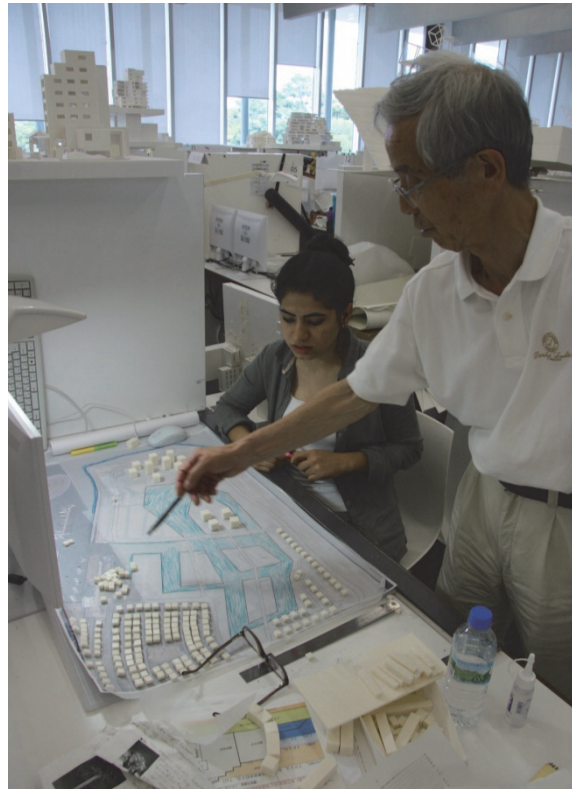
The remaining four BAU students tackled the same project as MWU's fourth-year students in their studio, specifically, to design a pleasant urban space for the Shioashiya Area, which is reclaimed ground in Ashiya City. They made models, drew perspectives, and planned layouts, elevations, and sections. They also received advice from teachers, which they used to improve their initial ideas. Lastly, they made their final submissions and presented them to the final-jury.



Visiting the Shioashiya Area, which is reclaimed ground in Ashiya City.



Conversing with a teacher.



Conversing with a teacher.



Presentation at the inter-jury.



Conversing with a teacher.



Presentation at the final-jury.



Presentation at the final-jury.



Presentation at the final-jury.



Presentation at the final-jury.

## 2.4. Basic Design Studio

To deepen their understanding of Japanese culture, the BAU students studied Ikebana (Japanese flower arrangement) and woodworking with the first-year MWU students.

### 2.4.1. Ikebana: June 25, 30 and July 2

On June 25 and 30, the students experienced Ikebana under Headmaster Ryuho Sasaoka (Ikebana Misho-ryu Sasaoka, part-time MWU lecturer). On July 2, they collaborated with MWU students, making and presenting large-size Ikebana arrangements.

### 2.4.2. Woodwork: July 14 and 16

The students used carpenter tools including planes and saws under Master Carpenter Sadahide Kanda, a part-time MWU lecturer, increasing their understanding of traditional Japanese carpentry techniques.



An Ikebana lesson.



Headmaster Ryuho Sasaoka instructing the BAU students in Ikebana



Large-size Ikebana arrangement lesson.



Large-size Ikebana arrangement lesson.



BAU students woodworking.



Master Carpenter Sadahide Kanda instructing the BAU students in woodworking.

### 3. Fieldwork

#### 3.1. Museum of History and Art in Kiyoshikojin Seicho-ji Temple, and Shisen-do Temple: June 27

The BAU students visited the Kiyoshikojin Seicho-ji Temple's Museum of History and Art, and the Shisen-do Temple with second-year MWU students. At the museum, they studied architectural design developing in an open atmosphere, as if encompassing the surrounding landscape, standing in the compound of the traditional Kiyoshikojin Seicho-ji Temple. At the Shisen-do Temple, they experienced and examined an approach space segmented by vertical and horizontal occluding edges, as well as the temple's excellent multi-layered space structure composed of a shoin (traditional reception room), wide porch, white sands in the garden, trimmed plants, and background view.



Visiting the Museum of History and Art in Kiyoshikojin Seicho-ji Temple.



Visiting the garden in Shisen-do Temple.

### 3.2. Architecture of Membrane Structure and Ichijo-ji Temple: June 27

Before designing a train station with a membrane structure, the BAU students and MWU third-year students listened to a lecture by Akihiro Noguchi (engineer at Taiyo Kogyo Corp.) on the history of membrane structures, and their materials, mechanical properties, construction techniques, and examples. They next visited the Rest House on Okura Beach in Akashi City to see an example of a suspended membrane structure. They then moved on to Ichijo-ji Temple in Kasai City. The pagoda, completed in 1171, is a Japanese National Treasure constructed in the Way o architectural style (Japanese style).



Visiting the Rest House on Okura Beach in Akashi City.



Visiting Ichijo-ji Temple in Kasai City.

### 3.3. Omihachiman in Shiga: June 27

The students visited Omihachiman, and saw the Hachiman-bori area, which has been preserved as a national important preservation district for the area's historic buildings and canals.



Visiting the Hachiman-bori area in Omihachiman.



Sketching in the Hachiman-bori area.

### 3.4. Funaya of Ine and Amanohashidate in Kyoto: July 4

The students visited Ine and Amanohashidate with MWU fourth-year students and saw Funaya (houses with unique boat garages) in Ine from the sea and land. After that, they moved to Amanohashidate, which is one of Japan's three most famous scenic places. They went to Kasamatsu Park by cable car and experienced the fantastic misty view with the sea spray.



Seeing funaya from marine taxi



When the sky and the earth are viewed upside down, Amanohashidate resembles a bridge across the sky.

### 3.5. Itsukushima Shrine and Hiroshima Peace Memorial Park, Hiroshima: July 9

The students visited Miyajima Island, one of Japan's three most famous scenic places, with the fourth-year MWU students. After arriving by ferry, they walked to the Itsukushima Shrine along a beachfront road, visited many buildings within the shrine, and viewed the mountain range over the O-torii (the Grand Gate). After that, they visited Hiroshima Peace Memorial Park.



Visiting the Itsukushima Shrine.



Visiting Hiroshima Peace Memorial Park.



#### 4. Completion Ceremony and Farewell Party: July 24

We held a completion ceremony and a farewell party for the students who are going home on August 1, completing the program, ICSA in Japan 2015. The ceremony began with the message by Prof. Shigeyuki Okazaki followed by the presentation of the certificate of completion of the ICSA 2015 to the ten students from Turkey. In return, Instructor Belinda and representatives of the BAU students expressed words of appreciation for the help given in the 40-day program. Then, MWU students handed presents to each BAU student. Finally, we took a commemorative photograph and ended the party having a fond farewell to them.



Message from Prof. Shigeyuki Okazaki



Message from Instructor Belinda



Conferring of certificate of completion



The commemorative photograph

(Reported by Toshitomo Suzuki)

## **“Silk Road Culture and Architecture” Lecture Series**

For four years running, three times a year, Mukogawa Women’s University has presented the lecture series “The Preservation and Restoration of Our Country’s Modern Architecture” at The Industry Club of Japan Hall, near the Marunouchi exit of Tokyo Station. Since the Meiji Era, the introduction of modern architecture into Japan’s living spaces has led to the development of two cultural styles, Japanese and Western. Each style seems like a flip side of the other, yet both coexist in splendor.

Beginning this fiscal year (2015), we have added a new lecture series titled “Silk Road Culture and Architecture,” with lecture meetings planned for at least once a year. The Silk Road has a long, dynamic history of cultural exchange that has bound our country to the Mediterranean Sea. We’re looking forward to this new series.

*Shigeyuki Okazaki*  
*Professor, Mukogawa Women’s University*

Even while epitomizing the expression of history itself, the words “Silk Road” conjure up an air of romance. Geographic references to silk and silk products are in the Book of Han, compiled during China’s Spring and Autumn Period in the early part of the seventh century B.C.E. During the Warring States Period two centuries later, the circulation of trade goods certainly expanded into surrounding regions. As silk became the star of East-West trade, Rome likely influenced Asia in profound ways. This interchange of East-West cultural assets worked like a turntable with respect to the effects they had on Asia, contributing significantly to cultural diffusion across borders regardless of the distances and disparities between states and peoples. Japan’s Shoso-in holds many of the treasures from this cultural splash.

Many of the ruins in the regions surrounding the core of the Silk Road are registered as World Heritage sites, and now attract global interest. Isn’t it time for the Japanese, who have been among the first to recognize the value of these remains and the most persistent in preserving the crown jewels of Silk Road culture, to take a closer look at this concentration of history and reflect on it?

*Kosaku Maeda*  
*Professor Emeritus at Wako University*

The Silk Road inspires curiosity and a spirit of inquiry among people worldwide, not just among the Japanese. Because of Japan’s location at the eastern edge of the Silk Road, many Japanese people have gazed on it with longing. In the regions along the Silk Road, many civilizations have flourished just as dynasties have risen and fallen repeatedly, their names etched in history. The people of these regions not only adapted to diverse natural environments but also created rich, magnificent cultures.

The Silk Road has been a stage on which people have lived and died for thousands of years. Throughout, the Silk Road served as a route of exchange and commerce. With globalization the shout in the 21st century, these lecture meetings are a precious opportunity to reconsider how the Silk Road interlocked key parts of the world.

*Kazuya Yamauchi*  
*Head, Regional Environment Section*  
*Japan Center for International Cooperation in Conservation*  
*National Research Institute for Cultural Properties, Tokyo, Japan*

## “Silk Road Culture and Architecture” Lecture Series #01

### *World Heritage Silk Road and Islamic Architecture*

**Date :** February 28 (Saturday), 2015, 13:00~  
**Venue :** The Industry Club of Japan Hall (Tokyo, Japan)  
**Lecturers :** Mr. Kazuya Yamauchi (Head, Regional Environment Section, Japan Center for International Cooperation in Conservation, National Research Institute for Cultural Properties, Tokyo, Japan)  
Dr. Naoko Fukami (Adjunct Researcher, Waseda University, Japan)  
**Performers :** Chalpasah (Japanese Afghanistan Music Duo)

This seminar, “World Heritage Silk Road and Islamic Architecture,” was the first in a new series of lecture meetings titled “Silk Road Culture and Architecture”. The seminar was held Feb. 28 (Saturday), 2015, at The Industry Club of Japan Hall, in the Marunouchi district of Tokyo. Many of the ruins identified in the regions that formed the core of the Silk Road are registered as World Heritage sites, attracting global interest. Isn’t it time for the Japanese, who have been among the first to recognize the value of these remains and among the most persevering in preserving the crown jewels of Silk Road culture, to take a closer look at this concentration of history and reflect on it? People have lived and died on the Silk Road stage for thousands of years. They not only adapted to diverse natural environments but also created rich, magnificent cultures. This lecture series addresses the long, dynamic history of cultural exchange that bound our country to the Mediterranean Sea via the Silk Road.

This first seminar was memorable, featuring guest lecturers Kazuya Yamauchi, head of the Regional Environment Section of the Japan Center for International Cooperation in Conservation at the Tokyo National Research Institute for Cultural Properties, and visiting research scholar Naoko Fukami of the Waseda University Organization of Islamic Area Studies. Also upon invitation, the duo Chalpasah (Keiichi Sato and Chisato Yagi) performed traditional music from Afghanistan.

The lecture meeting began with Chalpasah doing “Leili-Jan” (made famous by the late Afghan national singer Ahmad Zahir), an instrumental by rubab master Ustad Mohammad Omar, and popular tunes from the western Afghan city of Herat. Afghan music is a type of Persian music rich with meaning. Its iterations have influenced northern India and central Asia. Keiichi Sato played the rubab (Afghan stringed instrument of the lute family), accompanying Chisato Yagi’s singing voice and rhythms on the tonbak (goblet-shaped drum of Iran). Their music resounded through the hall.

Kazuya Yamauchi spoke of “The World of the World Heritage Silk Road.” He detailed the process of getting the “Silk Road: Routes Network of Chang’an—Tianshan Corridor” registered on the World Heritage List at the 38th World Heritage Committee meeting (June 15-25, 2014, Doha, Qatar). This region includes portions of the Silk Road and straddles three countries: China, Kazakhstan and Kyrgyzstan. Action to list the Silk Road as a World Heritage originated with a 2002 proposal to the United Nations and UNESCO by the late UNESCO Goodwill Ambassador Ikuo Hirayama. During the 12 years before the listing, Japan supported the proposal through various activities. Yamauchi

described the natural environment and the human livelihoods pursued along the Silk Road, and introduced the more important of 33 cultural sites registered on the World Heritage List, including the Jiaohe castle ruins.

Naoko Fukami lectured on “Islamic Architecture of the Silk Road,” touching on basic ideas under four headings: “About the Silk Road,” “What Is Islamic Architecture?,” “History of Islamic Architecture Along the Silk Road,” and “Network Connections for Islamic Architecture.” Islamic architecture itself has not moved, but the migration of people, technology and information have spread it to various regions. Fukami pointed to traces of technology transfers involving arch nets and domes, wherever there was Islamic construction.

(Reported by Junko Morimoto)



Second-floor auditorium  
at The Industry Club of Japan



Chalpasah duo performs traditional Afghan music



Mr. Kazuya Yamauchi



Dr. Naoko Fukami

## “Silk Road Culture and Architecture” Lecture Series #02

### *The Gandhara Buddhist Ruins and Silk Road Merchants*

**Date :** May 30 (Saturday), 2015, 13:00~  
**Venue :** The Industry Club of Japan Hall (Tokyo, Japan)  
**Lecturers :** Dr. Masaya Masui (Professor, Kyoto University, Japan)  
Dr. Yutaka Yoshida (Professor, Kyoto University, Japan)  
**Performer :** Mr. Ryohei Terada (Tuvan Music Performer)

This seminar, “The Gandhara Buddhist Ruins and Silk Road Merchants,” was the second in a new series of lecture meetings titled “Silk Road Culture and Architecture”. The seminar was held on May 30 (Saturday), 2015, at The Industry Club of Japan Hall, in the Marunouchi district of Tokyo. Guest lecturers were Kyoto University Graduate School professors Masaya Masui and Yutaka Yoshida. Also upon invitation, Ryohei Terada performed traditional throat-singing music from the Russian Federation Republic of Tuva.

The seminar opened with a Tuvan throat-singing (khoomei) performance by Ryohei Terada. The khoomei method stresses singing by controlling high harmonic overtones with the throat vocal cords. The rich sounds of Terada’s singing voice, accompanied by string melodies played on the igil and the doshpuluur, filled the hall.

Professor Masui’s talk, “Investigating and Preserving/Restoring Gandhara Buddhist Ruins,” introduced us to the work going on at the Gandhara ruins, the focus at Pakistan’s Ranigat site with which he has been involved since 1983. The efforts not only deal with the contents of international archaeological digs but also the problems of excavation site management, restoration and preservation techniques, and academic research. The work is multinational rather than an example of Japanese team research alone.

Professor Yoshida lectured on “The Identity of Sogdian Traders Who Supported the Silk Road.” Sogdians were an ancient Iranian people of a region centered in today’s Samarkand, Uzbekistan. They prospered by doing business in castle towns near the Silk Road. Introducing various documents and artifacts, Yoshida characterized the Sogdians as traders. He described their writings, items traded, and their connection with Japan.

(Reported by Junko Morimoto)



Dr. Shigeyuki Okazaki



Mr. Ryohei Terada performs



Dr. Masaya Masui



Dr. Yutaka Yoshida



Second-floor auditorium at The Industry Club of Japan

## **“Silk Road Culture and Architecture” Lecture Series #03**

### ***Shaping of the Silk Road West-East Connection***

**Date :** February 27 (Saturday), 2016, 13:00~  
**Venue :** The Industry Club of Japan Hall (Tokyo, Japan)  
**Lecturers :** Dr. Kosaku Maeda (Professor Emeritus, Wako University, Japan)  
Dr. Yasuyoshi Okada (Professor, Kokushikan University, Japan)  
**Performers :** Ms. Pouri Anavian (Persian Santur Musician)  
Ms. Dalia Anavian (Guide to Persian Culture, Music and History)

This seminar, “Shaping of the Silk Road West-East Connection,” was the third in a series of lecture meetings titled “Silk Road Culture and Architecture”. The seminar was held on February 27 (Saturday), 2016, at The Industry Club of Japan Hall, in the Marunouchi district of Tokyo. Guest lecturers were Kosaku Maeda (professor emeritus, Wako University) and professor Yasuyoshi Okada (Institute for Cultural Studies of Ancient Iraq, Kokushikan University). Also upon invitation, traditional Persian music was performed by Pouri Anavian (Persian santur musician) with Dalia Anavian serving as our guide to Persian culture, music and history.

The seminar began with traditional pieces performed on the Persian santur by Pouri Anavian. The santur is a 72-string-beat instrument shaped like a trapezoidal box. It is played by striking metallic strings with narrow mallets. The instrument is said to have developed into the piano after it circulated in Europe. Dalia Anavian introduced santur history and stories behind the music.

Professor Maeda lectured on the “Journey of Heracles: Encounter between East and West.” Beginning with an introduction of his many years of involvement with the excavation research, preservation, and restoration of the Bamiyan ruins (central Afghanistan), Maeda described how the Shukongoshin statue in Hokke-do Hall at Todaiji Temple was modeled. He said close analysis of drawings engraved on images and coins excavated from various historic-ruin sites indicates a process by which the figure of the mythical Greek hero Heracles transformed into Shukongoshin as travelers carried images of Heracles eastward along the Silk Road.

Professor Okada talked about “Comparative Dome Architecture Theory: Rome and the Silk Road.” A variety of shapes emphasizing the masonry-piled Roman pendentive and Islamic squinch domes were shown. He commented on clues to discovering influential relationships between the Roman and Silk Road worlds, holding up examples of dome remains from Jordan, Syria and Iran.

(Reported by Junko Morimoto)



Pouri Anavian performs on the santur.



Dalia Anavian provides commentary.



Dr. Kosaku Maeda



Dr. Yasuyoshi Okada



Introduction of the santur, a traditional Persian musical instrument.



## MWU's DAAM (Department of Architecture and Architecture Major) Special Lecture

### *Byzantine Art and Architecture*

**Date :** June 6 (Saturday), 2015, 13:00~16:30

**Venue :** West Hall, Koshien Hall

**Lecturer :** Dr. Tomoyuki Masuda (Professor, Waseda University, Japan)

Waseda University Professor Tomoyuki Masuda was invited to give a lecture entitled “Byzantine Art and Architecture.”

First, Department of Architecture Chair Okazaki explained the significance of this lecture. He observed that a problem of modern architectural space is its lack of murals. He told the audience of the need to once again consider the foundations of modern architecture by learning about Byzantine art and architecture.

Next, Professor Masuda gave the lecture. He first sketched an outline of the history of the Byzantine Empire and the characteristics of Byzantine art. He then introduced examples of mosaic and fresco Christian iconography, such as those found in the Basilica of San Vitale, the Church of Santa Maria dell'Amiraglio (the Martorana), the Church of the Holy Saviour in Chora, and Hagia Sophia. He commented on the meaning of these icons and techniques involved. Professor Masuda then taught the audience the art historian Otto Demus' system of analyzing Byzantine church decorations. Using the Church of St. George, in Kurbinovo, Macedonia, as an example, he commented on the relationship between the spatial layout of icons found in the church and their contents. He told his audience of a feature of Byzantine art: its skillful use of three-dimensional space to express content that cannot be expressed with just a single icon. Furthermore, he presented numerous icons with the theme of suffering Mary, the mother of Christ, and educated the audience on the continuity between the Byzantine and Renaissance art. Finally, based on his own experience Professor Masuda discussed the features of a monastery on Mount Athos and the characteristics of the monks' lifestyle.

Professor Masuda skillfully showcased the allure of Byzantine art by giving an easy-to-understand exposition of each icon's characteristics. This lecture provided an extremely valuable opportunity to consider the relationship between murals and space.

(Reported by Kazuhiko Yanagisawa)



West Hall



Dr. Tomoyuki Masuda

## ITCS Seminar # 01

### *Iranian Architecture and Culture*

**Date :** June 4 (Thursday), 2015, 16:30~19:00

**Venue :** K-222, Koshien Hall

**Lecturers :** **Mr. Kazuya Yamauchi (Head, Regional Environment Section, Japan Center for International Cooperation in Conservation, National Research Institute for Cultural Properties, Tokyo)**  
**Mr. Hiroki Yamada (Associate Fellow, Japan Center for International Cooperation in Conservation, National Research Institute for Cultural Properties, Tokyo)**

The first seminar of Institute of Turkish Culture Studies 2015 was held at the Koshien Hall on Thursday, June 4th. We invited Mr. Kazuya Yamauchi and Mr. Hiroki Yamada of the National Research Institute for Cultural Properties, Tokyo, to speak at this first lecture entitled “Iranian Architecture and Culture.”

Mr. Yamauchi first explained the basic features of Iran, such as population, geography, ethnic groups, and religion, and its world cultural heritages. Mr. Yamada then spoke about Persian architecture and history. He started his lecture at Ziggurat and the adobe architecture of the Elam period, and described various structures and gardens, such as the Pasargadae and Persepolis capitals of the Achaemenid Empire, squinch domes of the Seleucid and Parthian Empires, the Fahraj Mosque in the early Islamic period, the Jameh Mosque of Isfahan from the Seljuq dynasty, architecture in Samarkand during the Timurid dynasty, and Naqsh-e Jahan Square of the Safavid dynasty, with many illustrative photos and figures. He also presented conservation works of several structures on site and provided informative explanations of the types of Islamic architecture grouped regionally. In conclusion, he provided a presentation of the vernacular architecture in Iran.

During the discussion following the lecture, many questions were posed from the floor about Iranian and Islamic architecture and culture. The lecture ended on a high note.

(Reported by Kazuhiko Yanagisawa and Tomoko Uno)



Mr. Kazuya Yamauchi



Mr. Hiroki Yamada

## ITCS Seminar # 02

### *Ancient Dome Architecture of Western Asia*

**Date :** January 8 (Friday), 2016, 17:30~20:00  
**Venue :** K-222, Koshien Hall  
**Lecturer :** Dr. Yasuyoshi Okada (Professor, Kokushikan University, Japan)

The Institute of Turkish Culture Studies' second seminar of the 2015-16 academic year was held on January 8, 2016 (Friday) at Koshien Kaikan. For this meeting, Professor Yasuyoshi Okada of Kokushikan University was invited to give a lecture entitled "Ancient Dome Architecture of Western Asia."

Professor Okada introduced a historical survey of the subject. Beginning with the circular remains of Tell Gubba in Iraq, he discussed many examples of dome structures found in temples, residences, gravesites, palaces, and churches in countries such as Greece, Iran, Turkey, Jordan, Lebanon, and Syria. While commenting on materials, techniques, and dome styles, Professor Okada also educated the seminar participants on the origins of dome architecture, its development, and historical changes that led to Islamic architecture. At the same time, he discussed regional characteristics of dome architecture in regions such as Turkey and Iran and Central Asia. His lectures provided the audience with a glimpse of human hardships, ingenuity, and enthusiasm in dealing with questions such as how to place a round dome on a circular or square plane.

During the Q&A period, participants engaged in spirited discussions on related topics such as dome structure and China and Southeast Asia. This seminar was extremely stimulating and fascinating, provoking participants to think about an prototypical example of architecture.

(Reported by Kazuhiko Yanagisawa)



K-222



Dr. Yasuyoshi Okada

## ITCS Seminar # 03

### *Layout of Ancient Buddhist Temples in Central Asia*

**Date :** February 24 (Wednesday), 2016, 13:30~16:00  
**Venue :** K-222, Koshien Hall  
**Lecturer :** Mr. Shunpei Iwai (Lecturer, Ryukoku University, Japan)

The Institute of Turkish Culture Studies' third seminar of the 2015-16 academic year was held on February 24 (Wednesday), 2016, at Koshien Kaikan. For the seminar this time, Lecturer Shunpei Iwai of Ryukoku Museum, Ryukoku University, was invited to give a talk entitled "Layout of Ancient Buddhist Temples in Central Asia."

During the first half of the seminar, Lecturer Iwai surveyed the spread of Buddhism from its origin in India to Central Asia and Western Regions of China via Gandhara. He also introduced the floor plans of various historical ruins while commenting on the characteristics of elements that make up the layout of Buddhist temples and on their changes through time. Buddhist temples in Central Asia initially developed as memorials (cetiya) and monasteries (vihara). Lecturer Iwai discussed changes in the elements emphasized in different regions and time periods and compared their appearances to Japanese Buddhist temples.

In the second half of the seminar, Lecturer Iwai divided the greater Gandhara region (located on the borders of present-day Afghanistan and Pakistan) – with a major focus on Gandhara – into the regions such as, in Pakistan, the Taxila archaeological site, the Buddhist ruins of Takht-i-Bahi, the Ranigat site in Gandhara, and the Swat region; and in Afghanistan, Jalalabad, Kapisa, and Kabul regions. He then introduced the newest research on special features such as the layout of cetiya and vihara and the object of faith in those structures for each area. This seminar was rich with contents about Buddhist archeological sites from India to western China and about the spatial structure of the layouts of Buddhist temples across vast regions and their changes.

(Reported by Tomoko Uno)



K-222



Mr. Shunpei Iwai

## Dr. Hejazi, Mehrdad, Associate Professor at University of Isfahan, Visited Kami-koshien Campus and Attended Final Presentations by Graduate Students.

**Date : July 27 (Monday), 2015**

Dr. Hejazi, Mehrdad, Associate Professor of Civil Engineering at University of Isfahan, which is located in Isfahan, old capital of Iran similar to Kyoto in Japan, visited Kami-koshien campus in Mukogawa Women's University (MWU) on July 27, 2015. He visited the campus last September, and this summer again, visits Japan to conduct comparative research on the five-story pagoda in Japan and the minaret in Iran.

In the morning, Dr. Hejazi exchanged information on the five-story pagoda and the minaret with Dr. Hiroyuki Tagawa, Associate Professor at MWU. Five-story pagodas in Japan have not been collapsed in the past earthquakes and one of the reasons for this is said to be due to the vibration-control by Shin-hashira, continuous column located at the center of the pagoda. Although actual Shin-hashira in the pagoda is not structural element, modern architectures such as Tokyo SkyTree have been designed with a clue from the Shin-hashira's vibration-control concept. They agreed to advance collaborative research on the structure of the five-story pagoda and minaret in future.

In the afternoon, Dr. Hejazi participated in the final presentations of "Space design with folded deployable structure" by the 2nd-year graduate students and "kindergarten designed with roof membrane and space frame" by the 1st-year graduate students as a member of jury. He commented to the former that "The core of design was the use of the concept of 'origami'. The students had spent considerable amount of time from the first concept to the final one; it was apparent from their models. The result was fantastic. A light, rapidly deployable, and strong structure. Both architecture and structure were successfully combined". Also, he commented to the latter that "Different groups of students had come into different designs, but through a uniform concept; the variety was interesting. They had made a good combination of architecture and structure, although a few number of students needed more attention to the equilibrium of forces in the structure; something that usually takes time for architectural students".

Dr. Hejazi was also surprised to see that the students worked earnestly on the design projects and also many faculties and instructors attended the presentations giving valuable comments to students. Again, he strongly wished to promote the exchange of faculties and students between MWU and the University of Isfahan.

(Reported by Hiroyuki Tagawa)



Discussing on folded deployable structure



Commenting on student's design of "kindergarten with roof membrane and space frame"

## **MWU Graduate-school Entrance Ceremony in September was Held and Two Students from Turkey Entered the Architectural Major.**

**Date : September 15 (Tuesday), 2015**

The MWU graduate-school entrance ceremony in September was held at the global studio on the 2nd-floor of the central library in the MWU and two international students from Turkey entered the architectural major. About 50 enrolled students and faculties were present at the ceremony.

At first, the oration was delivered by Naosuke ITOIGAWA, the president of MWU. Then, the two students read the oaths in Japanese cooperatively. Finally, President ITOIGAWA handed a university badge to each student and the ceremony was closed.

The two students had determined their mind to go abroad to study architecture genuinely at the MWU architectural major after participating in the international exchange program, Inter Cultural Studies of Architecture (ICSA) in Japan, and working on the design practices etc. with the Japanese students in the MWU architectural department. Let's study hard together!

(Reported by Kazuhiko Yanagisawa and Hiroyuki Tagawa)



Oath by Two Students from Turkey

## Annual Events Apr. 2015- Mar. 2016

| Date                   | Events  |
|------------------------|---|
| February 28, 2015      | <p><b>“Silk Road Culture and Architecture” Lecture Series #01</b><br/> <i>“World Heritage Silk Road and Islamic Architecture”</i> (Mr. Kazuya Yamauchi, Head, Regional Environment Section, Japan Center for International Cooperation in Conservation, National Research Institute for Cultural Properties, Tokyo, Japan / Dr. Naoko Fukami, Adjunct Researcher, Waseda University, Japan / Chalpasah, Japanese Afghanistan Music Duo)</p> |
| May 30, 2015           | <p><b>“Silk Road Culture and Architecture” Lecture Series #02</b><br/> <i>“The Gandhara Buddhist Ruins and Silk Road Merchants”</i> (Dr. Masaya Masui, Professor, Kyoto University, Japan / Dr. Yutaka Yoshida, Professor, Kyoto University, Japan / Mr. Ryohei Terada, Tuvan Music Performer)</p>  |
| June 4, 2015           | <p><b>ITCS Seminar #01 (FY2015)</b><br/> <i>“Iranian Architecture and Culture”</i> (Mr. Kazuya Yamauchi and Mr. Hiroki Yamada, Japan Center for International Cooperation in Conservation, National Research Institute for Cultural Properties, Tokyo, Japan)</p>   |
| June 6, 2015           | <p><b>MWU’s DAAM Special Lecture (FY2015)</b><br/> <i>“Byzantine Art and Architecture”</i> (Dr. Tomoyuki Masuda, Professor, Waseda University, Japan)</p>   |
| June 23-August 1, 2015 | <p><b>Inter Cultural Studies of Architecture (ICSA) in Japan 2015</b></p>   |
| July 27, 2015          | <p><b>Dr. Hejazi, Mehrdad, Associate Professor at University of Isfahan, visited MWU.</b></p>   |
| September 15, 2015     | <p><b>MWU Graduate-school entrance ceremony in September was held and two students from Turkey entered the architectural major.</b></p>   |
| January 8, 2016        | <p><b>ITCS Seminar #02 (FY2015)</b><br/> <i>“Ancient Dome Architecture of Western Asia”</i> (Dr. Yasuyoshi Okada, Professor, Kokushikan University, Japan)</p>  |
| February 24, 2016      | <p><b>ITCS Seminar #03 (FY2015)</b><br/> <i>“Layout of Ancient Buddhist Temples in Central Asia”</i> (Mr. Shunpei Iwai, Lecturer, Ryukoku University, Japan)</p>  |
| February 27, 2016      | <p><b>“Silk Road Culture and Architecture” Lecture Series #03</b><br/> <i>“Shaping of the Silk Road West-East Connection”</i> (Dr. Kosaku Maeda, Professor Emeritus at Wako University, Japan / Dr. Yasuyoshi Okada, Professor, Kokushikan University, Japan / Ms. Pouri Anavian, Art Maven, Santourist / Ms. Dalia Anavian, Guide to Persian Culture, Music and History)</p>   |

## OUTLINE OF THE INSTITUTE OF TURKISH CULTURE STUDIES

### Organization

| Position            | Affiliation  | Title               | Name                |
|---------------------|--|---------------------|---------------------|
| Director            | Department of Architecture   | Professor           | Shigeyuki Okazaki   |
|                     |  | Professor           | Yusei Tazaki        |
| Researcher          | Department of Architecture   | Professor           | Kazuhiko Yanagisawa |
|                     |  | Professor           | Shigeki Tosu        |
|                     |  | Associate Professor | Fumie Ooi           |
|                     |  | Associate Professor | Noritoshi Sugiura   |
|                     |  | Associate Professor | Toshitomo Suzuki    |
|                     |  | Associate Professor | Hiroyuki Tagawa     |
|                     |  | Lecturer            | Akira Tanaka        |
|                     |  | Lecturer            | Hideaki Tembata     |
|                     |  | Lecturer            | Keisuke Inomata     |
|                     |  | Lecturer            | Tomoko Uno          |
|                     |  | Lecturer            | Junko Morimoto      |
|                     |  | Lecturer            | Sachiko Morishige   |
|                     |  | Assistant Professor | Aya Yamaguchi       |
|                     |  | Visiting Professor  | Mamoru Kawaguchi    |
|                     |  | Visiting Professor  | Kunihiko Honjo      |
| Visiting Researcher | Institute of Turkish Culture Studies                                 | Professor           | Shushi Sugiura      |
|                     | Bahçeşehir University (Turkey)<br>Faculty of Architecture and Design | Associate Professor | Murat Dündar        |
| Assistant           | Department of Architecture   | Assistant           | Yuna Tanaka         |
|                     |  | Assistant           | Yuuka Nakamura      |
|                     | Institute of Turkish Culture Studies                                 | Assistant           | Yuna Hongo          |
| Secretariat         | Secretariat Division of School of<br>Human Environmental Sciences    | Chief Clerk         | Miyuki Nakaichi     |

### Reviewers on *Intercultural Understanding*

| Name                   | Title and Affiliation  |
|------------------------|--|
| Yasushi Asami          | Professor, The University of Tokyo, Japan                                |
| Kunio Kato             | Professor Emeritus at Kyoto University, Japan                            |
| Mamoru Kawaguchi       | Professor Emeritus at Hosei University, Japan                            |
| Mitsuo Takada          | Professor, Kyoto University, Japan                                       |
| Shuichi Hokoi          | Professor Emeritus at Kyoto University, Japan                            |
| Kosaku Maeda           | Professor Emeritus at Wako University, Japan                             |
| Minako Mizuno Yamanlar | Representative of NPO The Japanese-Turkish Friendship Association, Japan |
| Kazuya Yamauchi        | Professor, Teikyo University, Japan                                      |
| Hironobu Yoshida       | Professor Emeritus at Kyoto University, Japan                            |
| Murat Dündar           | Associate Professor, Bahçeşehir University, Turkey                       |
| Murat Şahin            | Associate Professor, Özyeğin University, Turkey                          |
| Shigeyuki Okazaki      | Professor, Mukogawa Women's University, Japan                            |
| Kazuhiko Yanagisawa    | Professor, Mukogawa Women's University, Japan                            |



## **Rules and Regulations of the Institute of Turkish Culture Studies (ITCS) at Mukogawa Women's University**

### **(Establishment)**

**Article 1** Mukogawa Women's University (hereinafter referred to as "the University") locates the Institute of Turkish Culture Studies (hereinafter "the Institute") in the University.

(2) The Institute shall be operated under the administration of the department of architecture (of the University) for the time being.

### **(Objective)**

**Article 2** The objective of The Institute is as follows:

(i) to conduct comparative studies on life, technology and culture centered around architecture of Japan and Turkey, as the east and the west starting points of the Silk Road, and to clarify the cultural base common to both countries beyond the differences in history, climate and so forth between the two countries.

(ii) to conduct, developing above-mentioned aims, extensive studies on life, technology and culture centered around architecture of neighboring Silk Road countries and to clarify similarities among them and contribute to new mutual understandings and contribute to the peace and prosperity of the Silk Road region through such understandings.

(iii) to support international exchange of students mainly in the field of human environment and conduct international education activity of architecture and human environment based on the achievements of the studies mentioned in (i) and (ii).

(iv) to discuss internationally the achievements of research and education referred to in the preceding three items and to introduce (*or* transmit) it to the world in various ways at every occasion, and to share common values with the people around the world.

### **(Operation)**

**Article 3** The operations of the Institute to achieve the above-mentioned objectives are as follows:

(i) to conduct studies in cooperation with the Research Center of Japanese Culture Studies at Bahcesehir University, Istanbul

(ii) to hold an international workshop "Inter Cultural Studies of Architecture in Japan (ICSA in Japan)" where architecture and human environment students of the world centered around Turkey are invited every year in principle, to support the similar workshop "Inter Cultural Studies of Architecture in Istanbul" which is held at the Research Center of Japanese Culture Studies at Bahcesehir University and to send teachers and students of the University centered around the department of architecture for the research and education activities.

(iii) to hold seminars, introduce the research achievements, exhibit and hold lectures, concerning life, technology and culture centered around architecture, where researchers, business persons and residents who belong to the field of studies conducted by the Institute are invited.

(iv) to hold permanent and special exhibitions on life, technology and culture of neighboring Silk Road countries centered around Turkey.

(v) to conduct public relations activities such as publication of the research and educational achievements of the Institute, symposium and so forth.

(vi) other operations required to accomplish the aims mentioned in the preceding article.

### **(Organization)**

**Article 4** The Institute may have research departments with respect to differences in research fields to perform relevant activities.

**(Director)**

**Article 5** The Institute shall install a director.

- (2) The chancellor appoints a director from among professors
- (3) The director shall be appointed for a period of two years and may be reappointed
- (4) The director handles the operations of the Institute under the president's direction

**(Vice Director and Head of Research Department)**

**Article 6** The Institute may install a vice director and heads of research in each department referred to in article 4.

- (2) The chancellor appoints a vice director and heads of research department from among the faculty. The latter position may be substituted by adjunct teaching staff.
- (3) The vice director assists the director and engages in the administrative operations
- (4) The vice director fills in for the director under the director's direction
- (5) Each head controls his research department and engages in the research under the director's direction .

**(Senior Researcher)**

**Article 7** The Institute may install senior researchers with the chancellor's approval.

- (2) The director appoints senior researchers from among researchers.
- (3) The senior researchers assist their heads and engage in the research.

**(Researcher)**

**Article 8** The Institute shall install researchers required.

- (2) Teachers at Bahcesehir University may be appointed as researchers
- (3) The researchers engage in research under the director's direction.

**(Temporary Researcher)**

**Article 9** The Institute may install temporary researchers as the need arises.

- (2) The president appoints temporary researchers upon recommendation of the director
- (3) The period of the appointment shall be less than one year and it may be renewed when necessary.
- (4) The temporary researchers engage in the specific research or joint research.

**(Assistant)**

**Article 10** The Institute may install assistants.

- (2) The assistants assist research under the director's direction.

**(Steering Committee)**

**Article 11** The University shall have the steering committee of the Institute (hereinafter "the steering committee") to deliberate the basic policy concerning the operation of the Institute.

- (2) The steering committee shall consist of the director and a few members chosen from among the vice director, the heads of research departments, the senior researchers and researchers.
- (3) The president appoints the members of the steering committee.
- (4) The director shall be the chairperson of the steering committee.
- (5) The chairperson shall convene and lead the steering committee.
- (6) The member shall be appointed for a period of two years and may be reappointed. When a vacancy arises, the successor's term of office shall be the predecessor's remaining term.
- (7) The details on the steering committee shall be otherwise laid down.

**(Secretariat)**

**Article 12** The Institute shall install a secretariat.

(2) The secretariat shall consist of a few members and the chief clerk of School of Human Environmental Sciences shall be the chief of the secretariat

(3) The members of the secretariat handle clerical works under the guidance and supervision of the chief clerk under the director's direction.

**(Supplementary Rules and Directions)**

**Article 13** In addition to what is provided in this rules and directions, the necessary matters concerning the administrative operations of the Institute shall be prescribed by the director.

**(Modification or Elimination of the Rules and Regulations)**

**Article 14** Modification or elimination of the rules shall be implemented with the chancellor's prior approval.

**Supplementary Provisions**

(1) The rules and regulations shall be enforced starting on July 29, 2009.

(2) In the period from the day the rules and regulations is enforced until March 31, 2011, the term of the appointed directors and members of the steering committee shall begin on the day when they are appointed and end on March 31, 2011 notwithstanding the provisions of Article 5, paragraph(3) and Article 11, paragraph(6).



## **Intercultural Understanding Vol.6**

**ISSN 2186-2559**

**編集者:**

武庫川女子大学トルコ文化研究センター

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**発行者:**

武庫川女子大学

平成 29 年 1 月 31 日発行

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Printed in Japan