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Spatial Composition Relations Between Stupa Courts and Shrine Architectures of Buddhist Temples in Central Asia

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Abstract: This study examines a sample of 54 documented Buddhist temple remains in Central Asia from an architectural perspective. Specifically, it discussed the key characteristics/commonalities and analyzed the spatial composition between the stupa courts and shrines to locate the worship object in the main chamber. By focusing on the placement of the main stupa and shrines, the stupa courts were categorized into two types (surrounded and parallel). Meanwhile, the spatial composition of the shrines with the worship object (the stupa or Buddhist statue) in the main chamber were classified into five types according to the central worship object and the placements of the neighboring worship objects. Based on the findings, the worship behaviors inferred from the spatial composition of the stupa courts were also observed in the shrines with circumambulatory architecture.

1. Introduction

This study presents an architecture-based detailed assessment of the spatial composition encompassing stupa court[1], a central worship space, and shrine architectures[2] in Central Asia[3]. This study primarily focuses on analyzing the characteristics of the spatial composition, examining the commonalities between the spatial composition of the main stupa and shrine architectures in the stupa court. Additionally, it explores the spatial composition of shrine architectures, particularly the placement of the worship object in the center of the main chamber. This approach enables the discovery of the architectural characteristics considered important in the worship space in Central Asia that started from Gandhāra[4], and it can be extended and analyzed to identify commonalities with the worship spaces of Buddhist temples in the cultural sphere extending from Eastern Turkestan and to the east.

2. Previous Studies

Interest in stupas and the arrangement of temple buildings in Buddhist temples of Central Asia dates back to the 19th century when the remains of Buddhism in this region captured attention. Therefore, numerous studies have accumulated in the field of archaeology and architecture, concerning the transition of elements such as stupas and the arrangement of temple buildings. Notable discussions on this subject have occurred even in Japan (Kuwayama[39) 40) 41)], Kato[31) 32) 33) 34) 35)], and Iwai[28) 29) 30)] et al.). In ancient times, Chinese Buddhist priest, including Xuangzang (Genjo Sanzo) described the state of the Buddhist monastery[15) 22) 88).].

In Japan, Mizuno and Higuchi and others from Kyoto University led a scientific mission to explore the Iranian Plateau and Hindukush, visit Pakistan and Afghanistan, and publish detailed working papers[5]. Kuwayama published numerous articles on the transformation of the Buddhist temples in Gandhāra and Taxila[6]. In addition, the Buddhist chronology remains in this area were examined and compared with the masonry chronology at Taxila's temple produced by Marshal[7]. Kato and others recently explored the plinths of Buddhist temples in Gandhāra, Taxila, and Swāt[8].

In the subsequent areas, various investigative groups have conducted excavations (with something finished in the past, which is partly in continuation): the Italian expedition in the Swāt area, focusing on Buddhist remains in northwest Pakistan[9]; the French expedition exploring the remains in the Afghanistan area[10]; the Russian expedition studying the narrow-sense Central Asian remains[11]; the Chinese expedition has been excavating the Xinjiang Uighur area[12].

While Rhie (2002) presented a comprehensive summary of the Central Asian Buddhist temple, Iwai (2019) explored the transformation of Buddhist monastery placement. Behrendt (2004, 2006) classified the worship objects placed inside the monasteries and the plane form of shrine architectures, ultimately concluding that both classifications were in a one-to-one correspondence relationship. However, caution is warranted while considering this, as instances may exist where this cannot be said to be the case[13].

Kato (2017) studied shine architectures in the Taxila Buddhist temples. Based on these past studies, we classified the spatial compositions of shrine architectures in Buddhist temples in Central Asia, focusing specifically on the arrangement of worship objects. We have uncovered four distinct types of characteristics of spatial composition in shrine architectures: shrines in which worshippers face worship, "shrine with axiality," "shrine with circumambulatory," and "shrine with centrality."[57)]

Although previous studies explored the plane forms of shrine architectures, their functions (including the worship-object classification), and the transformations of stupas and temple buildings, no study has classified the spatial composition constituted by the main stupa and shrine architectures through visual representations. Furthermore, no analysis explored the relationships within the spatial composition of stupa courts and

shrine architectures, and conjectures about their commonalities and influential relationships remain undescribed.

3. Analysis Subject and Method

This study focused on temples situated within the region bound to the south by Taxila and Gandhāra near the Peshawar Basin, to the north by Jimsar in the Xinjiang Uighur Autonomous Region where the Ruins of Bashbaliq city are located, to the east by Qara-hoja also in the Xinjiang Uyghur, and to the west by Merv in Turkmenistan (Figure 1).

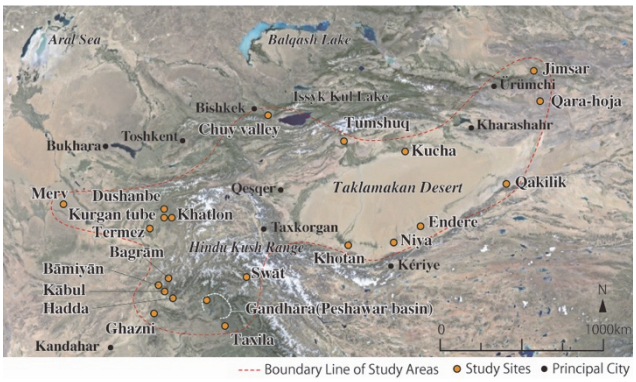

Figure 1. Map of study areas

The Buddhist temples selected for this study, comprising 54 remains in the mentioned areas, were elevated above the ground[14]. Furthermore, these temples underwent excavation and were documented in reports, with drawings and photographs, or both, based on availability. This documentation enables us to distinguish between their plan forms and spatial compositions.

Table 1 contains the study subjects of Buddhist remains[15], in addition to the temples considered for the analysis, as they differ across chapters.

Chapter 4 focuses on the 42 cases of temple ruins selected as the analysis subject[16]. These temples feature the main stupas and shrine architecture, forming a stupa court. We classify the placement relations of stupas and shrine architectures through investigation and analysis, relying on drawing(s), photograph(s), and descriptions in the reports. Furthermore, we discuss the characteristics of the spatial composition for each identified type.

In Chapter 5, we looked at 47 temples and 86 cases of shrines, that had a shrine building where the objects of worship were enshrined in the center of the main room, and where the shrine was given a number or name on the drawings (Shrines with the same shape or almost the same shape within a single temple were considered as one).

The spatial compositions of shrine architectures are classified based on the difference in placement with the worship object (stupa or Buddhist statue)[17] enshrined in the center of the chamber and the worship objects enshrined along neighboring walls in the chamber. The characteristics of each identified type are examined.

Chapter 6 discusses the commonality and regionality of spatial compositions in the Buddhist temples of the study subject based on the characteristics of spatial compositions in stupa courts and shrine architectures.

Table 1. Buddhist temples and areas of study subject

Location (Country)	Name of Buddhist temples (in English)	Date	Chapter to treat		Reference No.
			4	5	
Taxila (PAK*)	1. Akhauri (Chir Tope) B	A.D.1-5c?	●	●	52,53
	2. Bhamala	A.D.4-8c	●	●	
	3. Dharmarajika complex	B.C.1-A.D.2c	●	●	
	4. Jaulian	A.D.2-5c	●	●	51,52,53
	5. Kalawan	A.D.3-5c	●	●	52,53
	6. Mohra Moradu	A.D.3-5c	●	●	
	7. Pippala	A.D.1	●	●	
	8. Giri Stupa C and Monastic courts D and E	A.D. 5c	●		
Gandhāra, Peshawar basin (PAK)	9. Jamal Garhi main stupa court *1	A.D.1-5c	●	●	9
	10. Jamal Garhi 2MSA *1		●	●	
	11. Mekhasanda stupa court	A.D.3-5c	●	●	61,73
	12. Ranigat east area	A.D.1-5, 6, 8c?	●	●	61
	13. Ranigat southwest area	A.D.2-4c	●		
	14. Ranigat west area	A.D.2-4,5c?	●		
	15. Takht-i-Bahi	A.D.2-4c	●	●	9,21,75
	16. Thareli site D	A.D.2-4,5c?	●	●	74
	17. Thareli site C		●	●	
Swāt (PAK)	18. Abbasahebchina (Najigram)	A.D.2-5c	●		14#,36,37,87
	19. Amluk Dara	A.D.2, 3c-?	●	●	14#,36,63,80
	20. Butkara I	B.C.3-?	●	●	12,13,36,63
	21. Butkara III	A.D.1c-?		●	24,36,63
	22. Gumbat	A.D.2, 3-?	●	●	14#,63,80
	23. Marjanai	A.D.1-5c?	●	●	37,63
	24. Nimogram	A.D.1-3c	●		23,36
Hadda (AFG*)	25. Bagh Gai	A.D.3-4c	●	●	3,4,5,8#
	26. Tapa-i-kafariha (PLAN-A) *2	A.D.3-4c	●	●	4,5,8#
	27. Tapa Shotor	A.D.4-5c	●	●	84,86
	28. Chakhil-i-ghoundi	A.D.2-4c	●		4,5,8#
	29. Gar-Nao	A.D.2-7c	●	●	4,5
	30. Deh-Ghoundi	A.D.2-7c	●		
	31. Tapa-e-Top-e-Kalân	?	●	●	85,86
Bagrām (AFG)	32. Shotorak	A.D.3c	●	●	54
Ghazni (AFG)	33. Tapa Sardar	A.D.3-7,8c	●	●	26,27,82,83
Kābul(AFG)	34. Tepe Narenj	A.D.3-9c	●	●	16#,27,64
Bamiyan (AFG)	35. Bamiyan MO site	A.D.2,3-9c	●	●	11
Termez (UZB*)	36. Karatepa north court	A.D.1-7c	●	●	17,71
	37. AirTam	A.D.2c	●	●	66,69#
Kurgan tube (TJK*)	38. Ajina tepa	A.D.7-8c	●	●	45,49,59,69#
	39. Kafyr-kala	A.D.7-8c		●	48,69#,76#
Dushanbe (TJK)	40. Khisht Tepa	A.D.7-8c		●	56,69#,76#
	41. Kalai-Kafirnigan	A.D.7-8c		●	46,47,59,69#
Chuy valley (KGZ*)	42. Ak-Beshim 1st Temple	A.D.6-8c		●	42,60,69#, 76#,89
	43. Krasnaya Rechka 2nd Buddhist Temple	A.D.7-8c		●	18,69#,76#
Merv (TKM*)	44. Buddhist Temple in Giaur Kalah	A.D.4-5c	●	●	67,68,69#,76#
Endere (Xīn*)	45. Endere 安迪尔故城	A.D.11c		●	77,78,79
Khotan (Xīn)	46. Dandan Oilik 丹丹烏里克	A.D.7-8c		●	1,77,81
Niya (Xīn)	47. Niya 尼雅故城	B.C.1-A.D.4c	●	●	2,77
Qakilik (Xīn)	48. Mirān 米蘭	A.D.2-5c		●	78,79,81
Qara-hoja(Xīn)	49. Southwest Buddhist Temple(Temple β) of Qocho City 高昌故城	A.D.5c-13c?	●	●	19,62
	50. Yar City 交河故城 大寺院 E-27	A.D.5c-14?		●	44,79
Jimsar(Xīn)	51. Buddhist temple of Bashbaliq city 北庭高昌回鶻仏寺	A.D.10c-14c?		●	25
Tumshuq(Xīn)	52. Tumshuk-Tagh western group	A.D.4-7c	●	●	43,65,70#
	53. Toqquz-sarai	A.D.4-7c	●	●	65,70#
Kucha(Xīn)	54. Douldour-Āqour	A.D.4-8c		●	20,70#

*PAK=Pakistan, AFG=Afghanistan, UZB=Uzbekistan, TJK=Tajikistan, KGS= Kyrgyzstan, TKM=Turkmenistan, Xīn= Xinjiang Uyghur # : Secondary Source

*1 In Jamal Garhi, small stupa courts, referred to as the "Monastic Sacred Area" by Behrendt (2004), are scattered around the main stupa court. In this regard, two stupa courts are included in the analysis: "Small Stupa Court E," named by Cunningham (1875); and "2MSA," named by Behrendt. Thus, in the present study, the names of these stupa courts are based on those by Cunningham and Behrendt, respectively.

*2 In Barthoux (2001), the drawing of the stupa courts is called "PLAN-A, First Enclosure (K)." Aside from this area in Tapa-i-kafariha, the stupas and monasteries are scattered (see Fig. 100). Thus, in the present study, it is only intended for the area in which the complex of temple buildings existed.

4. Spatial Composition Frmed by the Main Stupa and Shrine Architecture in the Stupa Court

The spatial composition of Buddhist temples naturally varies based on factors such as the location, the surrounding natural environment, and climate conditions of the temple, and this divergence is evident across different regions and times. Additionally, it varies based on the forms of Buddhist faith emphasized in the construction of a Buddhist temple. Regarding the constitution of the Buddhist temple building, its relations with Buddhism law (Vinaya) are close, too. The Vinaya outlines what kind of building it should be located in and what kind of place[18].

This study focuses on "the conspicuously big stupa which is the most important worship object of the temple called the main stupa" and "the shrine architecture enshrined the Buddha or Bodhisattva image (or others) in the chamber" within the stupa court, which is considered a holy space where stupas and shrines are built in the temple. These placement relations are examined.

Numerous studies exist on Buddhist temple placement in Central Asia. Iwai (2006) analyzed the placement of the shrine architectures in the stupa court and described that the stupa court in the Taxila–Gandhāra area, where the main stupa was enshrined, could be classified in about two forms:

1. (Main stupa + cluster of small stupas + line of shrine architectures): The main stupa surrounded by small stupas and a line of shrine architectures encircling the vicinity forms the observed configuration.

2. (Main stupa + line of shrine architectures) + (main stupa + cluster of small stupas + line of shrine architectures): This form is like the Takht-i-Bahi temple in Gandhāra.

A form featuring (main stupa + cluster of small stupas + line of shrine architectures) configuration exists in the Afghanistan temple, notably the Shotorak temple in Bagrām and Buddhist temple group in Hadda. The configuration of (main stupa + line of shrine architectures) is present in the Toqquz-sarai temple of Tumshuq, Xinjiang Uighur district, and other temples in the region[19]. The ongoing discussion suggests that Iwai's classification is tripartite placement relations about the main stupa, small stupa, and shrine architecture.

Some spatial composition types can be confirmed in the shrine architecture line placement around the main stupa while carefully analyzing the placement relations of the main supa and shrine architecture. Therefore, the representative types, "Surrounded Type—the main stupa is surrounded by shrines"[20] and "Parallel Type—the main stupa and shrine(s) formed in a side," can be included in such compositions. Figure 2 shows a schematic of these types[21].

Eight types were seen classifying "Surrounded Type" more.

① Lines of small shrines or the plural shrines face the main stupa.
② Two or three lines of the shrines face the main stupa.
③ Four lines of the shrines face the main stupa (a group of small stupas surrounding the main stupa).
④ Two lines of shrines face the main stupa (a group of small stupas existing around the main stupa).
⑤ Three lines of the shrines face the main stupa (a group of small stupas existing around the main stupa).
⑥ All shrines form a circle line facing the main stupa.
⑦ Shrines, small stupas, and stambha(s) form a circle line, with all shrines facing the main stupa.
⑧ Entrance of all shrines faces the main stupa through the corridor. All shrines are independently, consecutively arranged rooms.

Because a group of small stupas existed around the main tower, that is, types ③, ④, and ⑤, we distinguished it from ① and② and classified the type.

These spatial compositions are frequently influenced by factors including the temple site selection and whether the temple was intentionally planned to have a stupa court constructed in advance.

Examining photographs and drawings of the remains can help infer that the pattern of placements might be restricted by whether the temple area was originally designated as "the stupa court" or if alterations to the land formation were made.

In addition, types ①–⑦ have the main stupa surrounded by the shrines forming a line, creating a walking space (passage or corridor) for individuals. However, type ⑧ features independent rooms arranged consecutively, and spatial composition allows access to shrine architecture through a corridor. Therefore, the spatial composition of type ⑧ suggests a premeditated building-like idea.

The three types were seen in "Parallel Type."

① Stupa and shrine(s) of similar scale are lined up side by side.
② Main stupa and small shrine(s) are lined up side by side.
③ Shrines arranging the opening (considerably the entrance) for the main stupa form a line aside.

However, type ③ represents temples exhibiting remarkable originality in their spatial composition, although commonality in forming a line aside exists.

Additionally, certain temples incorporated elements of "Surrounded Type" and "Parallel Type." In these cases, the main stupa and central shrines within the stupa court were surrounded by shrine architectures of various sizes, resembling the layout seen in the Kalawan temple[22]. Similarly, in the Ranigat Southwest area temple, a line of shrine architecture surrounded the main stupa.

Notably, certain temples present difficulties in spatial composition classification, although they were selected as the study subject: the temple with an individual spatial composition whose placement of shrine architectures is possibly related to the main stupa (e.g., Giri Stupa C and Monastic courts D and E, Chakhil-i-ghoundi, and Tepe Narenj). The temple with the main stupa and shrine architecture was built in proximity, yet careful planning regarding their spatial relations may not have been executed with specific architectural considerations (e.g., Bhamala, Abasahebchina, Marjanai, and Shotorak).

A temple featuring shrines from one to several numbers around the main stupa (e.g., Abbasahebchina, Bamiyan MO site, and Tumshuk-Tagh western group) was observed; another temple with shrines not around the main stupa but in the monastery facing the main stupa was also identified (e.g., Akhauri [Chir Tope] B, and Mohra Moradu). These temples require further exploration.

Many temples cannot be categorized by focusing only on the relationship between the main stupa and the shrine, in Greater Gandhāra, there are several examples of temples being arranged with emphasis on their relationship with the monastery, such as placing the main stupa and monastery on the axis[23].

When we concentrated on observing the functions beyond the main stupa and shrine architecture, variations exist as some temples have the monastery enclosing the main stupa and others have the main stupa and monastery aligning with the priests' living quarters situated on the axis.

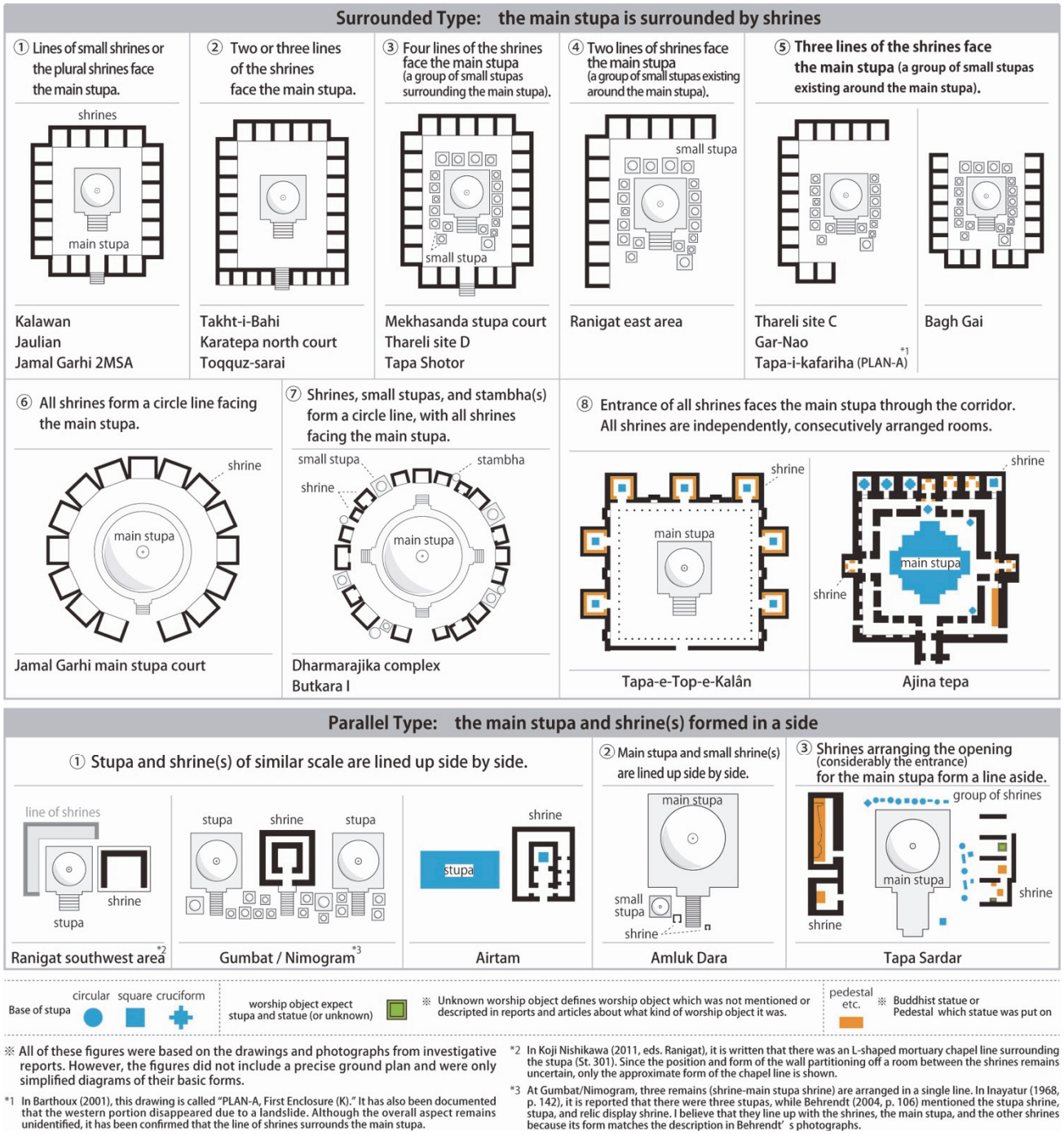

Figure 2. Representative types concerning main stupa and shrine architecture

Nevertheless, focusing on the placement relations of the main stupa and shrines in the stupa court, the following spatial composition characteristic was seen in 19 out of 54 temples considered study subjects, more than one-third of the study temples: the main stupa, main worship object in the temple, was surrounded by the line of shrines.

5. Spatial Composition of Shrine Architectures Involving a Worship Object Placed in the Center of the Main Chamber

The plan forms of the shrine architectures can be classified into six types: two "single chamber type," two "two-celled chamber type," and two "corridor type." The two-celled chamber type features the (main chamber + front chamber) configuration (Figure 3)[24].

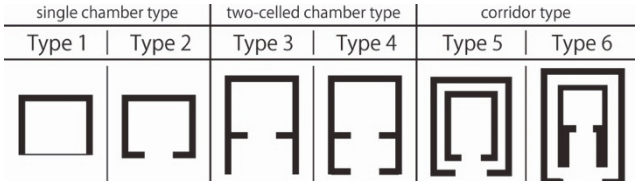

Figure 3. Classification of plan forms in shrine architecture

Additionally, our previous studies revealed one characteristic of the spatial composition emphasized in Central Asian Buddhist

temples, which is the presence of a "circumambulatory," referring to the act of pradakṣiṇa, a form of reverence in Buddhism.

The shrines categorized as "Shrines with circumambulatory" implied that the worship object is placed in the center of the main chamber, allowing the identification of a pradakṣiṇapatha—a path around the worship object. Circumambulation, or pradakṣiṇa, was likely performed in these shrines.

In shrines where the worship objects were positioned in the main chamber center, various spatial compositions were identified based on differences in the worship objects placed in the main chamber center and placing the other worship objects, except for the main chamber center where the Buddhist statues or others were enshrined on the wall and base established along the walls.

The evaluation of the investigated shrine architectures, enshrining various worship objects in the main chamber center, showed that they could be roughly classified into the following types:

1. Stupa or Buddhist statue (or unknown) enshrined in the main chamber center.
2. Stupa enshrined in the main chamber center, and Buddhist statues enshrined along neighboring walls.
3. Stupa enshrined in the main chamber center, with the neighboring walls decorated with mural paintings.
4. The Buddhist statue enshrined in the main chamber center, with Buddhist statues enshrined along the neighboring walls.
5. The Buddhist statue enshrined in the main chamber center, with the neighboring walls decorated with mural paintings.

Furthermore, the spatial compositions of shrine architectures were classified by the placement of worship objects and the difference in plan form (Figure 4). Table 2 shows the shrine names of the Buddhist temple corresponding to the classification.

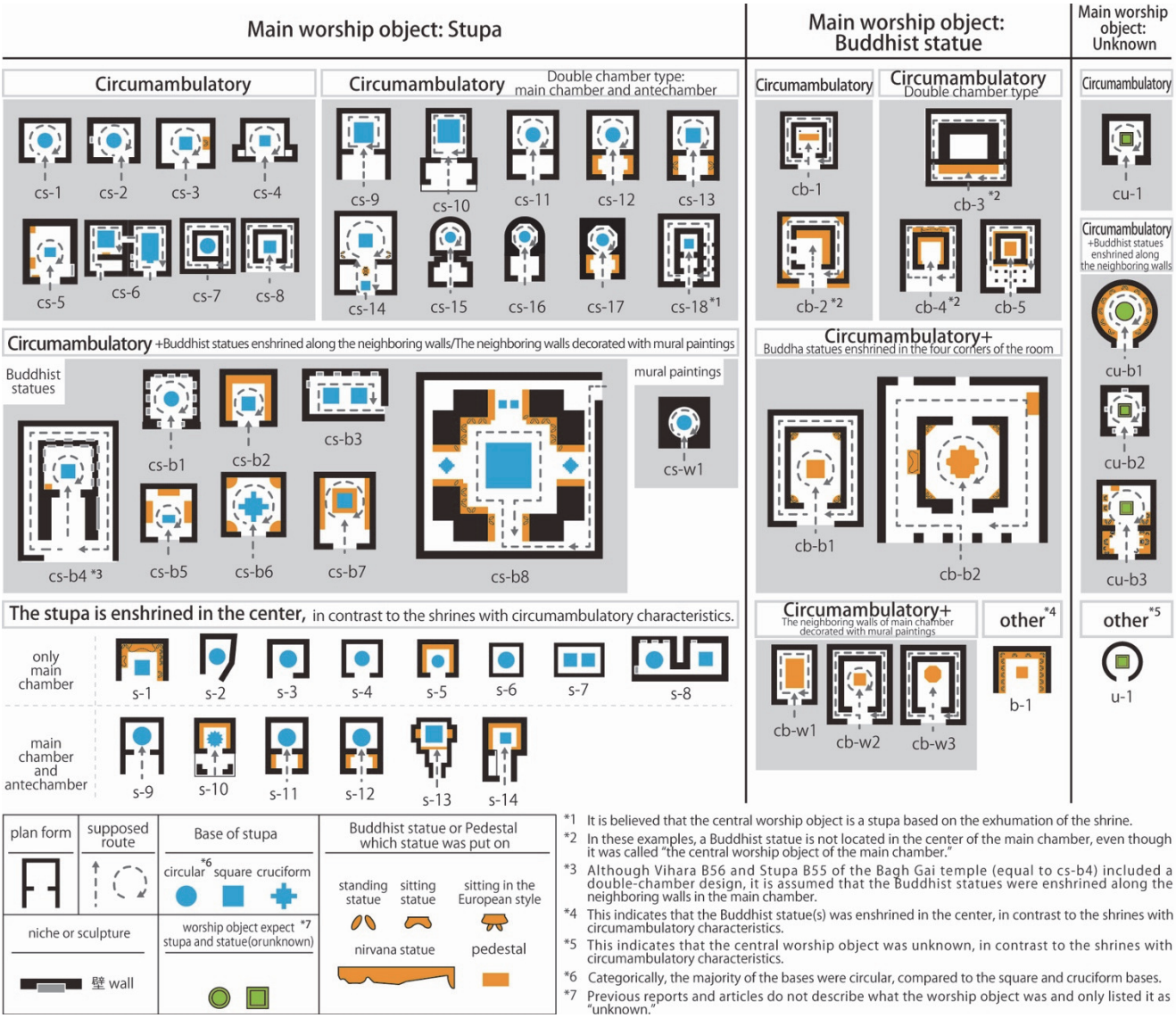

Figure 4. Spatial composition types in shrine architectures where the worship object was housed in the main chamber and their examples

The investigation results revealed, as a worship object, predominantly more types of stupas placed in the center than Buddhist statues[25]. Frequently encountered is the type where a stupa is positioned at the main chamber center, with Buddhist statues enshrined along the neighboring walls (type cs-b1 to cs-b8).

Regarding the types that enshrined the stupa in the center, an example exists in which the base is established along the main chamber walls, and another example in which a niche is established in the wall. Conversely, for types featuring a Buddhist

statue in the center, standing statues are positioned in the four corners of the main chamber, emphasizing the afferent characteristic that these statues face the central Buddhist statue (type cb-b1 and cb-b2).

Furthermore, it was found that the spatial composition of enshrining the worship object in the center and surrounding it with worship objects such as Buddhist statues and mural paintings can be seen not only in stupa courts but also in shrine architectures over a wide range from Afghanistan to East Turkestan.

However, a notable difference exists: in various regions, the stupa is placed at the center and Buddhist statues are enshrined around it (type cs-b1 to cs-b8). Instances in which the Buddha statue was positioned at the center surrounded by a Buddhist statue or mural paintings were observed only in Central Asia of the narrow sense and Xinjiang Uighur Autonomous District, the so-called eastern and western Turkestan (type cb-b1, cb-b2, cb-w1, cb-w2, cb-w3). This was observed as a trend where the importance of the worship object shifts from the stupa to the Buddhist statue.

Table 2. Explanation of classification numbers of shrines shown in Figure 4

Main worship object: Stupa

Type No.	Corresponding name of buddhist temple: name of shrines
Shrines with Circumambulatory	
cs-1	Kalawan:A16
cs-1	Tapa-i-kafariha:Cell with Stupa K20
cs-2	Shotorak: Cell with Stupa D4
cs-3	Tapa-i-kafariha: Cell with Stupa K22
cs-4	Gar-Nao: Cell with Stupa A4
cs-5	Jaulian: C33
cs-6	Tapa Shotor: Room 67 with stupa 67A and 67B
cs-7	Dharmarajika: Shrine with E2 stupa
cs-8	Bagh Gai: Vihara with Stupa B51
	Buddhist Temple in Giaur Kalah: Room 12
Shrines with Circumambulatory (Double chamber type: main chamber and antechamber)	
cs-9	Yar City: Main temple in E-27
cs-10	Southwest Buddhist Temple(Temple β) of Qocho City: A and B
cs-11	Kalawan: A14
	Takht-i-Bahi: shrine T4 in court XXIII
cs-12	Kalawan: A13
cs-13	Tapa Shotor: Shrine with Stupa 34
cs-14	Tapa-i-kafariha: Stupa and Chamber 23, 25
cs-15	Butkara III: Shrine E and votive stupa 14
cs-16	Dharmarajika complex: Apsidal temple 13
cs-17	Kalawan: A1
cs-18	AirTam: Temple
Shrines with Circumambulatory+ (Buddhist statues are enshrined along the neighboring walls)	
cs-b1	Tapa Shotor: Shrine with Stupa 39
cs-b2	Tapa-e-Top-e-Kalân: CH I
	Tapa-e-Top-e-Kalân: CH V
	Douldour-Âqour: Temple Z/North Stupa Complex [※1]
cs-b3	Tapa Shotor: Room 24 with stupa 37 and 38
cs-b4	Bagh Gai :Vihara B56 and Stupa B55
cs-b5	Ajina tepa: RoomI
cs-b6	Khisht Tepa: Room 20
cs-b7	Toqquz-sarai: Stupa Central (Central Stupa area)
cs-b8	Bamiyan MO site: Caitya I (CH. I)

Shrines with Circumambulatory+ (Neighboring walls decorated with mural paintings)	
cs-w1	Mirān: M. III
	Mirān: M. V
Shrines where the stupa is enshrined in the center other than shrines with Circumambulatory	
s-1	Tapa-i-kafariha: Chamber K33
s-2	Takht-i-Bahi: XXII
s-3	Mohra Moradu: Cell 9
s-4	Kalawan: cell 12 in Court F
	Pippala: Cell 31
	Thareli site D: D6
	Marjanai :S1 with relic chamber
	Tepe Narenj: CH 2
	Karatepa north court: Cell 33
	Karatepa north court: Cell 36
	Ajina tepa: CellaXXXI
	Ajina tepa: CellaXXXII
	Ajina tepa: CellaXXXIII
	Ajina tepa: CellaXXXVII
s-5	Gar-Nao: Room with Stupa A55
	Gar-Nao: Chamber with Stupa A8
s-6	Dharmarajika complex: Shrine with E1 stupa
	Deh-Ghoundi: Cell with Stupa D12
	Gar-Nao: Cell with Stupa A10
	Bagh Gai: Shrine with Stupa B52
	Chakhil-i-ghoundi: Cell with Stupa C8
s-7	Deh-Ghoundi: Cell with Stupa D13 and 14
s-8	Bagh Gai: Cell with Stupa B29 and Stupa B3
s-9	Akhauri (Chir Tope) site B: Stupa chapel D1 and D3
	Butkara III: Shrine C with Stupa 16]
	Butkara III: Shrine B with stupa 17
	Butkara III: Shrine A with stupa 18
s-10	Bhamala: B8
s-11	Marjanai: Square chambers with S3
s-12	Butkara III: Shrine D with stupa 15
s-13	Gar-Nao: Chamber with Stupa A23
s-14	Tapa Shotor: Shrine with Stupa 35

Main worship object: Buddhist statue

Shrines with Circumambulatory	
cb-1	Khisht Tepa: Room 12
cb-2	Kafyr-kala: small buddhist temple
Shrines with Circumambulatory (Double chamber type: main chamber and antechamber)	
cb-3	Dharmarajika: Shrine H
cb-4	Krasnaya Rechka 2nd Buddhist Temple
cb-5	Ak-Beshim 1st Temple
Shrines with Circumambulatory+ (Buddhist statues enshrined along the neighboring walls)	
cb-b1	Endere:Shrine E.I
	Dandan Oilik: Large Shrine D.II
cb-b2	Kalai-Kafirnigan: Room 2
Shrines with Circumambulatory+ (Neighboring walls decorated with mural paintings)	
cb-w1	Buddhist temple of Bashbaliq city: S103
	Buddhist temple of Bashbaliq city: S104
cb-w2	Dandan Oilik: Shrine D.IV
	Dandan Oilik: Shrine D.VI
	Niya: FS [※2]
cb-w3	Dandan Oilik: Shrine D.X
	Dandan Oilik: Shrine D.XII
other	This indicates that the Buddhist statue(s) was enshrined in the center, in contrast to the shrines with circumambulatory characteristics.
b-1	Tepe Narenj: CH 1

Main worship object: Unknown

Shrines with Circumambulatory	
cu-1	Douldour-Âqour: Temple C (Shrine (K))
Shrines with Circumambulatory+ (Buddhist statues enshrined along the neighboring walls)	
cu-b1	Tepe Narenj: CH 4
cu-b2	Karatepa north court: Chapel 11
cu-b3	Tapa-i-kafariha: Chamber K19 and Chamber 49
other	This indicates that the central worship object was unknown, in contrast to the shrines with circumambulatory characteristics.
u-1	Tepe Narenj: CH 10

[※1] This name is based on that in Hambis (ed.) (1967) and Rhie (2002, pp. 600–627).

[※2] Based on this 回 -shaped plan, it is believed that an image was enshrined in the inner sanctum of the shrines. However, since there is no mention of the presence of doors, it is impossible to confirm that the inner sanctum included such openings. Moreover, although the existence of an inner sanctum is inconclusive, this shrine was included in this type (cb-w2), due to its 回 -shaped plan.

6. Relations of Spatial Compositions Between the Stupa Court and Shrine Architectures

A shared feature in the spatial composition of stupa courts and shrine architecture is the establishment of a space (passage or corridor) allowing movement around the central stupa, with Buddhist statues (or in the case of shrine architectures, potentially mural paintings) placed around the central stupa. Determining the chronology of the individual shrine architecture within a temple with such spatial composition is challenging. Conclusively establishing whether the stupa court predates shrine architectures and other structures, excluding the stupa court, is a complex task. However, the spatial composition found in the stupa court may have influenced shrine architectures because such compositions were seen in the Dharmarajika complex (B.C.1–A.D.2c), Butkara I (B.C.3–?), and Jamal Garhi (A.D.1–5c), whose foundation generation[26] was relatively old temples containing the stupa court.

Analysis of the two types shown in Figure 2 reveals that the main stupa is presented as the primary worship object of the temple in the "Surrounded Type" spatial configuration. Worshippers probably walked from the left to the right to perform pradakṣiṇa (having Surrounded Type shrines)[27]. Furthermore, concerning the Buddhist statues (or stupa) in the shrine architecture surrounding the main stupa, worshippers possibly stand before the worship object, face it, and perform a worship act while there is no space to enter inside.

Most of the "Surrounded Type" configurations were seen in Greater Gandhāra but were confirmed in large areas. However, in the Eastern Turkestan temples, the main stupa, the main worship

object with most temples of Greater Gandhāra and Afghanistan, was not placed as one element forming the stupa court, and the temple, a symbolic object constructed apart from the stupa court, existed (Niya 尼雅故城, Mirān 米蘭, Yar City 交河故城 et al.). Notably, the spatial composition where the main stupa was surrounded by shrine architecture was not considered to be an absolutely important arrangement when viewed from a broad perspective of the arrangement of Central Asian Buddhist temples.

Therefore, it is believed that the spatial composition that the main stupa was surrounded by shrine architectures, was not placement focused on absolutely, when surveying it in a wide range of temples called the Buddhist monastery placement in Central Asia.

Conversely, a notable trend was observed, emphasizing the spatial composition of shrine architectures, particularly the frequent occurrence of shrines with a "Circumambulatory," [57] implying that the worship act of pradakṣiṇa, which involves walking clockwise around the main stupa located in the center, resulted from shrine architecture development. In other words, certain temples feature common spatial compositions focusing on worship courtesy called pradakṣiṇa. For example, the spatial composition of the stupa court with shrine architecture featuring enshrined Buddhist statue or small stupa formed a line, surrounding the main stupa; the spatial composition of shrine architecture with the stupa or Buddhist statues positioned at the main chamber center, and the worshiped Buddhist statues or mural paintings decorated along the walls.

As a result of analyzing the spatial composition of Buddhist temples in Central Asia paying the attention to the placement of main stupa and shrine architectures, it could be placed that the Buddhist temples in Eastern Turkestan had considerably individual placement relations. This is true, as evidenced by the building generation of temples and the distance relations of each temple. Given the relatively proximity of the location of each temple, influential relationships potentially shaped the spatial composition of the temples, particularly in the southern regions of the Hindu Kush Mountain range, commonly known as Greater Gandhāra and Afghanistan. Therefore, a recognizable common type was evident in the spatial composition of the stupa court shaped by the main stupa and shrine architectures.

When examining individual shrine architectures, distinct characteristics common to each temple in Eastern Turkestan (with numerous examples varying in each country[28] were observed. However, concerning the placement relations of the main stupa and shrine architectures, the so-called Taxila–Gandhāran style[29] seemed not to exert a strong influence.

7. Conclusions

The characteristics and commonalities of spatial compositions were analyzed while focusing on the following two spatial compositions: the spatial composition formed by the main stupa and shrine architecture in the stupa court, the spatial composition of shrines where the worship object (stupa or Buddhist statue) was enshrined in the main chamber center.

The analysis of the spatial composition of stupa courts in Central Asia Buddhist temples, focusing on the placement relations of the main stupa and shrines, revealed that the spatial compositions of stupa courts could be distinctly classified into "Surrounded Type" and "Parallel Type" (The types not belonging to these two types were treated as "others").

Evaluation of the spatial composition of the shrines with the worship object (stupa or Buddhist statue) positioned in the main chamber center showed that such compositions could be classified into five types based on the central worship object and differences in placing the neighboring worship objects (such as Buddhist statues along the walls and mural paintings on the wall). Investigating the type where the worship object is enshrined in the center showed more stupas than Buddhist statues as the chosen worship object. Furthermore, the spatial composition of the stupa courts and shrine architecture using the visual image was presented (Figure 2).

The study findings clarified that a common characteristic between stupa courts and shrine architecture is the spatial composition where the worship object is enshrined in the center, surrounded by Buddhist statues and mural paintings. This characteristic is considerably a key feature in spatial composition while designing Buddhist temples. Our future studies will unravel the uniqueness of Buddhist temples in Central Asia, concentrating on the manifestation of this characteristic in temples outside the Central Asian region.

Endnotes

1. The term "stupa court" refers to the designated area within a temple where the main worship object, the stupa, is situated, and several buildings are constructed around the central stupa.
2. Caitya (shrine in the Buddhist temple) means "stone tumulus," "mound," "sanctuary," and "mortuary chapel" in Sanskrit and was used as the words to point "the stone cave and shrine, where the stupa was enshrined in," "the box enshrined the relics," and "the stupa." In addition, it is believed that as Buddhist statues were created in Gandhāra and their importance gradually increased, a variety of shrine buildings were born. Reference 72, page 161. Reference 55, page 160, 171-173.
3. In this study, we use "Central Asia" for northwest India and Afghanistan, the wide range of areas including East-West Turkestan. In addition, we refer to five countries independent of the former Soviet Union as "Central Asia of the narrow sense." However, Kazakhstan is not included in this study. Reference 10,50.
4. Gandhāra means Peshawar Basin in a narrow sense. In this study, Greater Gandhāra implies the words including Gandhāra, the center of study subject areas, Swāt of the northeast boundary, and Taxila of the southeast boundary. Reference 72, page 311. et al.
5. Reference 73,74.
6. Reference 39,40,41.
7. Reference 52.
8. Reference 31,32,33,34.
9. Reference 12,13,14,23,24,63,84.
10. Reference 3,4,5,8,11,16,54,64.
11. Reference 18,42,45,46,47,48,49,56,66,67,76,89.
12. Reference 1,2,25,44.
13. Regarding the problems of the classification by Behrendt, Iwai pointed it out. Reference 29.
14. Temples of the half cave partly were included. (Butkara III, Tapa Shotor, and Ajina tepa). In addition, Buddhist temple of Bashbaliq city is the temple constructed in mounds.
15. The number or name of shrines is based on references. Additionally, among the temples selected for the study, despite variations in the abundance of available documents and the precision of the drawings in the reports, our focus was on conducting surveys independently, daringly attempting to address these challenges in the current study. Due to space constraints, we could not place all the drawings and photographs of the target temples. We quoted the remains of an ancient structure number that Behrendt gave in Reference 6 because the number was not added to each remains of an ancient structure in the reports, in both temples of Takht-i-Bahi and Jamal Garhi.
16. Temples selected for this study included the remains of ancient structures, where the current condition could not be determined solely through drawings, even if only a stupa or a monastery was left.
17. The worship object treated in this study is "the stupa or the Buddhist statue thought to be the main worship object in the shrine," not an element for magnificence in the shrines such as a stucco image or fresco seen at the temples located in Afghanistan and Eastern

Turkestan. Relics were excluded from this study due to the absence of drawings and descriptions illustrating how worship was conducted in the shrines, except for containers holding Buddha's relics or ash excavated by small stupas. This decision aligns with the reliance of the study on document-based investigation.

18. Reference 72, page 968.
19. Reference 30.
20. It implies "containing that line of shrines surrounds the main stupa."
21. This classification was revised and edited based on Figure 1–72 of Reference 58.
22. In Figure 2, Kalawan temple is included in the "Surrounded Type" because all the doors of shrines (remain no. A31, A32, A33, A34, A5, A2, A1, and A13) around the central court face the main stupa (A4).
23. These relations are particularly remarkable in Taxila. For example, the temple of Akhauri (Chir Tope) B and Bhamala.
24. Reference 57.
25. The rank of Buddhist statues was investigated as far as possible. However, cases where only the lower body (or the fragment(s) of the lower body) was left were often found in many shrines. Some shrines feature some descriptions about the rank of Buddhist statue, Buddha, or Bodhisattva, although much evidence suggest that these opinions are speculative. Hence, in this study, we did not mention the classification of Buddhist statues. This decision was driven by the difficulty in reaching a conclusive outcome regarding the classification of Buddhist statues and determining a suitable basis for comparison.
26. The chronology of the temples for the analysis may be mixed up by the opinion of exhumers. Additionally, this study includes temples undergoing excavation or research at present. Therefore, the building (used) generation of the temples may change in the future due to various factors, including the discovery of exhumation remains and the result of the comparative study with other fields.
27. Reference 22, page 53. Possibly, the circumference of the Buddha statue turned around in the same way. Reference 22, page 176. in "pradakṣiṇasūtra 右繞仏塔功徳経 unyo-buttou-kudokukyou," the merit of doing pradakṣiṇa around the stupa was described (Reference 38).
28. Refer to Table 1.
29. We call the type in which the line of small chapels surrounds the main stupa, seen a lot in the temples of Taxila and Gandhāra, in this way conveniently.

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