Candi, space and landscape : a study on the distribution, orientation and spatial organization of Central Javanese temple remains

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CHAPTER 8

Ground plan of Central Javanese shrines: shape and significance of an architectural space

In the preceding chapter, our exploration of the structure of the built space has lead us to consider the lay-out of the various temple complexes of Central Java. I will now focus on an even more specific space: the building. Faithful to my aim, I will not consider all the aspects of temple architecture, but I will concentrate on the most important structuring element of the architectural space, namely the ground plan and its shape. I will propose a typology based on the form of the temple plan and show how types fit with two distinct building traditions, reflecting the complexity of the cultural history of the region.

The form of the temple

Out of the hundreds of ancient religious sites that dot the landscape of Central Java, only a small number of shrines are preserved up to the foot of the temple body, the condition *sine qua non* for recovering their plans. Actually, 33 temples or temple groups fulfil this requirement. Fortunately, the preserved shrines are scattered all over Central Java (Table 33) and are thus more or less able to give a fair idea of regional similarities and differences.[1]

If we gather spatial information of the surviving temples, it quickly appears that the square is the dominant figure of almost all the ground plans. Ellipses, which are sometimes used in early Indian temple architecture, such as the Durgā temple of Aihole (late 7th or early 8th century), are unknown in Java. Besides this, elongated

Table 33: Sites with temples preserved up to the foot of the temple body

Region	*Amount*	*Sites*
South Central Java	20	Banyunibo, Barong, Bubrah, Gebang, Ijo, Kalasan, Kedulan,[2] Loro Jonggrang, Lumbung, Mantup, Merak, Morangan, Plaosan Kidul,[3] Plaosan Lor, Pringtali, Risan, Sambisari, Sari, Sewu, Sojiwan
Progo valley	9	Asu, Borobudur, Lumbung, Mendut, Ngawen, Pawon, Pendem, Pringapus,[4] Selogriyo[5]
Peripheral areas	4	Dieng,[6] Gedong Songo, Lawang, Ngempon

[1] This is not entirely true since, in the area of Temanggung, only Pringapus is well preserved. This area, however, was originally out of the scope of my study.

[2] This temple was under process of restoration during both periods of fieldwork carried out for the present study. Although the main lines of its plan were visible, the details were not known yet.

[3] Only the temple plan of the secondary shrines is known; the main building has completely vanished.

[4] The temple was originally out of the scope of the research. I do not have its precise ground plan.

[5] The base is vanished, but, according to Krom, it was a staggered square (Krom 1923, I: 407).

[6] Only a few stones remain for the bases of Bima, Gatotkaca, Puntadewa, Sembadra and Srikandi. The bases of Puntadewa, Sembadra and Srikandi appear to have been a square with projection on the front side. As for Gatotkaca, it originally stood on a large rectangular base together with a now vanished temple (OD photograph, DigiBeeld nr 30965 - http://beeldbank.wsd.leidenuniv.nl/Login.asp).

For the moment, one must keep in mind that the elongated aspect of some of the Dieng temples is partly due to the disappearance of their bases.

plans resulting from the addition of a *maṇḍapa* to the *cella*, a very common feature in Indian architecture, are also lacking. However, in spite of the simplicity of their plans and looking beyond their apparent homogeneity, Central Javanese temples do vary a lot in their details.

I have come up with a classification of the ground plans of the Hindu-Buddhist shrines of Central Java into three main groups, according to the shape of their temple body:[7] 1) shrines with a square ground plan, 2) temples with a staggered square ground plan, 3) buildings with a rectangular ground plan (Table 34).

Table 34: Shape of the temple body of Central Javanese shrines.

Square body		*Staggered square body*		*Rectangular body*
Arjuna	Merak	Bima	Morangan	Banyunibo
Asu	Ngawen*	Borobudur	Ngawen	Gedong Songo II*
Barong	Ngempon	Bubrah	Pawon	Gedong Songo III*[9]
Gebang	Plaosan Kidul*	Dwarawati	Pendem	Loro Jonggrang*[10]
Gedong Songo	Plaosan Lor*	Gatotkaca	Risan	Plaosan Lor
Ijo	Pringtali	Gedong Songo IV*	Selogriyo	Pringapus
Kedulan	Puntadewa	Kalasan	Sembodro	Puntadewa*
Lawang	Sambisari	Loro Jonggrang	Sewu[8]	Sari
Lumbung	Sewu*	Loro Jonggrang*	Sojiwan	Semar*[11]
(Muntilan)	Srikandi	Lumbung		Srikandi*
Lumbung*		Mendut		
Mantup				

* Secondary shrines

Square temples

In Central Java, temples with a square body can be identified at 22 locations (Table 34). Besides the symmetry inherent to the square shape, these temples do not present four identical sides: since the square temples of Central Java have a single entrance door, one side inevitably receives more emphasis than the others (Figure 40). Niches, usually present on the blind faces of Hindu temples, give some balance to the whole, occupying the centre of the side wall, just as the entrance door occupies the centre of the façade. Their decoration, often a *kāla-makara*, replicates the ornamentation of the entrance door. Nevertheless, the latter generally protrudes further than the niches, leaving no doubt as to its superior status.[12]

The presence of an entrance door, on a single face, introduces an element of axiality into the square plan. It also confronts the architect with a problem: how to put an emphasis on the entrance side while respecting the general square lay out? And, if the entrance is protruding, what shape should the base adopt?

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7 I follow the divisions of the *candi* into three components (base-body-superstructure), as described by R. Soekmono (Soekmono 1995:105).

8 Main temple and big subsidiary shrines.

9 Secondary shrine in front of the main temple.

10 Secondary shrine (Nandi temple) in front of the Śiwa temple.

11 Semar is the secondary shrine of *candi* Arjuna.

12 It should be noted that, in Central Java, niches never developed into false doors, so frequent in Khmer architecture. Physically as well as symbolically, the two elements are very different. A niche houses the sculpture of a god – even if it may be conceived as an aspect of the main deity. A false door represents the two closed panels of a door, giving to the *cella* the possibility to symbolically open towards the four directions. I therefore oppose the idea of J. Dumarçay, according to whom Khmer false doors would find their origins in the architecture of Central Java (Dumarçay, Royère 2001:45)

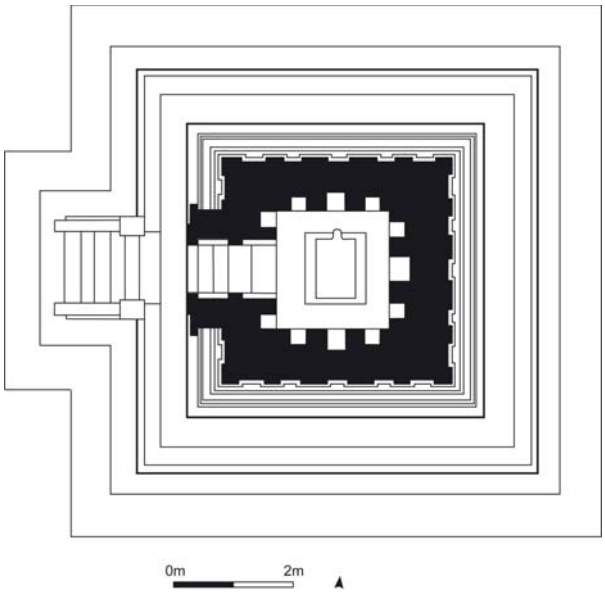

Figure 40: *Candi* Gedong Songo I, square temple body with very shallow porch, square base

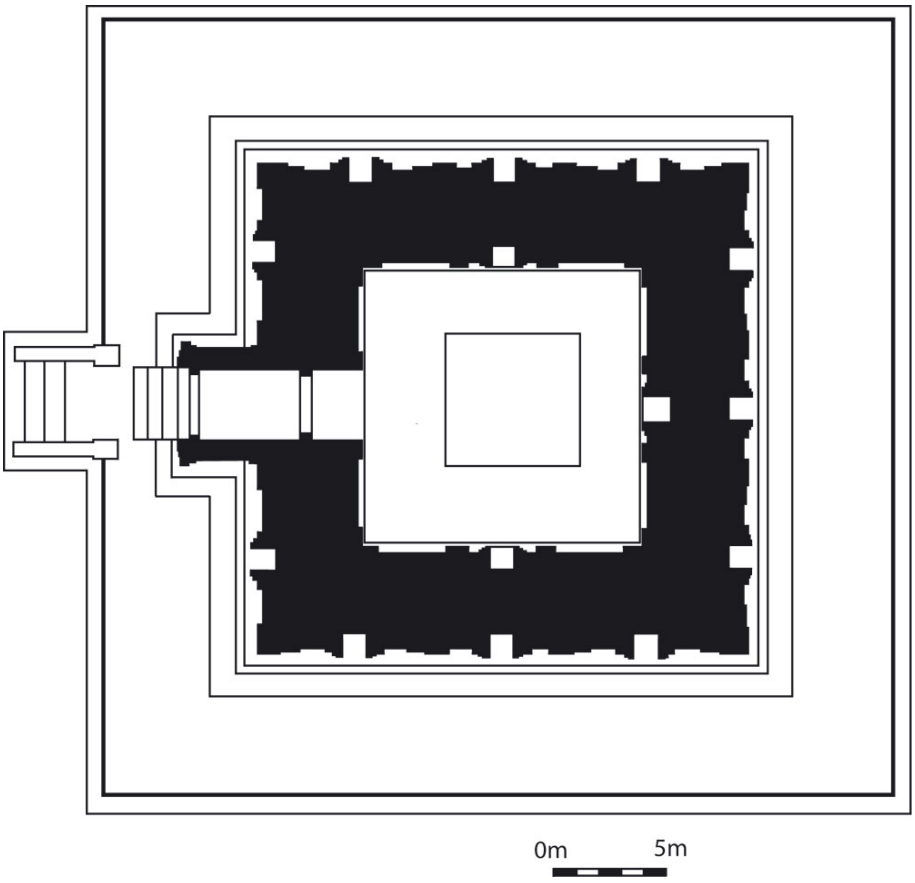

Figure 41: *Candi* Ijo: square temple body with porch, square base

Central Javanese architects have opted for four different solutions (Table 35): 1) the door is (almost) in line with the temple wall, both the temple body and the base remain square (Figure 40), 2) the entrance door protrudes from the temple body, but the base retains a square plan (Figure 41), 3) the entrance door projects out beyond the wall structure and the base too has a projection on the front side (Figure 42), 4) the entrance door protrudes and the base is lightly rectangular (Figure 43).

1) At the main shrine of *candi* Ngempon and Gedong Songo I (Figure 40), as well as at the secondary shrines of Lumbung and the small temples directly facing the main building of *candi* Ijo,[13] the entrance protrudes slightly, and does not go beyond the mouldings of the temple body. The emphasis on the entrance is then almost invisible in the ground plan; both the temple body and the base remain square. The main shrines of *candi* Barong have also a square body and a square base, but they have the further peculiarity of not having an entrance door.[14]

2) At the main shrine of *candi* Ijo and at *candi* Gebang (Figure 41), although the porch is protruding, the base retains its square shape. On the entrance side, the space between the foot of the temple body and the outer edge of the platform surrounding it is narrowed.

3) *Candi* Arjuna and Puntadewa (Dieng plateau), *candi* Asu, Lawang, Lumbung (Muntilan), Merak, Morangan[15] and the small subsidiary shrines of Sewu follow yet another tradition (Figure 42). The temple body has a porch,[16] the contours of which are imitated by the base. A protruding porch corresponds to the projection of the base; the distance between the wall of the temple body and the edge of the base is the same all around the temple.

4) At Gedong Songo, the solution adopted to combine a square temple body with a protruding entrance is unique. Gedong Songo II,[17] III, IV and VI have a square temple body with a projecting porch, but the base is neither a plain square nor a square with a front projection: it is a rectangle (Figure 43). The base has been lengthened on one side, so as to leave space for the porch. The symmetry induced by the square shapes loses ground to the benefit of the façade. Here, more than in other places, the unity of the temple structure is challenged: the temple body and base do not have the same plan anymore and the pilasters that divide the walls of the body and the base are not above each other. As a result, the relationship between body and base becomes looser. An attempt to restore this relationship is found in the small, northern temple of Gedong Songo III. In this case, the niches created within the base are not placed in the middle of the wall, but roughly at the point of 2/5, so that they are located right below the niches of the temple body (Figure 44).

Finally, one should add to the list of square temples, the secondary shrines of

[13] It is probably also valid for *candi* Kedulan.

[14] They do have an inner space though.

[15] Morangan differs slightly from the other temples with a square body: its side niches are protruding out from the wall. However, contrary to the staggered square temples, the wall structure remains flat: the part of the wall between the top of the niche and the cornice is in line with the rest of the temple body.

[16] In *candi* Merak and Arjuna, as well as in the small secondary shrines of Sewu, the width of the projection of the temple body corresponds to the inner width of the *cella*.

[17] At Gedong II, as at Morangan and Sambisari, the side niches are lightly projecting out from the wall of the temple body.

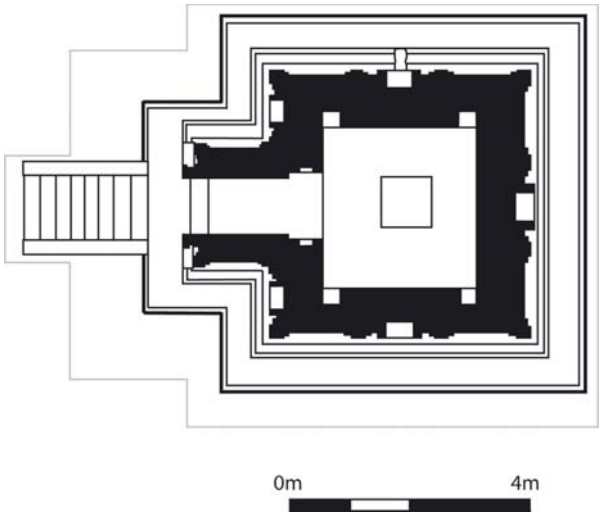

Figure 42: *Candi* Arjuna (Dieng) : square temple body with porch

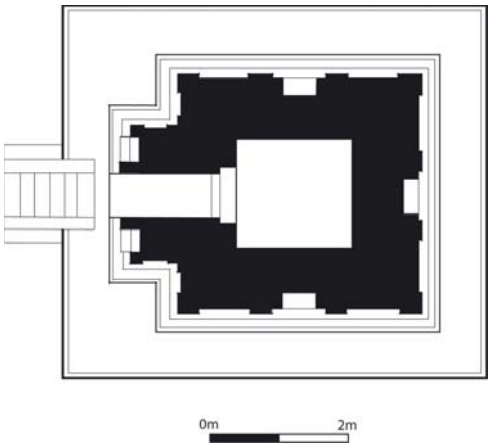

Figure 43: *Candi* Gedong Songo IV: square temple body with porch, rectangular base

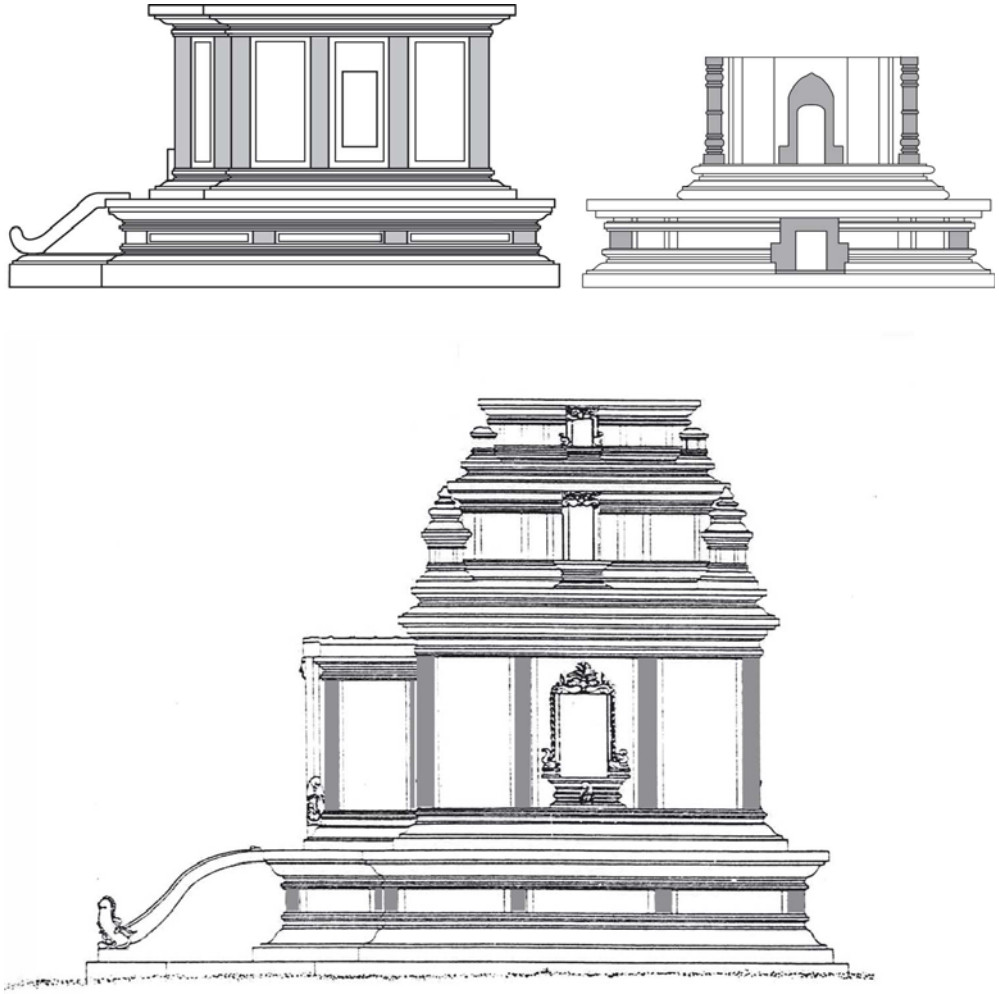

Figure 44: Relationship between the temple body and the base: usually, the link is established through corresponding pilasters (bottom, *candi* Arjuna), through a niche at Gedong Songo IIIb (top, right), but is lacking in other shrines of Gedong Songo (top left)

Plaosan Kidul.[18] In this case, the temple body and the base are perfectly square, but a proportionally large vestibule has been added to the plan. These shrines distinguish themselves from the others through the fact that the floor of the vestibule is almost at ground level. The two rooms - vestibule and *cella* - occupy different storeys and the separation between the base and the temple body is abolished.

Table 35: Central Javanese temples with a square temple body

	Simple square temple body	Square temple body, with front projection	
Simple square base	Ijo*[19] Gedong Songo I Lumbung* Ngempon	Gebang Ijo	
Square base with front projection	Ngawen* Sambisari[20]	Asu Arjuna Lawang Lumbung (Muntilan) Merak Morangan	Plaosan Kidul* Puntadewa Sambisari Sewu*[21] Srikandi
Rectangular base		Gedong Songo II, III, IV, VI.	

* Secondary shrines

Staggered square temples

19 sites have yielded examples of staggered square temples (Table 34). The ground plan of these temples is based on a square shape, but the central section of the wall is projecting out from the temple body (Figure 45). It should be underlined that it is not a mere projection of the niches: the protruding part is larger than the niche (if present) and includes the whole height of the temple body, from foot to cornice.

In some cases, the entrance is protruding more than the side projections (Mendut, Pawon, Sembodro, Sewu)[22] and the base may either be square or staggered square, with or without front projection.

Candi Bubrah, Gatotkaca, Pendem and Sojiwan, as well as the shrines facing the Wisnu and Brahma temple of Loro Jonggrang[23] have a staggered square temple body and a square base (Figures 45, 46). At Bubrah, Sojiwan, and the secondary shrines of Loro Jonggrang, the link between the staggered square and the square is made through the intermediary of a low square podium on which rises the temple foot (Figure 46).

Although at the level of the temple body all the sides are treated identically, an element of axiality is introduced at the level of the base, since there is a small projection on the entrance side (Figures 45, 46).

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[18] A similar organization is visible at *candi* K (secondary shrine of *candi* Ijo), adapted to a general rectangular shape.

[19] *Candi* K, on terrace VIII-b.

[20] Actually, the side niches and the entrance door are slightly protruding, but the latter does not project further out than the niches. The base, however, has a front projection, which sustains a small *gopura*. A similar feature is to be found at Ngawen and Sojiwan.

[21] Small secondary shrines.

[22] Large secondary shrines.

[23] The Nandi temple, located in front of the Siva temple, has a slightly rectangular plan and should therefore be compared with rectangular structures of Gedong Songo II and III, as well as with *candi* Semar and other similar buildings of the Arjuna group on the Dieng plateau.

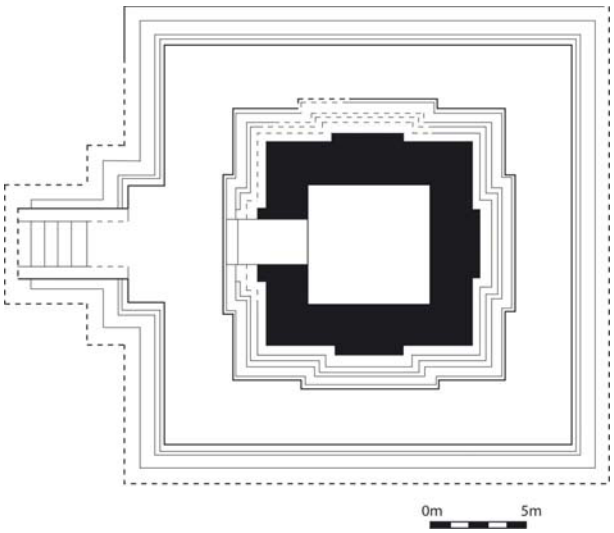

Figure 45: *Candi* Pendem: staggered square temple body, square base with small projection on the façade

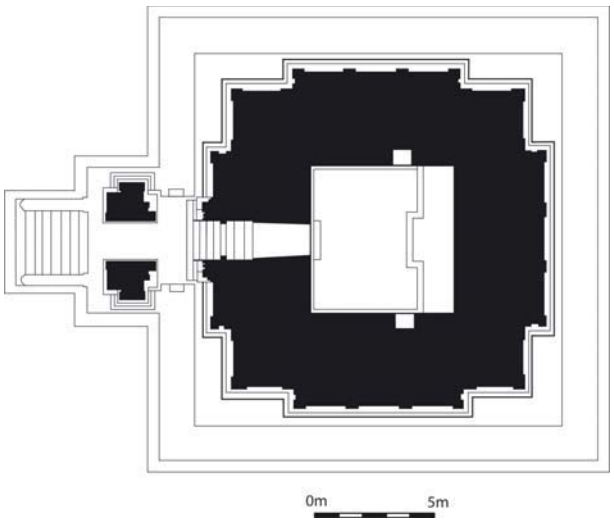

Figure 46: *Candi* Sojiwan: staggered square temple body, square base with projection

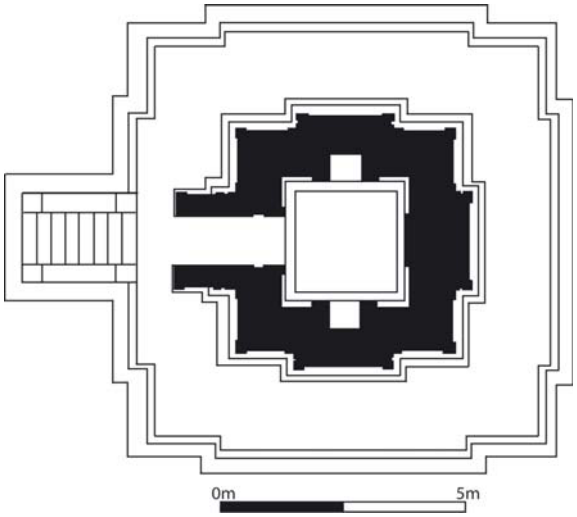

Figure 47: *Candi* Pawon: staggered square temple body with porch, staggered square base

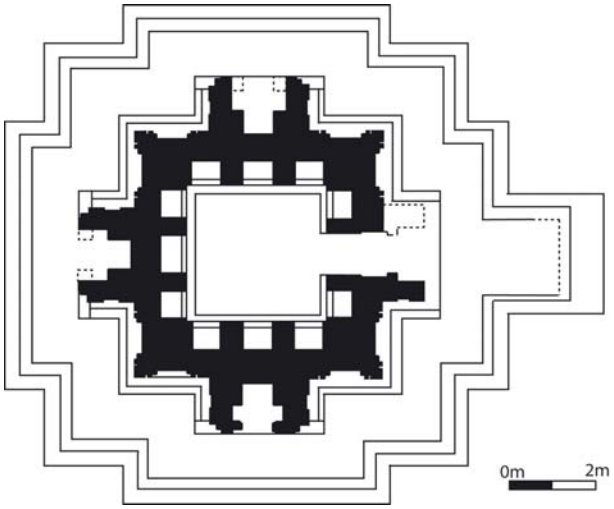

Figure 48: *Candi* Lumbung

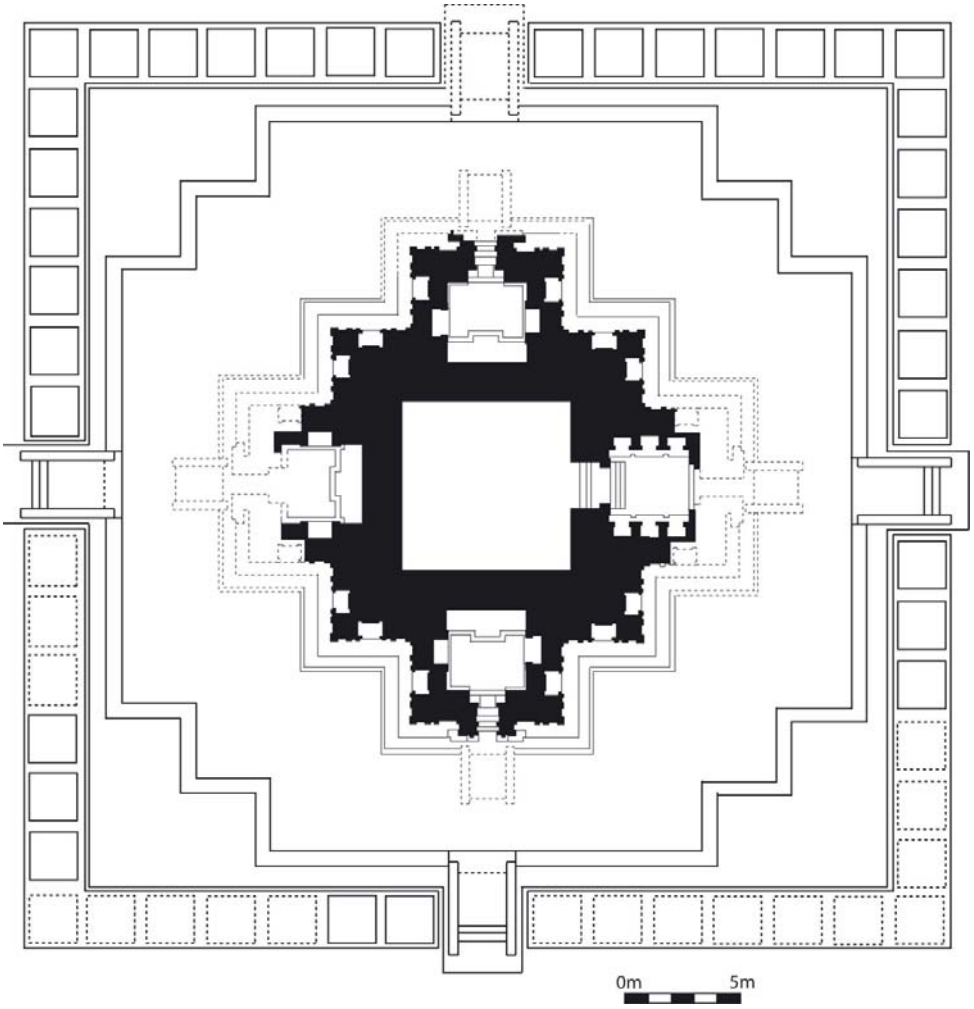

Figure 49: *Candi* Kalasan: staggered square temple body with four *cella*, staggered square base

At Bima, Dwarawati, Mendut, Ngawen, Pawon, and Selogriyo, both the temple body and the base are a staggered square (Figure 47). Bima, Dwarawati, Mendut and Pawon[24] have a vestibule, while at *candi* Ngawen the emphasis on the entrance side is materialised by an independent *gopura* that rises at the eastern edge of the terrace, a feature that was also seen at Sojiwan. As for *candi* Selogriyo, it has indeed a narrow projection at the middle of each wall, as well as a very short porch on the entrance side. The temple base is not visible anymore, but was probably a staggered square too (Krom 1923, I:407).

Among the temples with a staggered square body, *candi* Kalasan, Loro Jonggrang, Lumbung, Sembodro and Sewu stand out (Figures 48, 49). In these five temples, the projections are indeed so deep that they give to the whole a cruciform aspect.[25] At Sembodro and Lumbung, the arms of the cross house the usual niches. At Kalasan, Loro Jonggrang and Sewu, the three niches are replaced by subsidiary *cella* (Figure 49).

[24] The only other temples with a vestibule are *candi* K at Ijo and the secondary temples of Plaosan Kidul.

[25] It is not exactly a cross, given that the corners of the central square are still clearly visible.

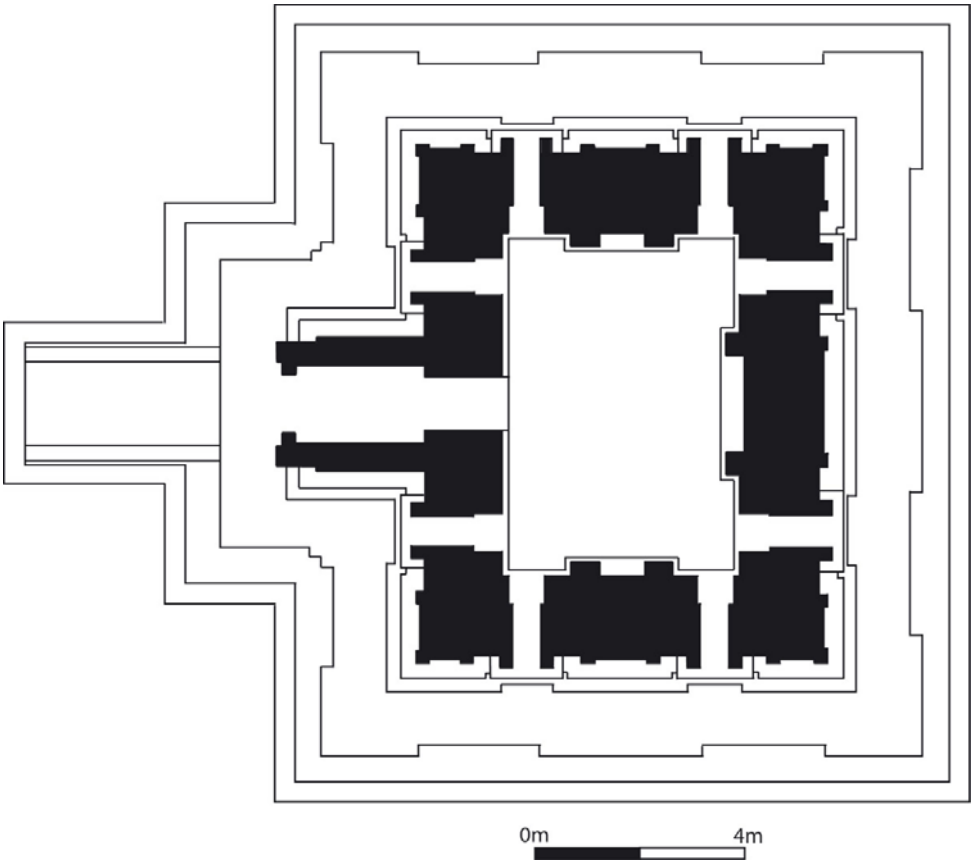

Figure 50: *Candi* Banyunibo: rectangular ground plan with single cella

Rectangular plans

At least 10 Central Javanese buildings have a rectangular ground plan, but most of them are small, secondary constructions (Table 34). Main temples with a rectangular body are only found at Banyunibo, Plaosan Lor and Sari. The entrance of these buildings is located on the long side. It seems that the rectangular shape was applied to main buildings exclusively in a Buddhist context.

The four temples – Banyunibo, Sari and the two main temples of Plaosan Lor - have a porch. Their base possesses a projection on the entrance side and follows the shape of the temple body, which also has a projection. While Sari and Plaosan Lor have three inner *cella* - and two storeys, Banyunibo has only one (Figure 50).

Given the unusually large dimensions of the inner rooms and the windows that let the light enter, it is probable that those buildings were conceived to receive a larger audience than the relatively small *cella* of other temples – and had therefore a somewhat different purpose. N.J. Krom was of the opinion that, even though they belonged to Buddhist compounds, rectangular structures could not have been living quarters for monks, such as their then modern local appellation of *wihāra* would suggest (Krom 1923, I:268-269). On the one hand, as the remaining images and thrones at Plaosan Lor and Banyunibo suggest, the rooms must have served a ritual purpose. On the other hand, N.J. Krom underlined that - in the case of Sari and Plaosan Lor where the rectangular structures have two floors - it would be unthinkable for Javanese people to live above the gods they served. The suggestion of the Dutch

scholar was that the upper storeys of Plaosan Lor and Sari served as treasure room for cult objects (Krom 1923, I:269).[26]

The meaning of the ground plan: concepts and traditions in Central Javanese architecture

Symmetry and asymmetry of the temple plan

Beyond knowing that Central Javanese shrines are either square, staggered square or rectangular, it is important to try to know why it is so, what conceptions guided architects and commissioners of these temples. In India, the Hindu temple is commonly associated with Mount Meru - the axis of the world - and, more widely, with the universe itself. As the universe is coiled around the cosmic mountain, so the temple must have a centre. As the universe is four-pointed (*caturbhṛṣṭi*), the temple too is first defined as a square (Kramrisch 1946:161-162; Michell 1988:69-72). This perception of the temple as a Mount Meru most probably prevailed in Southeast Asia as well.[27]

All Central Javanese temples, either squares or staggered squares, are variations on the square form, at the centre of which resides a square *cella*. As Mount Meru stands in the middle of the universe, the centre of the Central Javanese temple is both its most sacred and its highest part.[28] However, in Central Java as anywhere else, the vision of the temple as a replica of Mount Meru – and hence perfectly symmetric and identical from all sides – enters in competition with a more mundane preoccupation: the need of an entrance door. In order to respect the analogy with Mount Meru, Javanese architects could opt to place a door on each side. Yet, they rarely did. On the contrary, most Central Javanese buildings have a single entrance – and this door is often emphasized by the presence of a porch or a vestibule, which breaks the double symmetry of the square plan. There seems to be, in the plan of many Central Javanese temples, a contradiction between two principles, the symmetry of the square plan on the one hand, the emphasis on the façade on the other hand - between a concentric view of the cosmos, as expressed in Indian traditions, and an axial approach of the material space.[29]

The structural consequence of the highlighting of the entrance door is that the *cella* is often somewhat shifted to the rear, being slightly closer to the back wall of the base than to the entrance staircase (Figure 51). In most Central Javanese temples, however, this movement is played down by the treatment of the ground plan.

As stated above, in some buildings, the porch is non-existent. In a couple of other cases its presence does not have any impact on the ground plan of the base, which

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[26] A similar hypothesis has been formulated for the two-storey chapter houses of old Sri Lankan monasteries. Those buildings are also rectangular, with the entrance on the long side, and are usually supported by a forest of pillars. It is thought that the ground floor was used for chapter recitation while the first floor houses a storage room (Silva 1988:184-203).

[27] See for example Chihara 1996:30-46.

[28] In Central Java, the *cella* is crowned by a tiered tower. When they exist, *gopura* are always lower than this central tower.

[29] The latter point is of course not peculiar to Java: Indian temples as well are far more developed on the entrance side. But while this led in India to the general adoption of the *maṇḍapa*, there was in Java a willingness to be as respectful as possible to the square plan, even in the largest and most complex buildings.

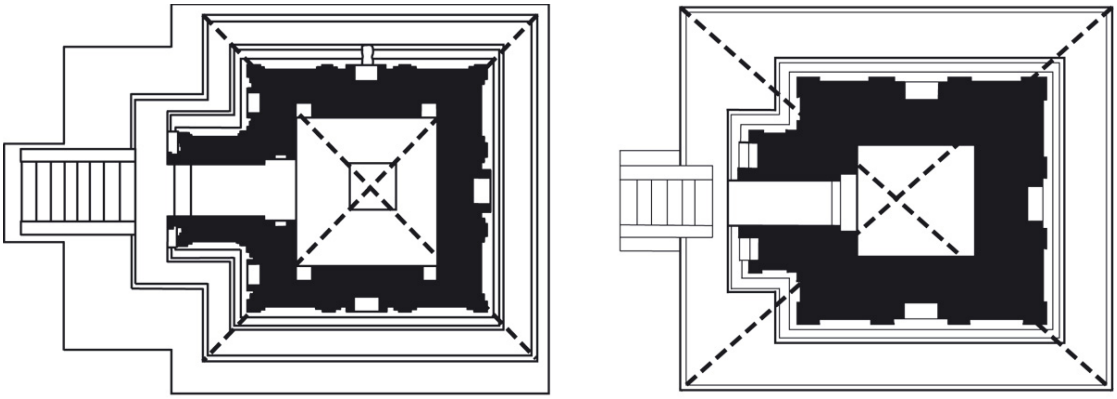

Figure 51: Schema showing the geometrical centre of the base. To the left, *candi* Arjuna (Dieng), to the right Gedong Songo IV

remains square (Figure 35 and 36). In all these examples, the square, symmetric shape, prevails above all.

In still other temples, the system for creating a balance between centrality and axiality is somewhat different: the porch is conceived as a simple addition to the square plan, and the base imitates the shape of the temple body (Figure 44). The ground plan is hence based on the square shape and the projection of the entrance is of secondary importance.[30] The geometric centre of the main part of the base still corresponds with the centre of the *cella* (Figure 51).

The only place where the geometrical centre of the base does not correspond with the centre of the *cella* is Gedong Songo. With the exception of Gedong Songo I, all the temples of the site possess a rectangular base (Figures 43, 51). The temple body is not at the centre of the base. It is however impossible to establish whether or not this special arrangement altered the perception of the temple as a Mount Meru rising in the middle of the universe.

Hindu and Buddhist building traditions

As we have seen, the square shape constitutes the backbone of almost all the religious buildings of Central Java. Nevertheless, the temples are rarely square strictly speaking. We must thus question the reasons behind the choice of a square, a staggered square or a rectangle as basis for the plan of a given temple. The drawing of a ground plan being an essential step within the building process, it is unlikely that it was done randomly. The initial form, the form that determines the primary shape of a building, is inevitably the materialisation of a mental construct: consciously or not, it conveys the ideas of its architects and commissioners. Which ideas, which cultural references played the most determinant role in the choice of a ground plan is difficult to establish, especially since we have so few textual data directly linked to specific temples. Given the nature and limitations of the available data, we will only try to determine whether the ideas materialised through the ground plan were linked to building traditions limited in space, time or religious background.

Let us consider first the possibility that square, staggered square and rectangular buildings are the expression of different, regional traditions. A quick look at the map

[30] At *candi* Ngawen, this lower importance of the projection is underlined in the profile of the building: the main, square part of the base has a different moulding system than the protruding part.

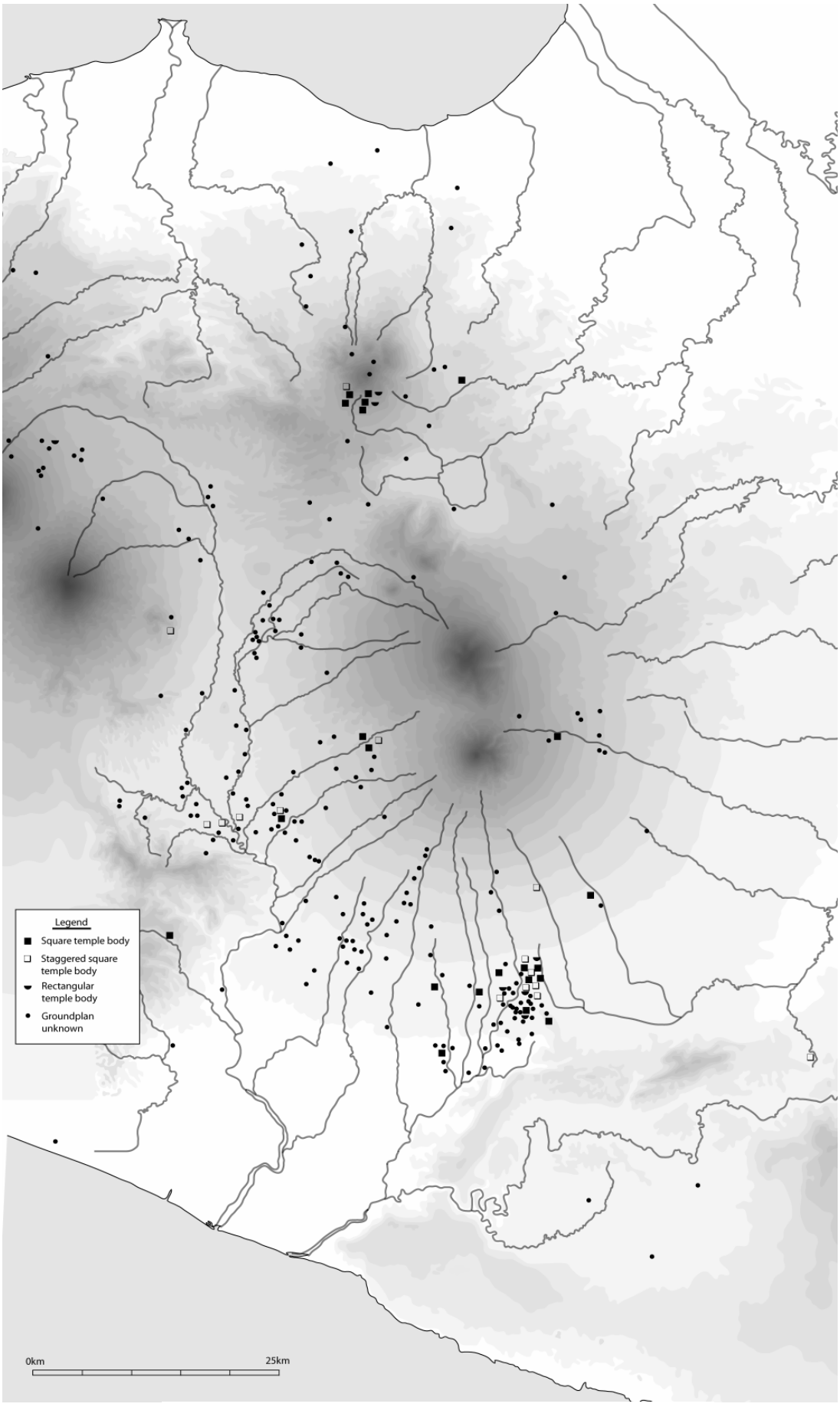

Figure 52: Distribution of temple groundplans

(Figure 52) is sufficient to realize that the three shapes are found all over Central Java. Examples of square temples exist in the northern as well as in the southern region – and the same observation is valid for the staggered square and rectangular plans. We should thus dismiss the hypothesis that variations in plan represent differentiated, localized traditions.

Another possibility that our data allow us to consider – though in a somewhat limited way[31] – is the relation between plan and chronology (Table 36). I do not mean that I assume that ground plan of Central Javanese shrines evolved over time; the word seems rather inadequate to explain variations of such simple forms as the square and the staggered square. It is not really probable that there ever was something like an Aristotelian evolution of the temple plan. Central Javanese architecture did probably not start with a simple square to end up with complex plans, as a too rapid juxtaposition of *candi* Arjuna and *candi* Loro Jonggrang could suggest. Firstly, Lawang - a temple that is usually considered as a late one,[32] has a square ground plan, testifying that the square shape cannot be exclusively associated with early architecture. Secondly, Borobudur, which no scholar considers a late monument, is a

Table 36: Ground plan and chronology

Shape	*Early period*			*Late period*		
Square	18	Arjuna Gedong Songo I-VI Lumbung (Pr.)* Merak	Puntadewa Sewu * Srikandi	5	Asu Barong Gedong Songo I Ijo Kedulan Lawang Lumbung	Ngawen* Ngempon Plaosan Kidul* Plaosan Lor* Sambisari
Staggered square	9	Bima Borobudur Bubrah Dwarawati Gatotkaca Gedong Songo IV* Kalasan Lumbung (Pr.)	Mendut Pawon Pendem Selogriyo Sembodro Sewu	9	Loro Jonggrang Morangan Ngawen Sojiwan	
Rectangular	6	Banyunibo Gedong Songo II* Gedong Songo III* Puntadewa*	Sari Semar*[33] Srikandi*	3	Loro Jonggrang*[34] Plaosan Lor Pringapus*[35]	

* Secondary shrines
Pr. = Prambanan

[31] On the probably of the chronology of Central Javanese shrines, see above p.15.

[32] The temple is dated 861 A.D., on the basis of an inscription carved on its doorjamb (Krom 1923, I:412).

[33] Secondary shrine in front of *candi* Arjuna.

[34] Secondary shrine in front of the Siwa temple.

[35] Although it is not absolutely certain, I consider *candi* Pringapus as a secondary shrine to *candi* Perot. I do so for three reasons: 1) it houses a sculpture of a reclining bull, an element normally found in front of *śaiwa* temples (alone, under a canopy or in a small shrine), 2) it faces *candi* Perot, the side walls of which, to the contrary of those of Pringapus, were adorned with the standard Javanese *śaiwa* triad Gaṇeśa-Durgā-Agastya, 3) it has the rectangular plan of *śaiwa* subsidiary shrines when placed in front of the main temple.

perfect, ample staggered square. Thirdly, both squares and staggered squares are simple geometric figures. Building a staggered square temple does not require more skills and experience than the construction of a square shrine.

Furthermore, both the square and the staggered square are part of the iconography of Buddhism as well as Hinduism; their use is not limited to ground plans of temples and their symbolism is wide. Squares and staggered squares, for example, often form the structure of *maṇḍala* and *yantra*. Given their importance and popularity within Buddhism and Hinduism, such sacred diagrams were most probably known in Java from a very early time,[36] so that the architects who built the Central Javanese monuments could, from the start, rely on a large repertoire of geometric figures with symbolical associations. It is therefore impossible to imagine a purely local evolution that would have led from the simple square (Arjuna) to the staggered square (Mendut) or cruciform temple (Kalasan).

Although we should dismiss the concept of evolution when referring to the variations in the form of the ground plans, it is still possible that, for a reason or another, certain shapes were more popular at certain periods. I have thus classified remaining temples according to their shape and to the period they belong – early or late – in the hope of being able to trace a relationship between form and time (Table 36). No clear scheme has come out of this classification; the only noticeable tendency is a decrease in the amount of rectangular and staggered square plans in the late period.

The confrontation between the shape of the ground plan on the one hand and the religious affiliation on the other gives more satisfying results. If one is content with looking quickly at Table 37, one could conclude that the various ground plans are similarly popular within Hinduism and Buddhism. However, although the various shapes of ground plans (square, staggered square, rectangular) are found in both religions, their distribution and importance are not identical among Buddhist and Hindu remains. Main temples with a rectangular ground plan are found only in Buddhism. In Hindu sites indeed, this shape is reserved for secondary buildings facing the main temple. More surprising is the fact that square plans are mostly a Hindu phenomenon. It is indeed quite common for the central building of a Hindu compound to have a square plan. Among Buddhist remains, on the contrary, square plans are limited to secondary structures of the Yogyakarta area (subsidiary shrines of Sewu, Lumbung, Plaosan Kidul and Plaosan Lor). At first sight, staggered square plans seem more shared out between Buddhism and Hinduism. It is nevertheless striking that in all the Buddhist temples the central shrine is either rectangular or staggered square.[37]

If one now tries to combine shape, religious affiliation and chronology and to approach the data in terms of building traditions, one can suggest two main hypotheses. According to the first hypothesis, temples would belong to two different traditions that, as far as the shape of the ground plan is concerned, did not undergo drastic changes in the course of Central Javanese history. On the one hand, we find Buddhist buildings, from the early and the late periods, characterized by a staggered plan. On the other hand, Hindu shrines present less uniform traits, since they may

[36] Two inscribed stones bearing diagrams similar to *yantra* have been found in the Progo River, near Bogem, leaving few doubts that such drawings were known and used in Central Java (Setianingsih 1998).

[37] Unfortunately, it does not work the other way round: all staggered square buildings are not Buddhist; some staggered square temples are Hindu.

Table 37: Ground plan and religion

Shape	*Hindu*			*Buddhist*	
Square	18	Arjuna Asu[38] Gebang Gedong Songo I-VI Ijo Kedulan Lawang	Lumbung (Muntilan) Merak Morangan Ngempon Puntadewa Sambisari Srikandi	5	Lumbung* Ngawen* Plaosan Kidul* Plaosan Lor* Sewu*[39]
Staggered square	9	Bima[40] Dwarawati Gatotkaca Gedong Songo IV* Loro Jonggrang	Morangan Pendem Selogriyo Sembodro	9	Borobudur Bubrah Kalasan Lumbung Mendut Ngawen Pawon Sewu Sojiwan
Rectangular	6	Gedong Songo II* Gedong Songo III*[41] Loro Jonggrang*[42] Pringapus*[43]	Puntadewa* Semar*[44] Srikandi*	3	Banyunibo Plaosan Lor Sari

* Secondary shrines

follow either a square or a staggered plan. According to this hypothesis, there is no obvious influence, from one tradition on the other.

One may however formulate a second hypothesis, which would include some form of exchange between the two traditions. Although both the square and the staggered square were known from the earliest period (*candi* Arjuna and Borobudur), the Hindu tradition[45] would have shown a preference for the square (*candi* Arjuna, Gedong Songo II-VI). The staggered square, on the other hand, would have been the plan *par*

[38] Its religious affiliation is actually not known with certainty. The three temples of Candi Pos, Asu, Lumbung and Pendem, are usually associated to the Hindu inscription of Śrī Manggala (874 A.D.), which was found about 250m north of *candi* Pendem. No further element brings evidence of their Hindu character.

[39] Small secondary shrines.

[40] The Dieng plateau is usually considered as a Hindu place of worship. Nevertheless, there is no clear evidence of the religious affiliation of *candi* Bima, Dwarawati, Sembodro and Gatotkaca.

[41] Secondary shrine in front of the main temple.

[42] Secondary shrine in front of the Siwa temple.

[43] Although it is not absolutely certain, I consider *candi* Pringapus as a secondary shrine to *candi* Perot. I do so for three reasons: 1) it houses a sculpture of a reclining bull, an element normally found in front of *śaiwa* temples (alone, under a canopy or in a small shrine), 2) it faces *candi* Perot, the side walls of which, to the contrary of those of Pringapus, were adorned with the standard Javanese *śaiwa* triad Gaṇeśa-Durgā-Agastya, 3) it has the rectangular plan of *śaiwa* subsidiary shrines when placed in front of the main temple.

[44] Secondary shrine in front of *candi* Arjuna.

[45] By the terms "Hindu tradition" and "Buddhist tradition" I do not mean that the architectural differences between these two traditions have a religious signification, that the staggered plan has a Buddhist meaning and that its possible introduction into Hindu architecture implies an influence in doctrine or symbolic. The raison d'être of the variations in plan can of course come from non-religious factors. It is not unthinkable, for example, that the Buddhist tradition of Central Java was born from renewed contacts with a different part of the Indian subcontinent, or from the impetus given by the arrival of a new reigning dynasty – I think here of course of the Śailendra's. It is nevertheless still true that the vast majority of Buddhist temples seem to adhere to a single building tradition, and most Hindu shrines do not seem to follow it.

excellence for Buddhist temples (*candi* Borobudur, Kalasan, Mendut). Buddhist building tradition would then have influenced later Hindu architecture, which adopted the staggered square for certain temples (*candi* Loro Jonggrang), but kept the square for others (*candi* Sambisari).[46] The main drawback of this second hypothesis, however, is that it fails to explain the presence of both square and staggered square temples on the Dieng plateau. One may either suppose that the crystallization into two different traditions happened after the construction of the Dieng temples, or suggest that the early dating of the Dieng should be questioned. On the basis of temple ground plan alone, it is unfortunately impossible to decide which hypothesis is the most likely.

Profiles of Central Javanese temples: exploring the Hindu and Buddhist architectural traditions

Hoping that a closer look at other architectural elements would confirm and refine the results of the analysis of ground plans, I have undertaken a closer study of temple profiles. Being are at the junction between architecture and sculpture, moulding systems of Central Javanese temples have failed to attract much scholarly attention on behalf of architects and art historians alike. Three scholars, R. Soekmono (1979), D. Chihara (1996) and J. Williams (1981), have tried to retrace the stylistic evolution of the profiles of Central Javanese temples. Their theories, though convincing on certain points, have a couple of shortcomings. The number of sites taken into account is limited,[47] mouldings from the temple foot at the base are sometimes mixed up and wrongly compared,[48] the dating of the temples serving as basis for the study is not looked at critically.[49] In short, these chronologies cannot be considered as facts.

They nevertheless come up with an interesting observation: there are, in Central Javanese architecture, two sets of mouldings, one with a torus and one without. However, instead of including them in a strict chronological sequence, as did my predecessors, I would like to classify them in terms of traditions and try to determine whether they can be divided into a Buddhist and a Hindu tradition - as in the case of temple plans. I will further look for traces of mutual influences between those two traditions in order to verify or dismiss my hypotheses concerning temple plans. For

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[46] Another influence of Buddhist architecture on later Hindu buildings might be the use of the parapet, an element which is found at most large Buddhist temples (Asu, Borobudur, Kalasan, Mendut, Sewu), but is not so frequent in Hindu architecture (it is to be seen as Kedulan, Loro Jonggrang, Sambisari and, at a small scale, at Gedong Songo I).

[47] Chihara, for example describes only the mouldings of 10 temples, Williams 21, while there are about 40 Central Javanese shrines with decently preserved mouldings.

[48] Williams, for example, gives a sketch of Ngawen where only the mouldings of the base appear. She uses this as a criterion to classify Ngawen in the group without torus. In fact, with the complete profile of *candi* Ngawen, one can clearly see that there is a torus at the level of the temple foot. Similarly, when discussing *candi* Pringapus, she seems to omit its base, constituted of a series of superimposed plinths.

[49] Chihara does not question much the date attributed to the Dieng temples and he ascribed them to an early date (*c.*680-*c.*730 for Arjuna, Semar and Srikandi, *c.*730-*c.*780 for the other ones). He underestimates the possibility that some of the Dieng temples can be of a much later date, even though the earliest dated inscription found on the plateau is from 809 A.D. and uses the same script as the one used on a golden leaf from a temple deposit (Krom 1923, I: 171-172). As for Williams, she takes for granted the association between the Canggal inscription and the temple still visible nowadays at the top of Gunung Wukir, whereas Dumarçay has convincingly showed, based on building techniques, that the temple had been thoroughly rebuilt in the 9th century (Dumarçay 1993:57).

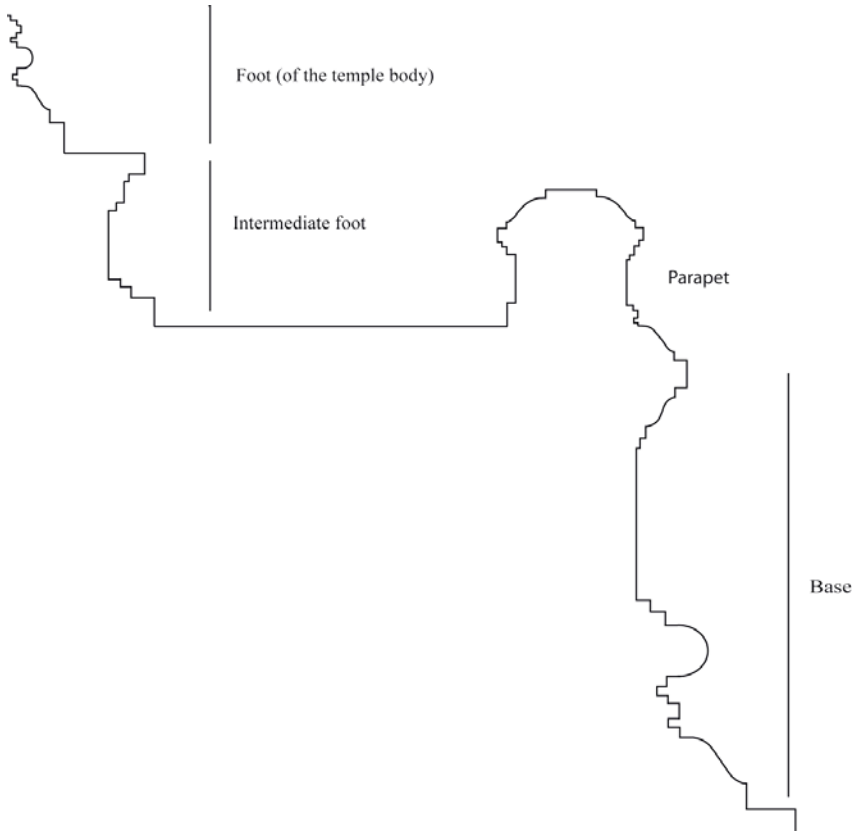

Figure 53: *Candi* Mendut, mouldings

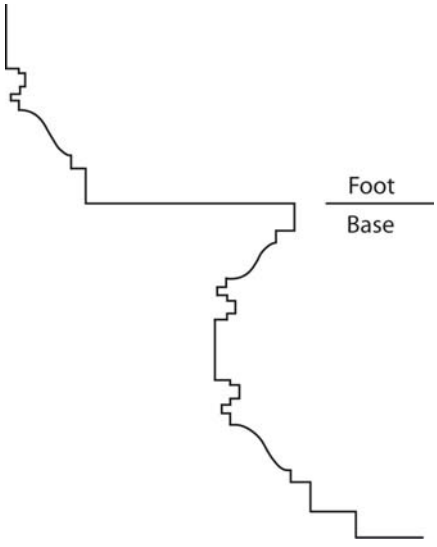

Figure 54: Gedong Songo II, mouldings

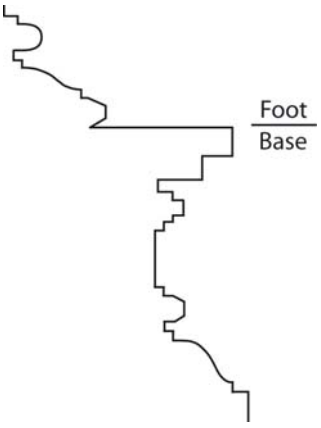

Figure 55: *Candi* Gedong Songo IIIb, mouldings

the sake of clarity, I will divide mouldings into two parts and describe them first separately: mouldings of the foot of the temple body, and of the base (Figure 50).[50]

Profile of the foot of the temple body: variations and interpretations

As suggested by previous studies (Soekmono 1979; Williams 1981; Chihara 1996), mouldings of the temple foot may be divided, into two categories, according to the absence or presence of a torus.[51] The usual composition of mouldings without torus is (from top to bottom): thread, cyma, plinth (Figure 54). Mouldings with torus are composed of (from top to bottom): thread, torus, cyma, plinth[52] (Figure 53). This general structure knows of course many variations, and elements may be transformed or added. At Asu (Magelang), Gedong Songo II, III, IV, Loro Jonggrang, Lumbung (Magelang) and Puntadewa,, the cyma is slightly turned upward at the four corners of the foot.[53] An additional plinth is visible at Gedong Songo I, Ijo, Ngawen II and Sojiwan (Figure 56). An unusual moulding is found at Morangan, where the plinth is transformed into a torus. Surprisingly, this characteristic feature is also found at the northern shrine of Gedong Songo III (Figure 55) and may be compared to the base of the projection of *candi* Ngawen II. Was there a link between the three structures? Were they built at the same time? It is also possible that, for an unknown reason, Morangan or Ngawen were used as models to construct Gedong Songo III.[54]

As I did for the temple plan, I have tried to match the absence and the presence of the torus with three criteria: location, date and religious affiliation of the temple. Mouldings without torus are not rare and occur in the north as well as in the south (Table 38). Although temples with torus at the foot are essentially found in the middle Progo valley and in the Prambanan area, they reached the upper Progo valley (Pringapus) and northern Central Java too (Gedong Songo III). Similarly, we find roughly mouldings with and without a torus on early as well as on late temples. If we compare these two sets of data we can nevertheless observe that mouldings without a torus are the only type of profile found in the early architecture of the northern regions[55] (Table 38). On this basis, one could assume that mouldings without a torus are part of a regional (northern) tradition – that extended southwards in later times –

[50] There is in some temples a kind of intermediate foot between these two sets of moulding. It appears in the illustrations. Nevertheless, since I have been unable to come up with a typology of these intermediate feet – they appear to vary far too much, still less to make sense of it, I have not included them in the following paragraphs.

[51] Plain mouldings are only present at base level. As far as the temple foot is concerned, there are therefore only two moulding types.

[52] The fact that the torus is merely added to the moulding might suggest that it is a later development. However, as both mouldings are found in early Indian buildings, it is more probable that they were imported in Java together with the Indian tradition and may not, therefore, be systematically dated from two different periods.

[53] This is also true, though less marked, at Gampingan, Semar and Selogriyo; upward corners may also be observed on the base of *candi* Lawang.

[54] The small niches carved at the centre of each side of the base are reminiscent of the panels that are found in a similar position at Ngawen I. The feature is rare in Central Javanese architecture and, to my knowledge, it is further only found at Loro Jonggrang, where they house lions. Nevertheless, in the latter case, they do not occupy a central position.

[55] North of Magelang, tori are exclusively found on the temple foot of *candi* Pringapus and the northern shrine of Gedong Songo II. One should note that, in latter case, the profile of the torus is hexagonal rather than semi-circular. It is nevertheless difficult to know whether it was done on purpose or if it is an unfinished half-round.

Table 38: Mouldings of the foot according to region and dating

Moulding type	*Dating*	*Area*	*Sites*
Without torus	Early	N[56]	Arjuna, Bima, Dwarawati, Gatotkaca, Gedong Songo II-VI, Puntadewa, Semar*, Sembodro, Srikandi
		C	Selogriyo
		S	Gebang, Sewu*
	Late	N	Gedong Songo I, Ngempon
		C	-
		S	Barong, Ijo*, Kedulan, Sambisari.
With torus	Early	N	-
		C	Mendut, Pawon
		S	Banyunibo, Bubrah, Kalasan, Lumbung, Merak, Sewu
	Late	N	Pringapus, Gedong Songo III*[57]
		C	Asu, Lumbung, Ngawen
		S	Ijo, Loro Jonggrang, Morangan, Plaosan Lor, Sojiwan

* Subsidiary building

Table 39: Mouldings of the foot according to religion and region

Moulding type	*Area*	*Religion*	*Sites*
Without torus	N[58]	Hindu	Arjuna, Bima, Dwarawati, Gatotkaca, Gedong Songo I-VI, Ngempon, Puntadewa, Semar*, Sembodro, Srikandi
	C	Hindu	Selogriyo
	S	Hindu	Barong, Gebang, Ijo*, Kedulan, Sambisari.
	S	Buddhist	Sewu*
With torus	N	Hindu	Pringapus, Gedong Songo III*[59]
	C	Hindu	Asu, Lumbung
	S	Hindu	Ijo, Ijo*, Loro Jonggrang, Loro Jonggrang*, Merak, Morangan, Morangan*
	C	Buddhist	Mendut, Ngawen, Ngawen*, Pawon
	S	Buddhist	Banyunibo, Bubrah, Kalasan, Lumbung, Lumbung*, Plaosan Kidul*, Plaosan Lor, Plaosan Lor*, Sewu, Sojiwan

* Subsidiary building

[56] N: northern Central Java (*kabupaten* Wonosobo, Temanggung, Semarang); C: centre, middle Progo valley (*kabupaten* Magelang); S: southern Central Java (D.I. Yogyakarta, *kabupaten* Klaten)

[57] Northern shrine; uncertain dating.

[58] N: northern Central Java (*kabupaten* Wonosobo, Temanggung, Semarang); C: centre, middle Progo valley (*kabupaten* Magelang); S: southern Central Java (D.I. Yogyakarta, *kabupaten* Klaten)

[59] Northern shrine

and that mouldings with a torus represents on the contrary a southern tradition that progressively extent to the north. Such a hypothesis does however not explain the absence of a torus at *candi* Gebang, an early shrine built on the southern slope of Mount Merapi.

The most striking fact of my study of mouldings actually lies elsewhere: almost all the temples showing a profile without a torus are Hindu (Table 39). The only case where such a moulding has been used on a Buddhist shrine is *candi* Sewu, but it is limited to the secondary shrines, while the main building keeps its torus. Therefore, I think that rather the composition of the profile does not betray regional tendencies; it is rather linked to the religious affiliation of the various temples.

If the use of a torus was limited to Buddhist buildings, my hypothesis would have been easily confirmed, but it is obviously not the case. All the Buddhist temples, with the exception of the secondary shrines of candi Sewu, belong to the group with a torus, but the group also includes Hindu temples. The comparison between profiles, religious affiliation and chronology does, however, show that the vast majority of early Hindu temples – i.e. all of them with the exception of candi Merak – have no torus. This observation could well give us the clue to our problem. It indeed suggests that, originally, the torus was indeed associated with Buddhist buildings, while the profile without torus was characteristic of Hindu architecture. However, at a certain point, both building traditions merged or, more exactly, Hindu buildings started to incorporate Buddhist features, especially in areas where Buddhism was well rooted (Borobudur and Prambanan areas).[60] The new style profile was nevertheless not adopted in all Hindu temples; the ancient Hindu moulding, without torus, was still in use.[61]

Profile of the base in Central Javanese religious architecture

The mouldings of the base, as suggested by D. Chihara (1996) and J.Williams (1981), fall into three types: without torus, with torus and with plain plinths (Table 40). Variations within each type are numerous and more difficult to interpret than in the case of the temple foot (Table 40). They may, for example, present either a cyma (Figures 53, 54) or a frieze under the cornice (Figures 55, 58, 59).

When mouldings include a torus, the latter may be used in two different ways: it may either take the place of the thread (Asu-Muntilan, Banyunibo, Bubrah, Merak, Plaosan Lor, Sojiwan) (Figures 57) or it may simply be added under/above the thread (Gana, Loro Jonggrang, Mendut, Pawon) (Figures 53 and 61).

Given that the first stage of *candi* Mendut shows a moulding with a torus added above the usual thread, one might come to the hypothesis that the torus was first simply added, and that it is only later that it started to replace the thread. Temples where the (lower) thread is lacking would then be of a late date (Asu-Magelang, Banyunibo, Bubrah, Merak, Ngawen II, Plaosan Lor, Sojiwan). However, it is possible that the older tradition continued to be in use in certain later buildings, as it is

[60] It maybe started in the south at a very early period, with *candi* Merak.

[61] Torus are not only characteristic of Buddhist and late Hindu architecture. In some religious complexes, the torus is indeed used to emphasize a hierarchy between buildings. Among the four buildings of the upper terrace of *candi* Ijo, for example, only the main temple has a torus, while the three secondary shrines facing it have just a thread and a cyma. A similar situation is found at *candi* Sewu.

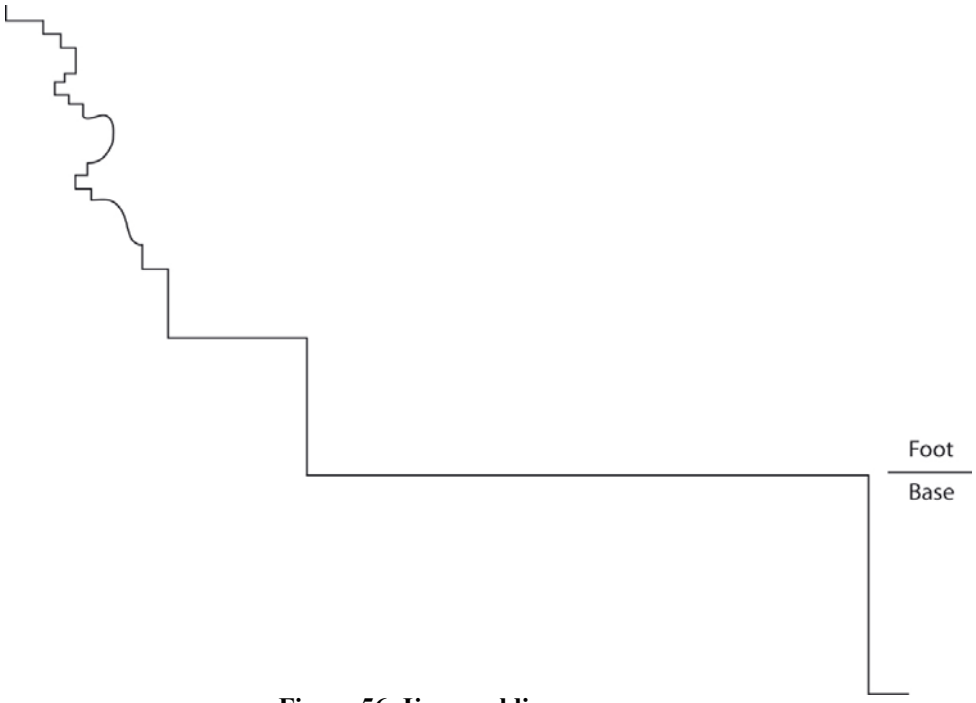

Figure 56: Ijo, mouldings

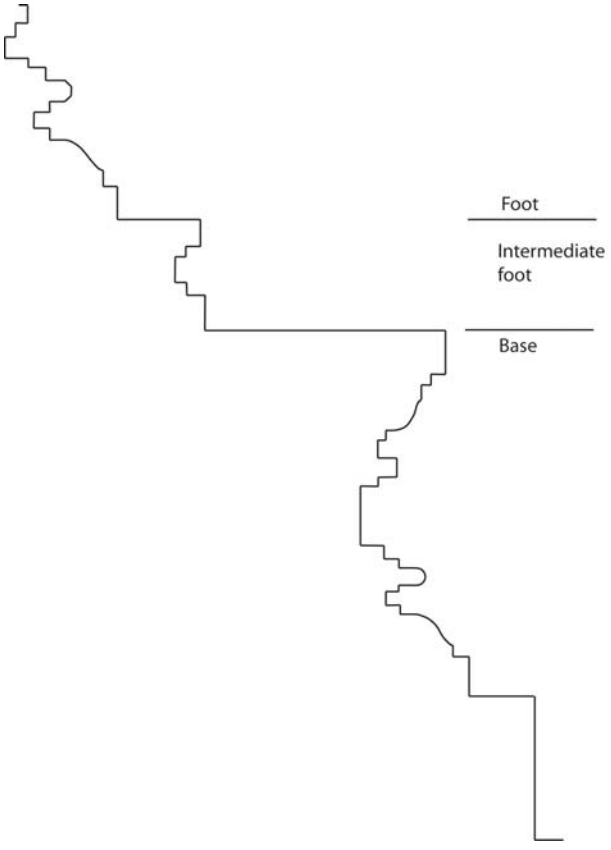

Figure 57: *Candi* Merak, mouldings

was the case for temple planning, which might explain why, at Loro Jonggrang, the base has both a thread and a torus.

The distribution of temples with mouldings including a torus at the base does not follow any clear geographical or religious schema. In the middle Progo valley, as well as in the Prambanan area, it is rather common to see Buddhist structures the base of which does not bear a torus. Similarly, some Hindu buildings do have a torus. However, it should be noted that the majority of the bases with torus (8 out of 11) belongs to Buddhist temples and that Hindu shrines with torus are found only in the middle Progo valley (*candi* Asu) or in the Prambanan area (*candi* Loro Jonggrang and Merak).[62]

Therefore, I would tend to think that the two main types (with or without torus) are (almost) contemporaneous and correspond to two different traditions. Hindu temples were possibly first built using no torus, while some Buddhist shrines added the torus to the usual thread, repeating at the base level the moulding they already had adopted for the temple foot. In a later change of tradition, the torus came to replace the original thread. Some Hindu buildings started to adopt the torus too. It is possible that the northern part of Central Java,[63] where Buddhism was apparently not so strongly rooted, was more inclined to keep the characteristics of the early Hindu tradition, without much influence from the Buddhist style.

I have not talked about the last type of moulding yet. While the two first types show a somewhat complicated assemblage of cyma, panels, threads and plinths, the last type consists in a series of plinths. Such plain bases are visible at Gunung Wukir, Ijo, Lawang, Pringapus, Plaosan Kidul and Sambisari. According to photographs and a report of the *Oudheidkundige Dienst* (Stutterheim 1940: pl.6), it was also the case of the base of Kalasan I. *Pace* J. Williams, the evidence suggests that such a plain base is not synonymous with an early date. I would even be tempted to think that plain plinths became more common in later times. On the one hand, as the association between the Canggal inscription and the nowadays visible temple of Gunung Wukir cannot be firmly established,[64] the only trace of an early use of a plain base is the first stage of *candi* Kalasan. On the other hand, there is not much doubt that at least Sambisari and Lawang are later structures: the building techniques used at Sambisari are probably posterior to 830 A.D. and *candi* Lawang includes a secondary building which bears similarities with structures found in East Java.

Coherence between the base and the temple foot

Until now, we have looked at the various parts constituting a temple profile, but we should also consider the profile in its entirety and say a word concerning the relation between mouldings of the base and mouldings of the temple body (Table 41).

Twenty temples have similar mouldings at the base and at the temple foot (Table 41, Figure 56). Mouldings of the temples of Gedong Songo clearly stand out: not only do the mouldings of the lower part of the base repeat those of the temple foot, but the base shows a symmetrical composition (from top to bottom: cornice, cyma reversa, thread, panel, thread, cyma, plinth).

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62 Merak is considered to be an early temple, but both Asu and Loro Jonggrang are later structures.

63 This is essentially valid for Gedong Songo and, as far as we may still determine it, *candi* Arjuna, Dukuh, Puntadewa, and Retno. Unfortunately, most of the temples of the Dieng plateau have lost their base, and what is visible today is actually not the base, but the foundation of the temple body.

64 See p.162, footnote 50.

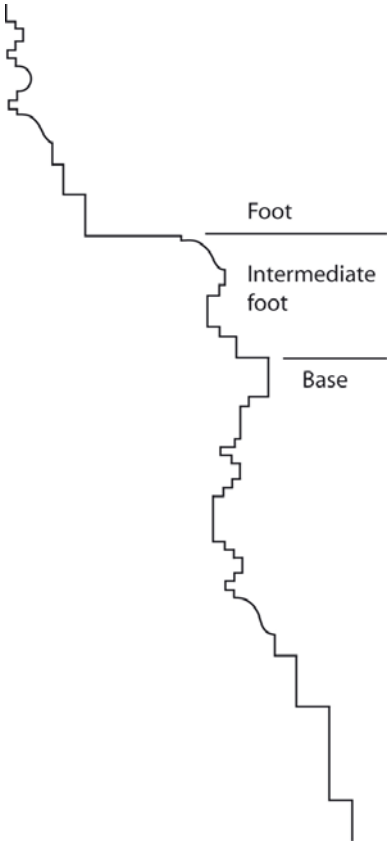

Figure 58: *Candi* Lumbung (Muntilan)

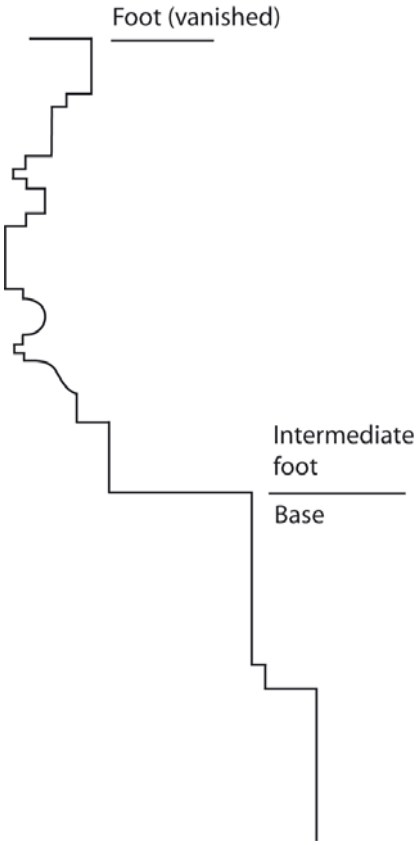

Figure 59: *Candi* Lawang

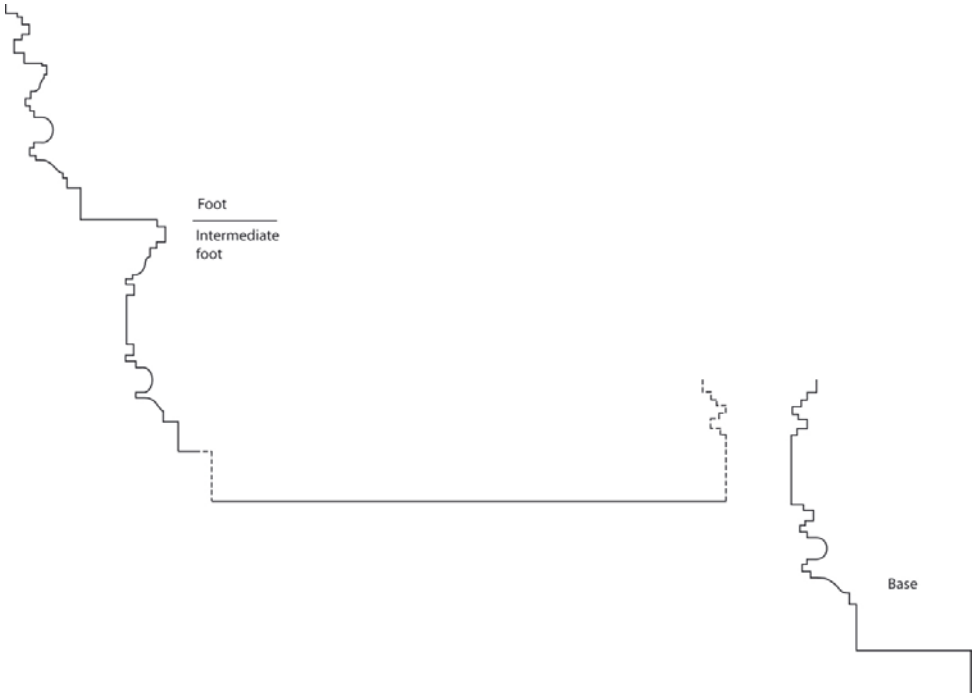

Figure 60: *Candi* Kalasan

Table 40: Mouldings of the base according to region and religion

Type		*Area*	*Religion*	*Site*
Without torus	With cyma reversa	N	Hindu	Arjuna, Gedong Songo I-VI, Ngempon.
		C	Hindu	Pendem.
		S	Hindu	Gebang.
		C	Buddhist	Ngawen II.
	With frieze	N	Hindu	Semar*.
		C	Hindu	Lumbung (Magelang).
		S	Hindu	Barong, Kedulan.
		C	Buddhist	Ngawen I*.
		S	Buddhist	Gampingan, Lumbung, Lumbung*, Sewu, Sewu*.
	Unknown	N	Hindu	Dukuh, Gedong Songo IV*, Retno.
With torus	With cyma reversa and torus[65]	S	Hindu	Merak.
		S	Buddhist	Banyunibo, Gana.
		C	Buddhist	Ngawen II[66]
	With cyma reversa, thread and torus[67]	C	Buddhist	Mendut
	With frieze and torus[68]	S	Buddhist	Bubrah, Plaosan Lor, Plaosan Lor*, Sojiwan.
		N	Hindu	Gedong Songo III*[69]
	With frieze, thread and torus[70]	C	Hindu	Asu
		S	Hindu	Loro Jonggrang
		C	Buddhist	Pawon
Plain plinths		N	Hindu	Pringapus
		C	Hindu	Gunung Wukir
		S	Hindu	Ijo, Ijo*, Lawang, Sambisari.
		S	Buddhist	Kalasan I, Plaosan Kidul*.

* Subsidiary building

However, coherence is not a general phenomenon and the two series of mouldings may be quite different. That mouldings of the base and the temple body may be at variance is well exemplified at *candi* Lumbung (Magelang), Lumbung (Prambanan), Ngawen I, Ngawen II and Sewu, where a torus is visible on the temple foot but not on the base. Due to the absence of systematic coherence in the mouldings, one should be careful in drawing conclusions from incomplete data. It also makes architectural

[65] The usual composition of this moulding type is, from top to bottom: cornice, cyma reversa, thread, panel, torus, cyma, plinth.

[66] The temple base has two mouldings, one, without torus for the main part, the other, with a torus, for the projection sustaining the *gopura*.

[67] The composition of this moulding type is, from top to bottom: cornice, cyma reversa, panel, torus, thread, cyma, plinth.

[68] The usual composition of this moulding type is, from top to bottom: cornice, frieze, thread, panel, torus, cyma, plinth.

[69] Northern shrine.

[70] The usual composition of this moulding type is, from top to bottom: cornice, frieze, thread, panel, thread, torus, cyma, plinth.

Table 41: Mouldings of the temple foot and base, summary chart.

Foot	*Base*	*Religion*	*Temples*	
-	-	Hindu	Arjuna	Kedulan
			Barong	Ngempon
			Gebang	Semar
			Gedong Songo I-V	Sewu*
With torus	-	Buddhist	Lumbung	
			Lumbung*	
			Ngawen	
			Ngawen*	
			Sewu	
		Hindu	Lumbung (Magelang)	
With torus	With torus	Buddhist	Banyunibo	Pawon
			Bubrah	Plaosan Lor
			Kalasan	Plaosan Lor*
			Mendut	Sojiwan
			Ngawen II (gopura)	
		Hindu	Asu	
			Gedong Songo III*	
			Loro Jonggrang	
			Merak	
With torus	Plain plinths	Hindu	Ijo	
			Ijo*	
			Lawang	
			Pringapus	
		Buddhist	Plaosan Kidul	
			Plaosan Kidul*	
-	Plain plinths	Hindu	Sambisari	
			Ijo*	
Unknown	Plain plinths	Hindu	Gunung Wukir	
		Buddhist	Kalasan[71]	

* Secondary building

reconstitution a delicate task, as one may not project mouldings of the base onto the temple.[72]

Conclusion

The study of the ground plans has shown us that Central Javanese shrines fall into three categories – as far as their shape is concerned: square, staggered square and rectangular buildings. We have further established that the form of the ground plan seems to be linked to the religious affiliation – Buddhist or Hindu – rather than to regional styles or dating of the monuments. This hypothesis seems to be confirmed by an analysis of the profiles, especially the moulding of the foot of the temple body. The

[71] First stage.

[72] The only exception is the case of bases with torus, as they seem to go pretty automatically with a temple foot with torus.

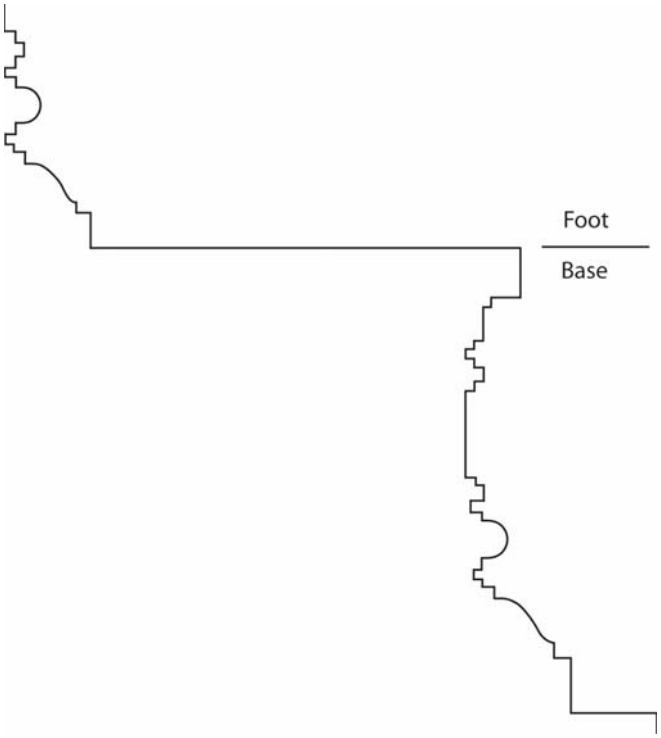

Figure 61: Pawon

facts suggest that two distinct building traditions originally existed. One was characterized by the use of a staggered square ground plan and a profile with torus, and seems typical of the Buddhist monuments of the middle Progo valley and the Prambanan area.[73] The second building tradition distinguished itself by the choice of a square plan and a profile without torus. Although this second tradition is, during the early period, particularly well established in the northern part of the region, around Dieng and Gedong Songo, it also extended down to the Prambanan plain (*candi* Gebang and Merak).[74] The first tradition, which we call "Buddhist", seems to have retained the same standards until the end of the Central Javanese period. The second tradition, on the contrary, apparently integrated traits from the Buddhist tradition, since a series of late Hindu temples make use of either the staggered square ground plan or the torus moulding – or both, as at Loro Jonggrang. This merger of styles was nevertheless not used in all the more recent constructions, since some temples continued to be built according to the original Hindu tradition, with a square plan and no torus (for example *candi* Sambisari).

This reconstruction of the architectural traditions of Central Java, though it would require to be tested in the light of further art historical studies, brings an interesting lighting on the socio-cultural history during the Central Javanese period. Architectural influences seem to have indeed followed a one-way path, from Buddhism to Hinduism, and no *vice-versa*. It is the art of Buddhism, although scarcer, that influenced Hindu shrines – and this says long on the fame early Buddhist monuments such as Borobudur and Sewu enjoyed. It also appears that Hindu architecture of the

[73] There are no Buddhist temples in northern Central Java.

[74] At *candi* Merak, the ground plan is square, but the profile presents a torus. It does thus not entirely follow the Hindu tradition.

late period, using square and staggered square plans, profiles with and without torus, is quite heterogeneous. It would be here highly interesting to know if the homogeneous Buddhist tradition of Central Java is a purely Javanese phenomenon or reflected international tendencies.