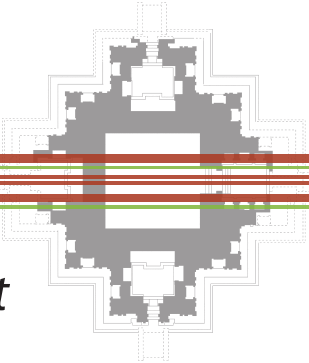


Candi, Space and Landscape

A study on the distribution, orientation and spatial organization of Central Javanese temple remains



Véronique Degroot



CANDI, SPACE AND LANDSCAPE



Thesis submitted on the 6th of May 2009 for the degree of Doctor of Philosophy,
Leiden University.

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1-Ngrajek, 2-Gawe River, 3-Kalasan; Column 5: 1-Nambangan, 2-landscape near Selogriyo;
Column 6: Watugilang, 2-Mt Beser, 3-Bugisan, 4-Miri.

Back cover: Line 1: 1-Ijo, 2-yoni at Gunung Sari; Line 2: lintel with kala head, Gunung Sari.

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N^o. 38

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My desire to research the relationship between ancient Javanese architecture and its natural environment was probably first conceived in 1993. That summer, I made a trip to Indonesia to complete the writing of my BA dissertation. There, on the upper slopes of the ever-clouded Ungaran volcano, looking down at the sulfurous spring that runs between the shrines of Gedong Songo, I experienced the *genius loci* of Central Javanese architects.

After my BA studies, I did many things and had many jobs, not all of them archaeology-related. Nevertheless, when I finally arrived in Leiden to enroll as a PhD candidate, the subject naturally imposed itself upon me. Here is the result, a book exploring the notion of space in ancient Central Java, from the layout of the temple plan to the interrelationship between the built and natural landscape.

I would like to thank all those who accompanied me along this path; family members, friends, colleagues and scholars. My first thoughts go to my partner, Olivier Merveille, who witnessed my conceptual enlightenment at Gedong Songo and mentally kicked me every time I was tempted to give up. To my two little girls, Leïla and Shanti who made things a bit more complicated - especially once they had found the on/off button on my computer - but brought so much joy into my life.

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SPELLING CONVENTIONS

Sanskrit words, personal names and place names, when they occur in an Indian context, have been transliterated according to Monier Williams' system, with the difference that *ri*, *ś* and *sb* are here written *r*, *ś* and *ṣ* (Monier Williams 1974).

Sanskrit and Old Javanese words, personal names and place names, when they occur in an Old Javanese context, have been transliterated according to the spelling conventions used by Zoetmulder in his *Old Javanese-English Dictionary* (Zoetmulder 1982).

Indonesian words, personal names and place names are written in accordance with modern Indonesian spelling, except for the names of authors, which are reproduced as they are found in their respective publications.

Finally, for site names, I have retained the spelling used in the lists given to me by the Indonesian Centre for Preservation of Historical Heritage (Unit Pelaksana Teknis Balai Pelestarian Peninggalan Purbakala), without attempting to standardize it. Thus, one will read *Arjuna* (with a), but *Loro Jonggrang* (with o).

NOTE ON THE PLANS

All plans are my own, except where a specific source is mentioned. The reader should nevertheless be aware that they are not archaeological plans and have been drawn to fit the format of the present book.

The plans presented here are architectural reconstructions: they do not include later deformations or damage to the structures. Furthermore, given the number of temples covered by this study, it was necessary to develop a fast method of drawing, which meant that not all the components of the plan could be measured in full. For each temple, the dimensions of the base (at original ground level), the edge of the platform, the temple body (at the base of the foot) and the *cella* have been measured on all four sides. Other elements have been measured on one side only (usually on the southern side, except where its state of preservation was inadequate). Complementary measurements have been taken from the other sides only when necessary.

For plans of the larger religious complexes – namely Loro Jonggrang, Plaosan, and Sewu – I have used the plans provided by the Indonesian Centre for Preservation of Historical Heritage as a framework, but the details of the individual shrines are my own.

Chapter 1

INTRODUCTION: AIMS, BACKGROUND AND METHODOLOGY

Central Javanese temples were not built anywhere and anyhow, but quite the contrary: their position within the landscape and their architectural design were determined by a series of socio-cultural, religious and economic factors. The initial idea for this book was that an in-depth analysis of the correlations between temple distribution, natural surroundings and architectural design would provide valuable clues as to how Central Javanese people structured the space around them, what factors were at work behind this structure, and how the religious landscape¹ thus created was developed or altered over time.

The choice of focusing on religious architecture was dictated by the type of data available: the region has yielded very few material traces of settlement sites clearly attributable to the Hindu-Buddhist period.² It is nevertheless hoped that the present book, which gives much thought to the relationship between temples and settlements, will provide a good basis for archaeologists to identify settlement areas and develop excavation programs aimed at uncovering non-religious sites.

The choice of this approach - geographically broad rather than site-specific, spatial rather than chronological - was of course guided by my own background and interests, but it also responds to a genuine need in the field of Central Javanese archaeology. In the past, most of the works dealing with architectural remains were stylistic studies (Vogler 1949; Williams 1981), inventories (Verbeek 1891; Krom 1914a; Bosch 1915a), general architectural studies (Krom 1923; Chihara 1996) or monographs focusing on a limited set of temples, if not on a single monument (see Krom & Erp 1920; Blom 1935; Dumarçay 1977; 1981; 1993). In most of these works, chronology was a main concern, whereas little attention was given to geographical factors or the human occupation of

1 I use here C. Tilley and C. Crumley's definition of landscape as "the material manifestation of the relation between humans and their natural environment" (Tilley 1994:10; Crumley 1994:6). See below p.19

2 Archaeological excavations have focused on the immediate surroundings of temples and monasteries. Ceramic surveys, important for revealing settlement sites, have only been carried out in the northeastern part of Central Java (around Demak and Kudus).

The high density of population recorded today in most of the districts of Central Java, the frequency of floods (*lahar* and *banjir*), extensive wet-rice cultivation (with fields under water for most of the year) and the absence of a fixed harvest period makes the planning and execution of ceramic surveys difficult and time-consuming – far beyond the time available for research within the limited context of a PhD. Moreover, the local ceramic wares remain largely unstudied and are thus at present undatable; baked at low temperatures, they rarely resist exposure to the heavy monsoon rains.

the territory. The main exception is the recent thesis of Mundarjito (Mundarjito 2002), a work focusing on the relationship between archaeological sites and ecological resources in the districts of Sleman and Bantul (Yogyakarta). There was thus a need for research on temple remains that would complete Mundarjito's pioneer work, a study that would consider the region in its totality and focus on the spatial aspects; locating all the temple remains of Central Java within a landscape, and possibly helping to put the Hindu-Buddhist polities of Central Java on a map.

This study therefore takes into consideration all the temple remains of the core districts of Central Java, but only from the point of view of their distribution, orientation and spatial organization. Its chronological scope is the Central Javanese period (8th-10th century)³ and it is geographically restricted to the central districts of the province of Central Java. Although I initially intended to cover the whole region, I quickly realized that given the wide extent of the territory, this would have required far greater resources than were then available to a single archaeologist in the four-year frame of a PhD project. I therefore decided to focus on the most important area in the history of the Central Javanese kingdoms, comprising the plain of Yogyakarta, the Progo valley and the region around Mounts Merbabu-Merapi.⁴ This area is of critical interest for a number of reasons: it is the cradle of the Central Javanese civilization; the vast majority of the temples were built there; and its contrasting topography introduces an interesting dichotomy between the fertile plains and mountain peaks.

Previous research on Central Javanese temple remains

Central Java is by no means a blank page in the history of archaeological research on ancient monuments, and the present study is strongly indebted to the work of both Dutch and Indonesian archaeologists. The chapters focusing on temple distribution in particular could not have been written without the reports and inventories produced during the colonial period. Of the remains that were then visible, many have since disappeared. Without the descriptions published by Dutch travellers, civil servants and scholars, essential information would have been lost, and our view of the territory of the Central Javanese kingdoms would have been far less comprehensive.

As for the chapters exploring temple planning, they are largely based on ground plans drawn by Dutch and Indonesian architects, engineers and archaeologists who have cleaned, preserved and restored many of the most important

3 The history of the Old Javanese kingdoms is traditionally divided into two consecutive periods, the Central Javanese and the East Javanese, during which the epicentre of power was located respectively in Central and East Java. The shift between them is usually dated to around 928 A.D., being the date after which inscriptions are almost exclusively found in East Java.

4 In terms of modern administrative boundaries, it represents the Special Province of Yogyakarta (Daerah Istimewa Yogyakarta), and the districts (*kabupaten*) of Klaten, Magelang, Semarang and Boyolali in the Province of Central Java (Jawa Tengah).

Central Javanese temples, thereby saving them from the ravages of decay, destruction and looting.

The colonial era

Interest in Central Javanese antiquities was already evident during the 18th century. While villagers living near temples were often using the archaeological remains as stone quarries, some temple sites must have been – as they still are today – regarded as “powerful” for the purposes of meditation. Certain antiquities were endowed with value as *pusaka* or magical artefacts (Lunsingh Scheurleer 2007). Javanese people were by no means insensitive to the Hindu-Buddhist remains of Central Java and considered them as places of interest. Testimony of this can be found in several written accounts of visits to ruined Hindu-Buddhist shrines, for example the visit to Borobudur by a crown prince of Yogyakarta shortly before 1758, or the tour of Prambanan related in the *Sĕrat Cĕnthini*, a Javanese text from the 19th century (Krom 1923 I: 335; Day 2002: 130-131).

The first official Dutch accounts of Central Javanese antiquities⁵ were written in the 18th century and, in 1778, the Bataviaasch Genootschap van Kunsten en Wetenschappen was founded (Feestbundel 1778-1928; Groot 2006), a society that played an essential role in the development of archaeological research on Java.

From the early 19th century, and notably after the pioneering work of Sir Thomas S. Raffles (Raffles 1817), the study of ancient Javanese history and its material remains developed considerably among Western scholars. Nevertheless, the Dutch government proved slow in taking official steps to promote the archaeological exploration of the monuments of Java. It was only in 1840 that the colonial government asked the district heads to collect data concerning antiquities found in their respective regions and to send this information to the Bataviaasch Genootschap (Swieten & Kinderen 1862:516). In 1844, F. Junghuhn published the first list of known temples (Junghuhn 1844).

In the early 1850s, a new impulse was given to “East Indian” studies by the publication of J.F.G. Brumund’s *Indiana* (Brumund 1854) and the creation of an institute devoted to the languages and cultures of the Indonesian archipelago (Simons 1853:6). The Koninklijk Instituut voor de Taal-, Land- en Volkenkunde van Néêrlandsch Indië (KITLV) was linked to the Delft Institute, created in 1842, where would-be colonial officers for the Dutch East Indies were trained (Simons 1853:6). Besides fields of learning that were directly useful for the exercise of colonial power, such as languages and geography, the KITLV also devoted time to the study of ancient history, including epigraphy and archaeology.

5 A description of Loro Jonggrang, for example, was written by C.A. Lons in 1733 (Leemans 1855: 10-12).

The development of scientific knowledge concerning ancient Javanese history necessitated a systematic inventory of the places of archaeological importance. In 1860, the Bataviaasch Genootschap sent a new circular to the district heads, requesting them to communicate lists of antiquities under their administration. In April 1862, J.F.G. Brumund was given the charge of travelling through Java and of drawing up an archaeological inventory (Swieten & Kinderen 1862:515ff). Unfortunately, the Dutchman died in Magelang in March 1863 before he was able to fulfil his mission (Verbeek 1891:2).⁶ The same year, R.H.T. Friederich arrived in Java with the task of collecting inscriptions and continuing J.F.G. Brumund's mission. It was one of his travelling companions, N.W. Hoepermans, who finally produced the first inventory of the archaeological sites of Central Java (Verbeek 1891:2) – though it remained unpublished at that time.⁷

The end of the 19th century was a flourishing period for Javanese archaeology. On the one hand, the Bataviaasch Genootschap, now led by J.L.A. Brandes and concerned by the state of preservation of certain monuments including Borobudur, urged the colonial government to invest in archaeological research and restoration work (Krom 1923 I: 24). On the other hand, a dynamic, private archaeological society was set up in Yogyakarta in 1885 with J.W. IJzerman as president. In 1887, W.P. Groeneveldt, helped by J.L.A. Brandes, published a *Catologus der Archaeologische Verzameling* (Groeneveldt, Brandes 1887). One year earlier, in 1886, the Bataviaasch Genootschap had asked R.D.M. Verbeek to investigate antiquities while he was taking part in a geographical survey of the Mojokerto area, in East Java (Verbeek 1891:4). In the following years, he extended his research to the whole island, publishing in 1891 his *Oudheden van Java*, the first official inventory of the antiquities of Java.

Although temple remains were inventoried, cleaned and occasionally excavated and restored,⁸ the Dutch East Indies did not possess any official archaeological service before the 20th century. It was only in 1901 that the government decided to create such an office.

The new archaeological service was named Commissie in Nederlandsch-Indië voor Oudheidkundig Onderzoek op Java en Madura. According to its official decree, its task was to describe the antiquities of Java and Madura, to draw and photograph them (and if possible to make castings and rubbings of sculptures and inscriptions) and to prevent their decay (Brandes 1901:1). Under J.L.A. Brandes' leadership, the commission continued with restoration projects,

6 The work done by J.F.G. Brumund between April 1862 and his death in March 1863 was published in 1868 in the *Verhandelingen van het Bataviaasch Genootschap* (Brumund 1868).

7 N.W. Hoepermans' inventory was finally published in 1913 by the *Oudheidkundige Dienst* (Hoepermans 1913).

8 Limited excavation work was carried out, for example, at Borobudur, where it led to the discovery of a first base, hidden by a later adjunct; or at Loro Jonggrang and Ijo, where the temple pit was excavated (IJzerman 1891; Bernet Kempers 1978:69, 114). At the same time, Mendut underwent a first phase of restoration between 1896 and 1901 (Bernet Kempers 1978:54).

among others at Borobudur, Mendut and Pawon (Bernet Kempers 1978:49-69), and developed considerably the prevailing knowledge of Javanese art history through J.L.A. Brandes' studies on style, ornamentation and iconography (e.g. Brandes 1902a; 1902b; 1904).

From the death of J.L.A. Brandes' in 1905 until the year 1910, the position of head of the Oudheidkundige Commissie remained vacant. Consequently, its archaeological activities were slowed down and work became focused on the restoration of Borobudur, which was able to proceed thanks to the setting up of an independent commission (in 1900) and to the dedication of T. van Erp.

As an inventory of the monuments had already been published in 1891 (Verbeek 1891), the commission decided to concentrate on sculpture, making inventories of existing collections and loose finds everywhere on the island. This work was carried out by Knebel, who published his results in various articles in the *Rapporten van de Commissie in Nederlandsch-Indië voor Oudheidkundig Onderzoek op Java en Madoera*, from 1904 to 1911 (Knebel 1909a; 1909b; 1910a; 1910b; 1910c; 1911a and 1911b). From 1912 to 1913, this field research was continued by Sell (Sell 1912a; 1912b; 1913).

In 1910, N.J. Krom was named president of the Commissie voor Oudheidkundig Onderzoek. With his appointment, interest in non-Javanese antiquities grew.⁹ In 1912, he published his *Inventaris der oudheden in de Padangsche bovenlanden* (Krom 1912c). At this time, in Central Java, restoration work was begun at Candi Ngawen (Bernet Kempers 1978:187).

In 1914, the Oudheidkundige Commissie became officially the Oudheidkundige Dienst in Nederlandsch-Indië. This was not a mere change of name, but brought also a modification of the aims and tasks of the archaeological service: its remit and responsibilities were extended to "non-Hindu" antiquities and included not only Java and Madura, but the entire territory of the Dutch East Indies.

Java, however, was now bustling with archaeological activity. It soon appeared necessary to establish an up-to-date list of monuments, including an updated bibliography and references to the numerous photographs taken either by the Commissie or by the Oudheidkundige Dienst. This new inventory was compiled in Batavia, firstly under the supervision of N.J. Krom, and later by F.D.K. Bosch (Krom 1914a; Bosch 1915a).¹⁰ Although both scholars had fieldwork experience, their inventory is primarily a compilation of written sources. Its name is eloquent in this regard: *Inventarisatie der Hindoe-oudheden op den grondslag van Dr. R.D.M. Verbeek's Oudheden van Java samengesteld op het Oudheidkundig Bureau*. The work begun by N.J. Krom and F.D.K. Bosch in

9 During the 19th century, official archaeological research was focused on Java, even though some individuals had already drawn attention to Sumatran antiquities, for example R.D.M. Verbeek in his *Hindoe-ruïnen bij Moera-Takoes* (Verbeek, Delden & Groeneveldt 1880).

10 In 1915, F.D.K. Bosch succeeded Krom as the head of the Oudheidkundige Dienst.

1914-1915 was completed in 1923 by M.A. Muusses, who listed the sites in the residencies of Pasoeroean, Besoeki and Madoera (Muusses 1923).

This newly-gathered information would enable N.J. Krom to publish, in 1923, his *Inleiding tot de Hindoe-Javaansche Kunst*, a book that is still a necessary reference for those interested in ancient Java; being even now the only work to offer a complete overview of the evolution of the architecture of the Hindu Javanese period.

The work of the Oudheidkundige Dienst was not limited to the inventory of monuments: temple conservation became one of its main tasks. Under the supervision of N.J. Krom and his successors, numerous temples were consolidated and restored. The harsh criticisms of the early restorations at Mendut (1896-1904), Pawon (1903) and Loro Jonggrang (1918-1926), in contrast to the general satisfaction with van Erp's work at Borobudur, led to a sharp debate on the necessity for restoration and, finally, to the adoption of a reconstruction technique already well-known in Mediterranean archaeology but new for Southeast Asia: anastylosis. From now on, the use of newly cut stones would be limited to a bare minimum, the aim being to rebuild the monuments with the original stone blocks after careful study and measurement of both in situ remains and loose architectural elements. Numerous shrines were subsequently rebuilt, among others at Gedong Songo, Ngawen, Badut, Merak, Kalasan, Sari, Plaosan and Loro Jonggrang. Archaeological excavations, however, were generally limited to those necessary for restoration, and the emphasis on rebuilding became even more strongly felt in the 1930s, when, due to the economic crisis, money for research was badly lacking.

The post-war period

During the Second World War and the subsequent war of independence, the work of the Oudheidkundige Dienst was considerably reduced; the directors of the service, all of them Dutch, were dismissed, and only restoration work was continued, with limited funds and mixed results (Bernet Kempers 1978:78).

From 1947 to 1953, A.J. Bernet Kempers became the head of the Oudheidkundige Dienst, renamed Dinas Purbakala Republik Indonesia. In 1953, this function was taken over, for the first time in history, by an Indonesian scholar - R. Soekmono. The Dinas Purbakala lacked qualified staff and finances. Between 1956 and 1965 the focus returned, once again, to restoration rather than research (Soejono 1987:213). Indeed, the most urgent problem facing Indonesian archaeologists had a well-known name: Borobudur. Already by 1955, the young Dinas Purbakala understood that the task of restoring the world-famous monument was too immense for its own means. The first approach for assistance was then made to UNESCO, but in vain. An international team was finally set up in 1965; its work lasted until 1976 and involved

technicians and scientists from Indonesia, France, the Netherlands and Japan (Dumarçay 1977; Bernet Kempers 1978:212-215).

International cooperation was not limited to the restoration of Borobudur; archaeological research also benefited from it, with the commencement of two joint projects between the Dinas Purbakala and the University of Pennsylvania - at Ratu Boko and in the district of Rembang, in northern Central Java (Asmar & Bronson 1973; Asmar, Bronson, Mundarjito & Christie 1975).

The growth of archaeological activities led, in 1975, to the division of the former Dinas Purbakala into two distinct institutes: a centre for archaeological research, focusing on survey and excavations; and a centre for the preservation of historical heritage. The first directors of the newly created institutes were respectively Satyawati Suleiman and Uka Tjandrasmita (Bernet Kempers 1978:87). After 1977, R.P. Soejono, Haris Sukendar, Hasan Ambary and Tony Djubiantono succeeded Suleiman as head of the centre for archaeological research.

This chronological overview of research on Central Javanese temple remains would be incomplete without mentioning the French architect Jacques Dumarçay from the Ecole Française d'Extrême-Orient, whose name will often be mentioned in this work. He dedicated more than 30 years of his life to the study of Central Javanese architecture. His work on the construction techniques and building stages of Central Javanese temples helped in retracing the technical evolution of Hindu-Buddhist architecture and revealed how often and how profoundly Central Javanese monuments had been modified.

Historical background: dynastic history and state organization

Before going further and discussing my methods of investigation, I would like to present the historical background of the Central Javanese period and, on this basis, explain why I make so little reference to dates, kings and events in this work.

Early Southeast Asia: Indian migrants, indianization and cultural convergence

Commercial exchanges between India, Southeast Asia and China led, during the 2nd and 3rd centuries A.D., to the development and enrichment of early Southeast Asian polities, such as Funan in the Mekong delta, and Linyi in present-day Central Vietnam (Higham 1996:298-304). In Java, the presence of Indian and Indian-style artefacts is attested at the proto-historical cemetery of Batujaya (West Java, 2nd to 5th centuries A.D.: Manguin & Agustijanto 2006a, 2006b; Higham 1996:303).

By the 5th century A.D., the maritime route passing through the Straits of Malacca became the main trade route between India and China (Higham 1996; Taylor 1992). Contacts between civilizations, and particularly between India and Southeast Asia, intensified, resulting in the emergence of new kingdoms across Southeast Asia, from Burma to Bali. This cultural interaction also led to the appropriation by local societies of an Indian language, writing system and religions, along with the re-articulation of Indian culture to fit Southeast Asian realities (Wolters 1999). To what extent Indian ideas and techniques were transformed is not precisely known, and the process of transmission is also unclear, but there is no doubt that Southeast Asian cultures were affected deeply and on a long-term basis by their contacts with India.

Due to the important role played by Indian culture during the very period in which early Southeast Asian polities were transformed into true states, it was first thought that state formation in the region was due to the presence of Indian migrants, either traders who settled along the coasts or warriors in search of new territories.¹¹ This view was first refuted by J.C. van Leur, who, in his 1934 thesis, introduced the concept of Indianization. It was later adopted by F.D.K. Bosch and I. Mabbett (Leur 1934; 1955; Bosch 1961a; Mabbett 1977a; 1977b; Kulke 1990; Vickery 1998). According to this theory, Southeast Asian societies were no longer passive spectators, but true actors in the creation of new, Indianized states. In order to legitimize their position, local kings themselves invited Indian Brahmins to come to Southeast Asia to become their political advisors and ritual specialists.

Nevertheless, the term “Indianization” in itself denotes an Indocentric view of Southeast Asian history. It downplays the role of local societies in their own development, as if they were lacking the tools necessary to transform chiefdoms into states and had to call on India for help (Kulke 1990:13). This problem, already underlined by De Casparis (1983:3), has been highlighted by archaeological discoveries made in mainland Southeast Asia during the last 20 years (see Higham 1989; 1996). These findings show that the region was already a centre of cultural progress and not some backward province; notably so in comparison with South India. This reality led H. Kulke to formulate the hypothesis that cultural convergence between South India and Southeast Asia, rather than the domination of one culture over the other, was the key to understanding the mutation of Southeast Asian polities (Kulke 1990:15).

In any case, the exact process of state formation and the introduction of Indian elements into Southeast Asian cultures is still a matter of debate. Conscious of their Indocentric flavour, I have avoided the use of the terms “Indianization” or “Indianized States”. Instead, I have opted for the adjective

11 See, among others, Krom 1923:45. For a more complete discussion about the *vaiśya* and *ksatriya* theories, see: Kulke 1990:9-12; Wisseman Christie 1995:236-237; Jordaan 1999b.

“Hindu-Buddhist”, even though it emphasizes the role played by imported religions to the detriment of local beliefs.

Dynastic history of Central Java: the old and new hypotheses

On the island of Java, the first tangible traces of a kingdom are the rock inscriptions of King Pūrṇavarman of Tārūma¹² (West Java) dating from c.450 (Sarkar 1971-1972:I,1-12), but most of the remains of early states are to be found in Central Java.

From the 8th to the early 10th century, the region around the mountains of Merapi and Sumbing in Central Java was the centre of powerful kingdoms that built Hindu and Buddhist monuments as prestigious as CandBorobudur. Nevertheless, retracing the dynastic history of those kingdoms is not an easy task. Inscriptions, which constitute the main source of information, are scarce (about 200 for a period of two centuries). Moreover, most Central Javanese inscriptions are primarily concerned with details of land grants and not, as in the case of Khmer panegyrics, with royal genealogy. Gaps and uncertainties are therefore numerous and only the very broad lines of Central Javanese dynastic history are known with a reasonable level of certainty.

The first Central Javanese king to have left an inscription is king Sañjaya of Mataram who, in 732, consecrated a *lingga* at Canggal.¹³ However, less than 50 years later, the kingdom founded by this Hindu prince appears to have been ruled by Buddhist kings from the Śailendra dynasty.¹⁴ Around 850, power seems to have fallen again into the hands of a Hindu ruler.¹⁵ A vast programme of temple building was then undertaken, the last in Central Javanese history.¹⁶ In one century, the Javanese civilization gave to the world both Borobudur and Loro Jonggrang, two architectural masterpieces reflecting a refined art that was brought to a level of superb mastery. Besides these constructions, more than 200 smaller temples were distributed across the region, from the Dieng plateau and the slopes of Mount Ungaran to the banks of the Progo River and the plain of Yogyakarta.

In the first half of the 10th century, the epicentre of the Javanese civilization moved to the eastern part of the island (Krom 1931:206; Boechari 1997). For more than four centuries after this date, kings resided and built their temples in East Java. In contrast to Central Java, the Eastern Javanese period is relatively well known, since it left not only inscriptions but also manuscripts of historical character. Central Java was not to become powerful again until several centuries later, through the impetus given by Islam.

12 The name is spelled Tārūma in the Ci-Aruten inscription and Tārūmā in the inscription of Jambu.

13 Inscription of Sañjaya (also named inscription of Gunung Wukir), see Sarkar 1971-72, I, n° III.

14 Inscription of Kalasan, see Sarkar 1971-72, I: n° 5.

15 Inscriptions of Tulang Air (850 A.D.), see Sarkar 1971-72, I: n°16-17.

16 This historical reconstruction is mainly based on Krom 1931; Casparis 1950; 1956; Coedès 1964.

Achieving deeper understanding of the details of this history however is a much more delicate task. Difficulties arise not only from the scarcity and the nature of the inscriptions, but also from the complexity of Javanese royal titles and nomenclature: to name a particular ruler, inscriptions could use his consecration name (such as Indra Sanggrāmadhanañjaya), his royal title (Śrī Mahārāja) or his apanage title (which differs for each king, for example Rake Pikatan), sometimes accompanied by his personal name (Dyaḥ Salaḍū in the case of Rake Pikatan). In such conditions, it is not always easy to determine precisely who is being referred to. Two inscriptions, however, throw some light on this rather confusing picture, namely the Mantyāsīḥ I inscription (907 A.D.), also known as “Balitung’s list”; and the Wanua Tēngah III inscription (908 A.D.), discovered in the 1980s.¹⁷ These two records give a list of the kings who preceded Balitung on the throne of Mataram. Unfortunately, the lists do not correspond exactly.

In his *Hindoe-Javaansche geschiedenis* of 1931, N.J. Krom was of the opinion that the main dynasty of Central Java was essentially Hindu, but that the line of Hindu kings had been interrupted by the rule of one or two Buddhist rulers. The kings thought to belong to this “Śailendra interregnum” were Rake Panangkaran (who issued the inscription of Kalasan in 778 A.D.) and Indra Sanggrāmadhanañjaya (mentioned in the inscription of Kēlurak in 782 A.D., but not listed in the Mantyāsīḥ I inscription). Using Balitung’s list and the inscriptions contemporary with the different rulers, N.J. Krom reconstituted the list of Javanese kings as follows (Krom 1931:95-196):

<i>Apanage title</i>	<i>Other names</i>
<i>Ratu Sañjaya</i>	
<i>Rake Panangkaran / Paṅamkaraṇa</i>	
<i>Rake Panunggalan</i>	
<i>Rake Warak</i>	
<i>Rake Garung</i>	Samaratungga?
<i>Rake Pikatan</i>	Samaratungga?
<i>Rake Kayuwangi</i>	Sajjanotsawatungga
<i>Rake Watuhumalang</i>	
<i>Rake Watukura</i>	Balitung
<i>Rake Hino</i>	Dakṣa
<i>Rake Layang</i>	Tulodong
<i>Rake Pangkaja</i>	Wawa

17 For translation and bibliography of the Mantyāsīḥ I and Wanua Tēngah III inscriptions, see Sarkar 1971-72, II: n° LXX and Wisseman Christie 2002-04: n° 152, 161.

Twenty years later, in his groundbreaking thesis, J.G. de Casparis gave a rather different picture (Casparis 1950). Taking up an idea already expressed by Van Naerssen (Naerssen 1947), De Casparis considered that the inscription of Kalasan referred not to one, but to two kings; a vassal king named Panamkarana and his Śailendra suzerain, whose personal name is not mentioned in the inscription. For De Casparis, the Śailendras were a powerful dynasty in their own right, who ruled over Central Java from c. 775 A.D. to c. 832 A.D. It is only around 838/842 that a Hindu prince from Sañjaya's lineage was able to regain full control of the region. For De Casparis, Central Javanese dynastic history between 732 and 882 A.D. can be summarized as follows (Casparis 1950:133; 1958:20):

<i>Sañjaya family</i>	<i>Śailendra family</i>
<i>Ratu Sañjaya (c.732-760)</i>	
<i>Rakai Panangkaran (c.760-780)</i>	<i>Viṣṇu Dharmatungga (c. 775-782)</i>
<i>Rakai Panunggalan (c.780-800)</i>	<i>Indra Sanggrāmadhanañjaya (c. 782-812)</i>
<i>Rakai Warak (c.800-819)</i>	<i>Samaratungga (c. 812-832)</i>
<i>Rakai Garung (c. 819-838)</i>	
<i>Rakai Pikatan (c. 838/842-856)</i>	
<i>Rakai Kayuwangi (c. 851-882)</i>	

One of the merits of De Casparis' hypothesis was its explanation of why the Sanggrāmadhanañjaya, mentioned in the Kēlurak inscription, was not listed by Balitung: the Mantyaśiḥ I inscription would only have included rulers from the Sañjaya dynasty, avoiding invocation of the memory of the Śailendra domination. Although de Casparis sensed a rivalry between the two dynasties, he did not consider Central Java as a former battlefield of religious conflict. Rather, he drew attention to evidence of intermarriage between the two lineages, and showed that Buddhism and Hinduism had co-existed peacefully (Casparis 1950:131).

Although he repeated and developed his Sañjayava versus Śailendra theory in 1956 (Casparis 1956), his hypothesis was never unanimously accepted by the scholarly community. In a 1958 paper, R.M.N. Poerbatjaraka questioned the very existence of separate Sañjaya and Śailendra dynasties. He equated the kings mentioned in Balitung's list (and thought to be from the Sañjaya dynasty) with kings called Śailendra in other inscriptions.¹⁸ In his view, Balitung's list, written in the Old Javanese language, simply used Javanese names and titles, while Sanskrit names were reserved for Sanskrit inscriptions (Poerbatjaraka 1958:263).

18 In Java, the name 'Śailendra' is mentioned in the inscriptions of Kalasan (778 A.D.), Kēlurak (782 A.D.), Abhayagiriwihāra (792-793 A.D.) and Kayumwungan (824 A.D.). It is also mentioned in inscriptions found in the Malay Peninsula and in India (Wissemann Christie, 2002-04: n°7).

The discovery, in the 1980s, of a second royal list from the reign of Balitung, the Wanua Tēngah III inscription, shattered the reconstruction of Central Javanese history (Kusen 1994; Wisseman Christie 2001). Although it was written only one year after the Mantyāsiḥ I inscription, Wanua Tēngah III mentions more royal names, adding new kings in between those already known from the Mantyāsiḥ I inscription. Furthermore, this inscription makes no reference whatever to dynasties, and does not mention any family relationship between one ruler and the next; demonstrating the very limited state of our present understanding of lineage and succession during the Central Javanese period. In the light of the Wanua Tēngah III inscription, J. Wisseman Christie proposes the following historical framework (Wisseman Christie 2001:32-4

Phase I:	Foundation	(716-746)	<i>Ratu Sañjaya</i>
Phase II:	Expansion and consolidation	(746-827)	<i>Rake Panangkarana Dyah Pañcapaṇa</i> =? <i>Indra Sanggrāmadhanamjaya</i> <i>Rake Panaraban/Panunggalan</i> =? <i>Dharmmottunggadewa</i> <i>Rake Warak Dyah Manara</i> =? <i>Samarattungga</i> <i>Dyah Gula</i>
Phase III:	New directions and Eastward expansion	(828-885)	<i>Rake Garung</i> <i>Rake Pikatan Dyah Salaḡū</i> <i>Rake Kayuwangi Dyah Lokapāla</i>
Phase IV:	Political turbulence	(885-898)	<i>Dyah Tagwas</i> <i>Rake Panumwangan Dyah Dewendra</i> <i>Rake Gurunwangi Dyah Bhadra</i> <i>Rake Wungkal Humalang Dyah Jbang</i>
Phase V:	Stabilization and growing East Javanese influence	(898-910)	<i>Rake Watukura Dyah Balitung</i>

Although it provides a basic chronological framework, the Wanua Tēngah III inscription is far from being a solution to all the problems of Central Javanese chronology. It does not, for example, mention a Śailendra dynasty, neither does it use Sanskrit names. Do some of the kings listed in the Wanua Tēngah III inscription belong to the Śailendra dynasty? Not everybody would answer this question in the affirmative. Boechari, Kusen and Wisseman Christie, following the single dynasty theory of Poerbatjaraka, have tried to equate the Śailendra kings known from Sanskrit inscriptions with the various *rake* listed in Wanua Tēngah III (Poerbatjaraka 1958:263; Kusen 1988; 1994; Boechari 1989; 1990; Wisseman Christie 2001:34-35). Hence Wisseman Christie's identification of Rake Panangkarana with Indra Sanggrāmadhanamjaya, rake Panaraban with Dharmmottunggadewa, and Rake Warak with Samarattungga (Wisseman Christie 2001:35).¹⁹ As for R. Jordaan, he has strongly opposed the single dy-

19 J. Sundberg, without dismissing the single dynasty theory, has rightly pointed out that part of Wisseman Christie's argument is specious, since there are no royal administrative inscriptions from the reigns of Panangkarana, Panaraban and Warak that could confirm whether Javanese titles were used in the more prosaic Javanese language inscriptions (Sundberg 2006:21).

nasty model, insisting on evidence from inscriptions and Chinese records that suggest that there may have been at least two centres of power in Central Java (Jordaan 2003:3). In fact, there is still uncertainty regarding even the existence of a Sañjaya dynasty: we know, from a series of inscriptions, that at least three kings of Central Java claimed to belong to a Śailendra dynasty,²⁰ but there is no mention in any inscription of a Sañjayavamśa.

State organization in Central Java

Although during the first half of the 20th century, and directly after World War II, scholarly emphasis lay mainly on dynastic history, interest in economic, political and administrative history has grown considerably since the 1960s. Influenced by the decolonization process and the intellectual trends which have marked the disciplines of sociology and anthropology, historians have proposed contrasting analyses of Central Javanese statehood, oscillating between a centralized kingdom and a mosaic of inter-connected, though independent polities (Heine-Geldern 1942:21; Weber 1978:53; Kulke 1986; Wisseman Christie 1986).

The overstated picture of a unified state ruled over by a powerful *mahārāja* was questioned, among others, by Boechari and H. van Naerssen. Both scholars insisted on the multiplicity of centres that would have characterized the Central Javanese period. For Boechari, the kingdom was divided into autonomous areas governed by *rakas*, who could act independently from the king (Boechari 1963). For his part, Van Naerssen insisted on the existence, at least until 873 A.D., of several independent rulers (Naerssen 1976:297-298; 1977:38-40).

Further reflection on the nature of Central Javanese states led Wolters to formulate his *maṇḍala* theory. According to this model, ancient Javanese states were organized as *maṇḍala* (Wolters 1999: 27-40). At the centre, a *mahārāja* claimed hegemony over surrounding vassals, while the latter enjoyed substantial independence. Such a *maṇḍala* state would have been a rather unstable political construction with fluctuating boundaries; petty rulers would move in and out of the *mahārāja*'s sphere of influence, according to their own interests of the time.

These theories, both the centralized state and the *maṇḍala* model, have received strong criticism (Wisseman Christie 1986). On the one hand, relationships between central government and local communities seem to have been of a more complex nature than that presented in the *maṇḍala* model. On the other hand, relations seem to have evolved over time – whereas the *maṇḍala* state structure is essentially static.

20 These kings are known as Sanggrāmadhanamjaya (Kêlurak - 782 A.D.), Dharmmottungadewa (Abhayagiriwihāra - 792-793 A.D.) and Samarottungadewa (Kayumwungan - 824 A.D.). See Sarkar 1971-72, I: n° 6, 6a and 10.

The state apparatus appears to have been quite limited and, according to the inscriptions, the *raka* were the only level of administration between the *mahārāja* and the villages (Casparis 1986:51, 56-59; Wisseman Christie 1986:70). There is no evidence of the multiple-tiered administration of centralized states. Nevertheless, the authority of the centre was not purely ritual, as is suggested by the *maṇḍala* theory: the *mahārāja* was directly entitled to levy taxes and transfer tax rights. However, neither the *mahārāja* nor the *raka* held rights over land: most of the land ownership remained in the hands of the villagers; the king's rights were mainly limited to levies on produce (Wisseman Christie 1992:182).

Some *watēks* - the main administrative divisions of the Central Javanese period - appear to have evolved out of formerly independent chiefdoms; sometimes quite recently assimilated, such as the *watēk* of Halu. These newly incorporated territories, where the power of the local ruler – the *raka* – was probably still strong, seem to have remained as separate geographical units for some time (Wisseman Christie 1986:70), whereas a process of geographical disintegration was already underway in other parts of the region. At all events, by the second half of the 9th century, the territories under the jurisdiction of the different *watēk* no longer formed distinct geographical units. *Watēk* holdings had become highly dispersed and, by this time, *rakas* were certainly not ruling over autonomous, potentially independent regions as formulated within the *maṇḍala* model (Wisseman Christie 1986:70-71).

The picture drawn from all this, therefore, is neither that of a strongly centralized state helped by a multiple-tier administration, nor of a mosaic of independent states. Unfortunately, no satisfying alternative model – i.e. a model that would account for the relative autonomy of village communities, the changing role of the *raka* over time and the growing importance of the central administration – has yet been formulated.

Chronology of Central Javanese monuments: absence of consensus

Another major and recurring problem of Central Javanese archaeology is the dating of temples. There is little consensus among scholars on this question and almost no certainties. Specialists agree on one thing: the vast majority of the remains of Central Java date back to the Central Javanese period: In other words, they were built between the 8th and the middle of the 10th century. Nevertheless, almost everything else is open to debate, commencing with the starting date of the Central Javanese period. D. Chihara and R. Soekmono proposed the second half of the 7th century (Chihara 1996:91; Soekmono 1979:458-459), but other

scholars usually prefer the date of 732 A.D., which corresponds to the earliest dated inscription of Central Java, the inscription of Canggal (Williams 1981; Dumarçay 1993).²¹

Where other sources are lacking, the association of a temple with a dated inscription is the only way to ascribe an absolute dating to the building. However, using inscriptions to date Central Javanese temples can be highly problematic. In contrast to the Khmer tradition, Central Javanese stone inscriptions are not carved on doorjambs, but on movable slabs.²² Almost none has ever been found in situ, that is to say, in direct physical proximity to a construction.

The task of dating a temple is made even more complex by the numerous restorations, rebuildings and transformations undergone by many structures. Neither Borobudur, Sewu, Sojiwan nor Kalasan - to cite but a few of the best-known temples - was built in one phase. Before associating a temple with an inscription, one should question the epigraphic record and determine with precision what is being dated by the inscription: the foundation of the shrine, a restoration, a land donation, etc. Two temples nicely exemplify the complexity of dating Central Javanese temples on the basis of inscriptions: Candi Gunung Wukir and Candi Kalasan.

Candi Gunung Wukir is usually associated with the inscription of Canggal,²³ which was found on the Gunung Wukir hill.²⁴ The geographic proximity with Candi Gunung Wukir and the mention, within the inscription, of a *śaiwa* sanctuary on a hill (which nicely fits Candi Gunung Wukir) makes the association highly probable. Therefore, the remains of candi Gunung Wukir were thought to date back to 732 A.D., corresponding to the date mentioned on the stone slab. The temple was then used to define an early Central Javanese architectural tradition, characterized by the use of square, flat mouldings (Soekmono 1979:472; Williams 1981:38). However, on the basis of a study of building techniques, Dumarçay was able to show that the temple underwent restoration work at a later date, probably around the mid-9th century (Dumarçay 1993:80). The temple visible today should not, therefore, be used to exemplify an 8th century tradition.

A similar process can be witnessed at Candi Kalasan, which is associated with the inscription of Kalasan (778 A.D.). The latter record was discovered several hundred meters from the temple, beside the railway tracks (Brandes 1886a:240), in an area where several other Buddhist remains have been found. Even if the association of the Kalasan inscription with Candi Kalasan is cor-

21 The inscription of Tukmas is thought to be earlier. It is dated on paleographical grounds to around the mid 7th century A.D. (Wissemann Christie 2002-04: n°1).

22 This is true for the dated stone inscriptions, most of which record the foundation of, and donations to, temples. Short, undated inscriptions have however been found on temple walls, at Borobudur and Plaosan for example. For the latter, see Casparis 1958.

23 For a transcription and English translation of the Canggal inscription, see Sarkar 1971-72, I: n°III.

24 The exact provenance of the main fragment is unknown, but the corner was found during excavation of the temple remains (Bernet Kempers 1938:18).

rect, and that is already questionable, it is clear from the text that it relates to the temple foundation. In 1940, Dutch archaeologists dismantled part of the temple and discovered that the present-day remains covered an older shrine (Bernet Kempers 1940:20). Further research also showed that the present temple has been heavily remodelled after construction (Bernet Kempers 1982:49-53). As in the case of Candi Gunung Wukir, the inscription refers explicitly to the original temple foundation. Therefore, even if the inscription indeed relates to Candi Kalasan, other temples showing similarities with the present form of Kalasan cannot be dated to c. 778 A.D., but must relate to the second or third building phases of the temple, which remain undated.

Scholars studying Central Javanese art and archaeology have tried to come up with a relative chronology of the temples, locating each construction in a logical sequence according to changes in their ornamentation (Vogler 1949; 1952; 1953), mouldings (Soekmono 1979; Williams 1981) or building techniques (Dumarçay 1981; 1993). Nevertheless, their different approaches have sometimes led to strikingly different results.

E.B. Vogler proposed a division of the architectural history of Central Java into five different phases, the first two phases being hypothetical (since no buildings from those stages had been preserved up to the present day), and the last corresponding with the East Javanese period (Vogler 1953).

Phase III	760-812 A.D.	Arjuna, Semar, Gatotkaca, Borobudur, Pawon, Mendut, Kalasan, Sari, Lumbung, Sewu.
Phase IV	812-838 A.D.	Ngawen.
	838-898 A.D.	Puntadewa, Gedong Songo C, Plaosan, Sojiwan.
	898-928 A.D.	Loro Jonggrang.
Phase V	928 A.D.-	Sembodro, Ratna (Gedong Songo I), Gunung Wukir, Pringapus, Srikandi, Gedong Songo A and B.

In contrast, R. Soekmono, in his *Archaeology of Central Java before 800 A.D.*, proposed earlier dates and a different chronological sequence. Candi Arjuna, placed by E.B. Vogler early in the period from 760 to 812 A.D., is ascribed a date between 650 and 730 A.D. by R. Soekmono (Vogler 1953:269; Soekmono 1979:466, 472). In a similar way, Candi Srikandi is considered by R. Soekmono as one of the earliest temples of Central Java, together with Candi Arjuna, while E.B. Vogler was of the opinion that it was a much later monument, contemporary with the East Javanese period (Vogler 1953:272; Soekmono 1979:466, 472)

R. Soekmono's tentative chronology of Central Javanese temples built before 800 A.D. is as follows (Soekmono 1979:472):

INTRODUCTION: AIMS, BACKGROUNDS AND METHODOLOGY

<i>Phase I</i>	650-730 A.D.	Arjuna, Semar, Srikandi, Gatotkaca.
<i>Phase II^a</i>	730-800 A.D.	(a) Puntadewa, Sembadra, Bima, Gedong Songo, Muncul. (b) Gunung Wukir, Pringapus, Kalasan, Sewu. (c) Batumiring, Sambisari, Gebang, Lumbung (Klaten).

a - In this phase, (a), (b) and (c) correspond to different architectural traditions called by R. Soekmono (a) New Dieng Style (in contrast to Phase I, which he names Early Dieng Style), (b) Early Śailendra Style and (c) a merging of the New Dieng style and the Early Śailendra style (Soekmono 1979:472).

A similarly early chronology is used by D. Chihara, while J. Williams and J. Dumarçay date the earliest temples from 720-750 A.D. and the latest ones to 850-900 A.D. (Williams 1981; Dumarçay 1993; Chihara 1996). A predominant concern of these three chronologies was to take into consideration the various building phases of the temples and to distinguish the dating of these phases. The architect J. Dumarçay based his study on building techniques, and was particularly careful in examining the possible rebuilding and transformations undergone by each temples. This is reflected in his chronology of the monuments of Central Java.

730-750 A.D.	Gunung Wukir 1, Arjuna, Semar, Puntadewa 1, Gatotkaca.
c.750 A.D.	Srikandi, Puntadewa 2, Gedong Songo II-VI.
750-790 A.D.	Kalasan 1, Sewu 1.
790-800 A.D.	Kalasan 2, Sewu 2, Sojiwan 1, Lumbung 1 (klaten), Bubrah 1, Mendut 2, Borobudur 2.
800-830 A.D.	Bima 2, Gedong Songo I, Pawon 1-2, Ngawen, Kalasan 3, Borobudur 3.
832-856 A.D.	Loro Jonggrang
830-900 A.D.	Plaosan, Sambisari, Gebang, Banon, Banyunibo, Sari, Sewu 3, Mendut 3, Borobudur 4, Pringapus, Lumbung (Magelang), Asu, Pendem, Ijo, Barong, Merak.

A simple glance at the above tables shows the magnitude of the problem of dating Central Javanese temple architecture. Even though everyone seems to agree that Candi Arjuna is one of the oldest temples, there is no consensus about what 'early' might mean in terms of absolute chronology. It signifies the period 650-730 A.D. for R. Soekmono, 680-730 A.D. for D. Chihara, 730-750 for Dumarçay, 730-770 for J. Williams and c. 760 for E.B. Vogler (Vogler 1953; Soekmono 1979; Williams 1981; Dumarçay 1993; Chihara 1996). As for Gunung Wukir, it is dated to c. 730 A.D. (on the basis of the inscription) by R. Soekmono, D. Chihara and J. Williams, but, according to E.B. Vogler, its style makes it more likely to date from the much later East Javanese period (Vogler 1953; Soekmono 1979; Williams 1981; Chihara 1996).

Chronological framework of the present book

The major uncertainties concerning the chronology of Central Javanese monuments have compelled me to limit references to absolute dates in my research, and to follow very broad chronological lines. The only chronological framework I refer to is the following classification of Central Javanese temples into an early and a late group – based on a stylistic analysis of several ornamental motifs – as proposed by M.J. Klokke in a recent publication (Klokke 2006):

Early period (up to c. 830 A.D.)	Late period (after c.830 A.D.)
Candi Banyunibo, Borobudur, Bubrah, Dieng, Gana, Gebang, Gedong Songo, ^a Kalasan, Lumbung (Klaten), Mendut, Merak, Pawon, Pendem, Ratu Boko, ^b Sari, Selogriyo, Sewu.	Candi Asu, Barong, Gedong Songo I, Ijo, Kedulan, Loro Jonggrang, Lumbung (Magelang), Morangan, Ngawen, Plaosan Kidul, Plaosan Lor, Pringapus, Ratu Boko, ^c Sambisari, Sojiwan.

a - With the exception of Gedong Songo I.

b - The meditation platform (*pendopo*) in the southeast part of the site.

c - The western gopura and entrance gates to the bathing complex.

This periodization represents the first results of a field research programme on style and chronology which, together with the present thesis, is part of a wider project directed by M.J. Klokke and entitled *Spatial structures and meaningful motifs: temple networks as visual representations of the religious foundations of Central Javanese kingdoms (c. A.D. 750-850)*. The results presented here – dealing mainly with space – will be subsequently merged with the temporal conclusions drawn from the stylistic research conducted by Klokke (2006).

The main drawback of the absence of absolute chronological references is that it does not allow for a precise mapping of the evolution of religious occupation within the territory, even though the factors and mechanisms that led to the development of the built landscape (relations between temples and settlements, trade routes, natural features etc.) can be traced back to some extent. The maps presented here show all the surviving remains from the Central Javanese period, but the temples to which they correspond are not necessarily contemporaneous with one another. Even if a stylistic study can be used to formulate an accurate chronology of Central Javanese shrines, it will not solve all the problems: only excavations would give us adequate information to determine the duration of occupation at the various sites. Unfortunately, the archaeology of Central Java is still in its infancy: sites are still largely unexcavated; old-fashioned excavation techniques make the analysis of excavation material difficult;²⁵ there is a lack

25 Shards of pottery and other archaeological artefacts are numbered according to excavation square and depth (the reference being the modern ground level), but, generally speaking, not according to archaeological unit. Problems arise where there is evidence of a slope in the archaeological layers, a foundation trench, a pit hole or any other sort of disturbance.

of ceramic expertise;²⁶ while scientific dating results are unavailable for most of the sites. However, until we have this type of information at our disposal, it will be difficult to form a precise idea of the actual religious landscape at any specific period in the history of Central Java. Some early buildings were obviously still in use during later times – such as Gunung Wukir and Pikatan²⁷ – but this might not be the case at all shrines and monasteries. This should be kept in mind when consulting the maps, as they might easily lead the unwary reader to over-estimate the number of temples in use at any one time.

Landscape archaeology in Central Java

Although this book says little about chronology, it says much about space. As mentioned above, my intention was to favour a geographically broad approach, and to consider temples as part of a wider landscape. I have therefore employed the standard tools of landscape archaeology, plotting all the sites on a map, identifying concentrations of temple remains, and cross referencing information from distribution maps with topographical and hydrographical data. I have concluded this approach with a reflection on the built landscape of Central Java.

In this book, “landscape” and “environment” have specific, distinct meanings, which, as they recur over and over again, are probably worth explaining here. In the absence of a more appropriate term, I have used the phrase “natural environment” to designate geographic features such as hills, mountains, rivers etc. – everything that is related to topography and hydrography; while “landscape” is used in quite a different way. Following C. Tilley and C. Crumley, I regard it as a medium for, rather than a container of, human action; it is understood as the material manifestation of the relation between humans and their natural environment (Tilley 1994:10; Crumley 1994:6). According to this point of view, landscape shapes human experience and is in its turn shaped by man. The result is a complex palimpsest of human society, reflecting its practical exigencies, but also its mythical, cosmological and ritual aspects. To quote Tilley:

The landscape is continually being encultured, bringing things into meaning as part of a symbolic process by which human consciousness makes the physical reality of the natural environment into an intelligible and socialized form. The landscape is redolent with past actions, it plays a major role in constituting a sense of history

26 Local ceramics are broadly classified into coarse and fine paste, but attempts to trace stylistic and technical developments, or to characterise assemblages, have yet to be made. Imported wares are better known, but only a handful of sites have so far been studied by experts in Chinese ceramics.

27 The foundation of Candi Gunung Wukir goes back to the first half of the 8th century, as indicated by the inscription, but it was apparently largely rebuilt during the 9th century (see below, p. 162, note 50) The first recorded land grant to the monastery of Pikatan (the remains of which are still to be identified) is dated to 746 A.D., but additional land was given to the same monastery in 908 A.D. (Wanua Tengah III inscription; see Wisseman Christie 2002-2004, nr 161).

and the past, it is peopled by ancestral and spiritual entities, forms part and parcel of mythological systems, is used in defining social groups and their relationships to resources. (Tilley 1994:67)

In the present thesis, although I sometimes analyse the Central Javanese landscape in the light of ecology and exchange networks, I have tried to introduce elements inspired from a more phenomenological and symbolic approach to landscape. In my analysis, I have considered not only the position of sites on the map, but also what is actually seen by a human subject visiting each place. In my analysis of temple orientation, besides technical concerns, I also take into consideration not only the architecture itself, but also how the architecture may guide the sight of the devotee towards a specific point in the landscape. References to the religious and cosmological background of Central Javanese society are also important in this approach. I have scrutinized the surviving epigraphy for clues to understand how ancient Javanese people viewed the landscape in their inscriptions.²⁸ Moreover, comparisons between actual temples in Central Java and the precepts expounded in Indian treatises on architecture have yielded interesting results, showing how the architects managed to relate a physical building with Hindu-Buddhist cosmological concepts.

In this respect, the present study both differs from, and complements, the work of Mundardjito, the pioneer of spatial analysis in Central Javanese archaeology (Mundardjito 2002). While Mundardjito focuses on ecology and uses temple remains exclusively to throw light on settlement patterns in Central Java (Mundardjito 2002:35), I have myself tried to keep a broader approach, considering temples not only as markers for settlements – which they are often, but not always – but also as possible remnants of other human activities, such as trade and religious practices. Mundardjito himself, in his conclusion, touched on the problems of his exclusively ecological approach in the following terms:

(...) there is a small number of sites which are not situated on land of high potential, or, in other words, the location of these sites is not based on the abovementioned ecological potential. [...] Other archaeologists should of course approach them using other points of view. (Mundardjito 2002:376)

The geographical scope of the present study is also wider than that of Mundardjito. Mundardjito focused on the districts of Sleman and Bantul, in the province of Yogyakarta; I chose to include not only Yogyakarta, but also parts of the province of Jawa Tengah (Central Java).

Those who have read the thesis of Mundardjito will notice that I draw on a more limited number of sites for Sleman and Bantul than he presents in his book. Mundardjito uses three types of archaeological sites: 1) unmovable ar-

²⁸ I am myself neither an epigraphist nor a Javanologist and I have therefore had to rely largely on the translations of other scholars. It goes without saying that this subject of the perception of landscape in the epigraphical record would require, and reward, a more thorough study by an expert of the field.

chaeological remains, that is to say (ruined) buildings and building foundations; 2) loose architectural elements; and 3) movable artefacts believed to be in their original location. My own inventory, however, only takes into consideration buildings (both standing and in foundation) and certain sites belonging to Mundarjito's second category. I have deemed it too problematic to determine whether "movable artefacts" (i.e. loose sculptures) had actually been moved or not. In the absence of precise archaeological records mentioning the process of discovery of the sculptures, and knowing that today and in the recent past, statues have attracted collectors of all kinds, I have decided not to include sites where only sculptures have been found.²⁹

Methodology

The research presented here followed three methodological steps: data gathering (through literature and fieldwork), drawing of archaeological maps, and analysis.

As no inventory of Central Javanese temple remains had been published since 1915, it soon became apparent that a new, updated inventory was needed. I therefore concentrated first on gathering information from Dutch and Indonesian sources.

Temple remains: a definition

In contrast to the older inventories, the inventory presented here only takes into account actual temple remains. Sites where only a few sculptures, an inscription or some metal artefacts have been found are excluded. This choice was made in order to gather a corpus as homogeneous and reliable as possible for a distribution study. Temples are fixed landmarks, whereas inscriptions and sculptures are easily moved from one place to another, and are more difficult to use within the framework of an historical study of the territory.

Paradoxically, identifying a temple is not as easy as it may seem. Many have been reduced to only a few scattered stones lying along a country road. I therefore considered as temple remains any site that: 1) still shows *in situ* building features; 2) has previously been recognized as a construction; 3) shows stones in sufficient quantity and variety to suggest the former presence of a temple;³⁰

29 In a few exceptional cases, however, such sites are mentioned in the inventory: see p.18.

30 I set the limit at a minimum of 15 stones. These should include plain stones as well as carved ones. Carved stones are indeed less representative: because of their aesthetic value, they are often moved and re-used as ornaments in gardens and mosques. Exceptions have been made for sites where the stones were still partly buried in the ground.

or 4) has been the place of discovery of an unusually large *yoni*³¹ or sculpture of sufficient dimensions to make it unlikely that it could have been moved.³²

Data gathering

As noted above, an up-to-date inventory of Central Javanese temple remains was required in order to take into account the discoveries and research completed since the last inventory was published (1915).

I therefore collected data from the older Dutch inventories and the modern Indonesian lists. Information was then completed by reading the various archaeological reports, both Dutch and Indonesian, with an emphasis on reports issued during the last three quarters of the 20th century.³³ As far as possible, I have tried to trace back changes in temple names and to build up a table of correspondence between the different inventories.

From these printed sources, I drew up a provisional list of temple remains, including localization and description (when available). Sites were then plotted on topographical maps as precisely as possible given the available information. At this stage, various maps were used to find the *desa* and district names mentioned in the different inventories. Four sets of maps were utilised in the present research:

- 1:25,000 – Java en Madoera – Topografische Dienst: first made in the 1910s, revised in the 1930s.
- 1:50,000 – Java en Madoera – Topografische Dienst: first made in the 1910s, revised in the 1920s and late 1930s.
- 1:50,000 – Java, Madura and Bali – US Army Map Service: 1940s.
- 1:25,000 – Peta Rupabumi Digital Indonesia – Bakosurtanal: 1990s.

In order to check the accuracy of the data and information drawn from written sources, I carried out fieldwork in the regions of Yogyakarta, Magelang, Semarang and Boyolali, where most of the temple remains are located. Unfortunately, due to a lack of time and resources, I could not continue fieldwork in the outer regions. Information for the areas around Temanggung, Wonosobo and West Central Java are therefore derived mainly from written sources, although I have visited the main sites. The choice not to investigate these regions further was a painful one, but it was made with the knowledge that this area was the only one for which I could rely on a modern, up-to-date inventory, published by the Balai Arkeologi (Tjahjono 1994-2000).

31 Pedestal for a *lingga* or *saiwa* image, usually square with, on one side, an extension cut by a small drain for lustral water.

32 I arbitrarily fixed the limit to 1m square for a *yoni* and at 1.5m high for sculptures. I nevertheless excluded large pieces when there was good reason to believe that they were parts of an antique collection rather than *in situ* artefacts.

33 This work was carried out from July 2001 to February 2002 for the D.I. Yogyakarta and the district of Magelang, from September 2002 to February 2003 for Semarang and Boyolali and in the last trimester of 2003 for the surrounding areas.

The first 6-months period of fieldwork was focused on the Daerah Istimewa Yogyakarta and the southern part of the district of Magelang, and was carried out from March to August 2002. Northern Magelang, Semarang and Boyolali were surveyed during a second fieldwork period, from March 2003 to July 2003. In both cases, the survey was based on the information gathered from printed sources. I visited all the villages where temple stones had previously been found, including sites where the stones had subsequently been recorded as missing in later reports, questioning *kepala desa* and villagers about the possible existence of other ancient sites or places of interests (springs, Muslim holy places, meditation grounds, bodies of water with special virtues etc.), and consulting lists held by village authorities whenever these existed.³⁴

During the first trimester of 2004, printed information and fieldwork data were merged to create a new descriptive inventory of Central Javanese temple remains³⁵ and to draw an archaeological map.

Drawing archaeological maps

The resultant archaeological maps presented in this book are based, according to scale, on the following topographical maps:

- 1:50,000 – Java, Madura and Bali – US Army Map Service: 1940s.
- 1:25,000 – Peta Rupabumi Digital Indonesia – Bakosurtanal: 1990s.
- 1:250,000 – Indonesia – Series T503 – US Army Map Service: 1950s.

The maps have been scanned and re-worked on Illustrator software to keep only contour lines and river systems. Both the descriptive inventory, initially written as an Access database file, and the maps (digitized using Illustrator) have been introduced into MapInfo, a simple geographic information system, in order to enable multi-level spatial requests.

Analysis and hypotheses

The various maps have provided the basis for a visual analysis of distribution, orientation and spatial features. Using multiple queries, I have tried to find correlations between several variables: the geographical location of the remains, altitude, local topography, distance from a river, position in relation to a river, religion, spatial arrangement, number of buildings, orientation, ground plan and moulding composition. Maps have been generated for each query in order to identify the distribution patterns of the selected sites and highlight correlations between distribution and the other variables.

³⁴ On average, I spent one day per site mentioned on my provisional list in order to localize it, measure and describe the remains – when they were still visible.

³⁵ See appendix 1 for a detailed description of the organization of the inventory, appendixes 2-4 for the inventory itself.

My main hypothesis was that Central Javanese temple remains reflect at the same time the political and economic occupation of the territory, the spiritual aspects of the relationship between man and his natural environment, and the abstract concepts of space inherited from local and imported traditions. To address this hypothesis, I have considered three aspects of the architectural space: location within the landscape, orientation and ground plan design.

Chapter 2

PRESENTATION OF THE SECONDARY SOURCES

Printed sources used in the present study consist mainly of inventories written in Dutch and lists of temple remains more recently drawn up by Indonesian archaeologists (in Indonesian).

Dutch sources

My main Dutch sources are the inventories written by N.W. Hoepermans, R.D.M. Verbeek, J.W. IJzerman, N.J. Krom and F.D.K. Bosch.

N.W. Hoepermans' 'Hindoe-oudheden van Java'

N.W. Hoepermans carried out his field research in the 1860's, but his inventory was published only in 1913 in the *Rapporten van den Oudheidkundigen Dienst in Nederlandsch-Indië* (Hoepermans 1913). This inventory covers West and Central Java, as well as Madiun and Kediri. However, Banten (in West Java) and the easternmost tip of the island were not surveyed.

Although the text has no introduction detailing the methods used for collecting data, it is obvious from numerous passages that this Dutch scholar visited all the places mentioned in his inventory. He did not rely simply on data given by local civil servants: his information was first-hand. Hoepermans often describes the approach leading up to the remains, the perspective of the sites, his difficulties in reaching them or the opinions of local people concerning the ruins.

A clear example of this can be read on p. 152:

From Magelang, after having crossed the Progo River, one goes on to Bandongan, 2½ paal away, via a very good road. From this place, there is a secondary road that runs through the hills and the valleys that form, so to say, the foot of Mount Sumbing. One finally arrives at Silogrio, where stands a temple named "Batoe roema" by the natives. Although this temple must have another name, we have not been able to extract it, as no Javanese people, not even the Wedhono of this district, gives it any other name or knows of it.³⁶

36 "Van Magalang, gaat men na de rivier de Progo, overgestoken te hebben naar Bandongan 2 ½ paal langs eene zeer goede weg, echter van af deze plaats ligt eene binnen weg die over heuvelen en dalen loopt en welke om zoo te zeggen de voet van het gebergte Soembing uitmaakt, tot dat men eindelijk komt te Silogrio, waar zich eene tempel bevindt, door de inlanders Batoe roema genaamd; hoewel deze tempel eene andere naam moet dragen, heeft men dezelve niet kunnen opdiepen, daar geen Javaan, noch de Wedhono van dit district, eene andere naam weet op te geven of bekend is." (Hoepermans 1913:152)

N.W. Hoepermans describes the antiquities he encountered province by province, district by district, including not only temple remains but also sculptures, metal finds and private collections.

It is interesting to note that numerous Dutch civil servants appear to have already gathered quite large collections of Javanese antiquities by that time. In Magelang alone, N.W. Hoepermans lists 30 pieces in front of the house of the Regent (district head) along with 22 smaller antiquities inside, while 73 other sculptures could be found in front of the house of the Resident (*residentie* or head).³⁷ The habit of collecting antiquities was not limited to civil servants. Hoepermans also mentions a certain Mr. Rivière, owner of an estate near Prambanan, who had collected more than 50 pieces on his domain (Hoepermans 1913:235). However, this interest in antiquities was very much limited to sculpture and the fate of ordinary temple stones did not attract much attention. While Dutch settlers built museums or decorated their houses with antiques, Javanese villagers also moved stones from their original locations. Their motives were both secular and religious. Stones from Candi Sieng-on (in the Prambanan area) were used to build water ducts (Hoepermans 1913:253), while temple stones, among them a *yoni*, were included in the base of a mosque in Brongkol village (Temanggung district; Hoepermans 1913:173). However, ancient stones did not always have such mundane uses, and they were also gathered in graveyards and used for tombs, as was the case in Mongsing-boemen village (Hoepermans 1913:173).

As the first witness to the state of preservation of many Central Javanese archaeological sites, Hoepermans' work is highly valuable, although his inventory is not always as systematic as one would hope.

Localization of the sites is certainly the main problem. As there is no map attached to his list, one has to rely on the administrative divisions. While the *residenties* and districts are always given, sub-districts are only occasionally mentioned. Sometimes, the Dutch scholar also includes names of nearby villages, but his use of phrases as vague as "close to", "not far from" or "in the neighbourhood of" do not always help. Hoepermans' information concerning the location of Pikatan, for example, is limited to the following passage (Hoepermans 1913:172):

*Dessa Pikatan (District Temangong). Within the dessa there are traces of a foundation (...).*³⁸

37 In Hoepermans' time, Java counted several *residentie's*. Central Java was divided between the *residentie's* of Pekalongan, Banjoemas, Bagelen, Kedoe, Semarang, Japara, Djocdjakarta and Soerakarta. Each *residentie* was further divided into districts. A district head was called the Regent, while the highest civil servant of a *residentie* was the Resident. Magelang was the administrative centre of both the *residentie* of Kedoe and the district of Magelang.

38 "Dessa Pikatan (District Temangong). Binnen in de dessa vindt men sporen van een fundament (...)." (Hoepermans 1913:172)

Based on such a short note, it is rather difficult to find the village on a map (if indeed it was ever mapped by the Topografische Dienst). Taking into consideration the order in which the sites are mentioned in the report sometimes helps, but only in a limited way. And when the village name is as common as “Tjandi/Candi” the task is often impossible. The only solution is then to compare Hoepermans’ data with information from R.D.M. Verbeek’s inventory (Verbeek 1891), which included an archaeological map. However, the sites mentioned by Hoepermans do not always figure on Verbeek’s map.

R.D.M. Verbeek’s ‘Oudheden van Java’

In 1891, R.D.M. Verbeek published the first official inventory of the antiquities of Java in the *Verhandelingen van het Bataviaasch Genootschap*, under the title ‘Oudheden van Java. Lijst der voornaamste overblijfselen uit den Hindoetijd op Java met eene oudheidkundige kaart’.

Although Verbeek’s inventory has its drawbacks, it is certainly a highly valuable work; not only for his up-to-date list of archaeological remains, but also for the map that accompanies them. Verbeek was a geographer. He took care to plot most of the sites on his map and also included sketches of the Prambanan area and the Dieng plateau. His work offers the first archaeological map of Central Java, even though its scale was too large to be really precise.

Verbeek’s inventory deals with the whole island, including Banten and East Java. Like his predecessor, he lists all the places of archaeological interest, i.e. not only temple remains, but also sculptures, inscriptions and other small finds. His inventory is not descriptive: as stated in the title, it is simply a list. For example, the entry for Candi Pawon is limited to:

266. Tjandi Pawon. *A small temple, not far from Bara Boedoer.*³⁹

For further details one has to refer to the bibliography (supplied with each entry).

Even though we know that Verbeek did travel to East Java, it is less clear to what extent he actually did fieldwork in Central Java. In the introduction to his inventory, Verbeek expresses lengthy gratitude to the civil servants and district heads who helped him. In a number of districts, he relied on their accounts alone. In some cases, mainly in the Magelang area, Verbeek states clearly that he had not visited the site listed. For Candi Batur (Selogono), for example, one finds the following note:

39 “266. Tjandi Pawon. Eene kleine tempel, niet ver van Bara Boedoer.” (Verbeek 1891: no 266)

259. Sela gana or Tjandi gana. *Two entirely collapsed temples, on the Soekarini hill, near doekoeh Ngoboran in desa Bawang. According to Inspector Kruijsboom foundations can still be seen. Not visited by me.*⁴⁰

Under Kanggan, one reads:

264. Kanggan. *A desa, approximately 1 kilometer to the west of Bara boedoe, along the main road to Salaman. Here stands a pedestal. Formerly, a stone staircase led down to it; the staircase is now covered with earth. Communication of the Inspector of Moentilan, C.J. Hasselam.*⁴¹

The quality of his information therefore relied on the contributions of his informants and these naturally varied in quality from place to place. Furthermore, it is often impossible to distinguish data derived from written sources from first-hand information. This may partly be due to Verbeek's very impersonal style, but it might also be that, for some entries at least, he relied exclusively on written sources. I reproduce below R.D.M. Verbeek's text for Candi Argakusuma.

141. Tjandi Arga koesoema (*District Bodja, afdeeling Semarang*). *To the NNE of Medini; from Soesoekan, one goes eastwards to Kloerak (Kloewak on the topographical map); not far from this desa there is a hot spring called Argatapa and, near to it, the two collapsed temples [named] Arga koesoema. The first one used to be 7 meters wide by 8 meters long, with the entrance on the northern side; the second temple was 6m by 7m. Formerly, Friederich was still able to recognize the wall of [temple] n^o 1. Higher in the mountains there must have been 3 other temples, but they were not visited by Friederich. The sculptures coming from these temples have been brought to Bodja.*⁴²

The use of the past tense, unusual elsewhere in Verbeek's text, and the reference to "temples not visited by Friederich", leads in this case to the conclusion that the information concerning the dimensions of the temples and the possible existence of further structures comes from Friederich's account alone – while not much was known about the state of preservation in Verbeek's own time.

40 "259. Sela gana of Tjandi gana. Twee geheel vervallen tempels op den berg Soekarini bij doekoeh Ngoboran der desa Bawang. Volgens den Controleur Kruijsboom zijn fundamenten nog te zien. Niet door mij bezocht." (Verbeek 1891: no 259)

41 "264. Kanggan. Een desa, ongeveer 1 kilometer ten westen van Bara boedoe aan den grooten weg naar Salaman. Hier staat een voetstuk, waarnaar men vroeger met een steenen trap afdaalde; de trap is nu met aarde overdekt. Mededeeling van den Controleur van Moentilan, C.J. Hasselam." (Verbeek 1891: no 264)

42 "141. Tjandi Arga koesoema (District Bodja, afdeeling Semarang). Ten N. N. O. van Medini; men gaat van Soesoekan oostwaarts naar Kloerak (op de topographische kaart Kloewak); niet ver van deze desa ligt eene warme bron, genaamd Argatapa, en daarbij de 2 vervallen tempels Arga koesoema. De 1e was 7 bij 8 meter breed en lang, ingang aan de noordzijde; de 2e tempel was 6 bij 7 meter. Bij N^o 1 was voren door Friederich de muur nog te herkennen. Hooger in het gebergte moeten nog 3 tempels gelegen hebben, ook geheel vervallen, maar door Friederich niet bezocht. Beelden van deze tempels zijn naar Bodja gebracht." (Verbeek 1891: no 141)

Unfortunately, it is not always so easy to identify the source of his information. Telahap constitutes a good example of this difficulty:

235. Telahap. *A large inscribed stone, in two pieces, found near the paal 28. Transported to the house of the Inspector in Magelang, now apparently lost. At Telahap, on the 23rd of April, after a landslide on the banks of the Gandoel River, a stone staircase of 89 steps was discovered.*⁴³

Was the staircase still visible in Verbeek's time? This cannot be established. All the information given here could well have come from the written sources mentioned in the bibliography.

It appears that for the area of Magelang Verbeek's work is often based on second hand information and is therefore not always of high standard. The most striking evidence is in the case of Candi Ngawen. Ngawen is a temple compound consisting of at least 5 temples, located between Borobudur and Muntilan, not far from Gunung Sari. As it lies along a main road and in a flat area, the place is not difficult to reach. However, Verbeek did not visit Candi Ngawen. In his inventory, he relies mainly on a communication from a local civil servant, mentioning only briefly N.W. Hoepermans' description:

298. Ngawen. *A fairly large, but damaged, statue, near the road to Muntilan. Communication from Inspector Hasselman. According to Hoepermans there was once a temple as well.*⁴⁴

However, this description is heavily biased: Candi Ngawen is not limited to a statue and there was clear evidence at the time to associate Ngawen with a temple. When Hoepermans visited the site, a mound and many temple stones were visible, scattered all around the area. Either they had disappeared (which is unlikely, as the site is rather large and clearly mentioned in early 20th century literature as a temple; see for example Krom 1914a: no 826) or Verbeek's informant simply did not consider temple stones but thought that only sculptures were worth mentioning. The result is that in Verbeek's inventory, Ngawen appears only as a sculpture, and not as a temple.

As for the location of archaeological sites, Verbeek is not always very precise. The *residentie* is always mentioned, but the smaller administrative boundaries are not always given. As he himself emphasises in the introduction (Verbeek 1891:16), in the case of the *Gouvernements-landen*,⁴⁵ details of the relevant dis-

43 "235. Telahap. Een groote beschreven steen, in twee stukken, gevonden bij paal 28. Vervoerd naar de controleurswoning te Magelang, nu zoo het schijnt verloren. Bij Telahap is bij gelegenheid van eene aardstorting op 23 April 1866 aan de oevers der rivier Gandoel een steenen trap van 89 treden gevonden." (Verbeek 1891: no 235)

44 "298. Ngawen. Een tamelijk groot doch geschonden beeld, dicht bij den weg naar Moentilan. Opgaaf van den Controleur Hasselman. Volgens Hoepermans had hier ook een tempel geweest." (Verbeek 1891: no 298)

45 That is to say, the whole of the territory of Java with the exception of the sultanates of Yogyakarta and Surakarta.

trict and *afdeeling*⁴⁶ are provided, while for Surakarta, only *afdeelingen* are mentioned, and for Yogyakarta only *regentschap*.⁴⁷

The correspondences between Hoepermans' and Verbeek's inventories are not always easy to establish. First of all, during the lapse of time that separated their research, Central Java underwent a number of administrative modifications. In Hoepermans' time, the area was divided into *residentie*'s and districts, and in some cases sub-districts. However, when Verbeek conducted his research, the *afdeelingen* had been introduced, some ancient districts had disappeared, others had been merged and some borders redefined. In the 1860's, for example, Ngadirejo was a district, but in the 1880's it is no longer mentioned as such and seems to have been integrated into the district of Kedoe, *afdeeling* Temanggoeng. The sites of Jamoes/Kramat, Perot or Pringapoes, mentioned by Hoepermans under Ngadirejo, are therefore to be found under Kedoe. Hoepermans' Temanggoeng district is divided into the districts of Djëtis and Soemawana, *afdeeling* Temanggoeng.⁴⁸ The sites of Pikatan, Brongkol and Këdoenglo, formerly in Temanggoeng district, are given in Verbeek's work either in Djëtis or in Soemawana. Further, certain district boundaries were modified and as a result some sites, formerly in one district, later found themselves in another. Borobudur and Pawon, formerly within the district of Probolinggo, are found in the 1880's under the authority of the Minoreh district, *afdeeling* Magelang. These are but a few examples of the administrative changes that occasionally make it very confusing to compare these two early inventories.

Another source of confusion is the frequent change of site names. This is a recurring problem in Javanese archaeology. As the original names are not known, one has to rely on modern names. However, these names might change according to the conventions used by the villagers, the fluctuation of administrative boundaries, the system used to transcribe the Javanese language, or even the ear of the researcher. Fortunately, Verbeek gives at least some of the correspondences between names used in his inventory and those appearing in Hoepermans' work. For example, writing about Sumberwatu, he underlines that "he (Hoepermans) calls the statue of Ganeça "Batoe Capella" (...)"⁴⁹ (Verbeek 1891:172). Unfortunately, not all the correspondences are given. Sometimes, geographical information and/or phonetics give enough clues for the correspondence to be established. For example, Hoepermans' "Kobla" is Verbeek's "Geblak" (Hoepermans 1913:253; Verbeek 1891:174), "Sijwoe 3" is "Asoe" (Hoepermans, 1913:266; Verbeek 1891:360), and "Kedatong" is "Ratoe Baka/Dawong" (Hoepermans 1913:252; Verbeek 1891:174). However, there are four archaeological sites displaying temple stones that are mentioned by

46 These divisions are roughly equivalent to the modern *kecamatan* and *kabupaten* (sub-district and district).

47 Name given to an *afdeeling* in the sultanate of Yogyakarta.

48 Both districts existed already in Hoepermans' times, but were not then as extensive.

49 "Hij (Hoepermans) noemt het ganeça-beeld "Batoe Capella" (...)" (Verbeek 1891:172)

Hoepermans, but which I have not been able to trace in Verbeek's inventory: "Tjandi" (Semarang, Ungaran), "Batu Kenteng" (Kedu, Ngadirejo), "Tjandi" (Kedu, Probolinggo) and "Salakan" (Kedu, Probolinggo; Hoepermans 1913:202, 159, 143 and 140).

Verbeek adds twenty-eight new temple remains to Hoepermans' list, most of them in the area of Prambanan. This was made possible by the impressive work of another scholar: J.W. IJzerman.

J. W. IJzerman in Prambanan

Between 1885 and 1886, J.W. IJzerman, who then lived in Yogyakarta, started exploring the temple remains of the Prambanan area. Carefully and systematically, he visited the sites, described them and plotted them on a map. He returned to the Netherlands probably in the first half of 1887 and published parts of his archaeological investigations in the *Verslagen en mededeelingen der Koninklijke Akademie van Wetenschappen (afdeeling letterkunde)* under the modest title of "Iets over de tempelruïnen van Prambanan" (IJzerman 1887). Verbeek made ample use of this work in his own inventory.

In 1891, the same year that Verbeek published his *Oudheden van Java*, IJzerman finally had occasion to fully publish his own research. His book, *Beschrijving der oudheden nabij de grens der residentie's Soerakarta en Djogdjakarta* is a modèle du genre, both scientific and readable, well illustrated and accompanied by drawings and maps (IJzerman 1891). It is certainly the most precise and complete account concerning the archaeological remains of that area and one can only wish that IJzerman had had the time and opportunity to extend his work to other parts of the island.

N.J. Krom and F.D.K. Bosch: Inventaris der Hindoe-oudheden

The last inventory of Javanese antiquities compiled by the Dutch archaeological services was the work of N.J. Krom, F.D.K. Bosch and M.A. Muuses (Krom 1914a; Bosch 1915a; Muuses 1923).

This work is certainly the most comprehensive and systematic inventory of Javanese antiquities ever published. It covers the whole island, listing sites of archaeological interest *residentie* by *residentie*, *afdeeling* by *afdeeling*, district by district. Administrative localizations are far more precise than in the former works. For the first time, photographs are referred to in the bibliography. However, the inventory does not include an archaeological map. Of course, one can still use Verbeek's map of 1891, but the new inventory adds no less than 71 temple remains to Verbeek's list. Fortunately, at about the same time during the early 1910's, the Topografische Dienst of Batavia started to publish a series of topographical maps of Central Java, at scales of 1:25,000 and 1:50,000. As the administrative divisions are roughly the same as those given by Bosch and Krom, these maps can be used, to some extent, to plot the sites mentioned in

the inventory. Nevertheless, as the maps do not include an index, it is a rather hazardous and lengthy process.

During the 23 years that separate Verbeek's list from the inventory of the Oudheidkundige Dienst, Central Java underwent some important administrative changes. The former *residentie* of Bagelen was integrated into that of Kedoe. In Kedoe, numerous districts changed names, especially in the *afdeelingen* of Magelang and Temanggoeng. One consequently searches in vain for Candi Bradjanalan in the district of Minoreh: it had become Candi Banon in the district of Salaman. The former Candi Goemboelan, in Ngasinan district, is now listed as Poetjang, in the district of Grabag. Similarly, Candi Goenoeng Pertapan, in Kedoe district, became Bagoesan, in Parakan district and Candi Plikon, in Soemawana, became Gandoelan in Kaloran. There are many other examples where both temple and district (and sometimes even the *afdeeling* and *residentie*) have changed name. Krom and Bosch were conscious of this problem: they took great care to give a list of the correspondences between the new and old inventory numbers.

This new – and last – Dutch inventory of the antiquities of Java is nevertheless a remarkable piece of work, even if it is a little imprecise here and there. Maron for example is described merely as “two *banaspati* brought to Karang-geneng”⁵⁰ (Bosch 1915a: no. 1238), whereas Verbeek mentioned that there were indeed two “*banaspati*” but also other temple stones (Verbeek 1891:163). Similarly, according to Bosch, “in the desa of Pelem and Tampir there were formerly two standing temples” (Bosch 1915a:94).⁵¹ No details are given however concerning the state of preservation in 1915.⁵² Krom and Bosch's work was a compilation of existing materials, and they did not have the means either to check their information, or to raise doubts about it. On this point, the interpretation of the reliefs of Candi Abang is significant. Bosch follows the opinion that the temple carvings are Buddhist (although he mentions the presence of a *lingga*; Bosch 1915a:43). This statement is taken from Verbeek (1891:169), who, in his turn, based his entry on IJzerman (1887:289; 1891:123-124). However, what Verbeek presents as a fact, was expressed by J.W. IJzerman as a mere opinion. The latter actually wrote that the seated male figure of the central niche was in “usual Buddha pose”⁵³ and that he was dressed like a *bodhisattwa* (i.e. not as a monk). IJzerman added that the sculpture might represent Awalokiteśwara. As Verbeek did not check this information through fieldwork, he could not have known that the *lingga* had been directly excavated out of the natural rock in front of the so-called Buddhist figure and that, in the northernmost of the three niches, were clear śaiwa reliefs (i.e. Durgā, Agastya and two *dwārapālas*). As a

50 “Twee *banaspati*'s overgebracht naar Karang-geneng”

51 “Bij de desa's Pelem en Tampir hebben vroeger twee tempels gestaan” (Bosch 1915:94, *candi* Pahingan).

52 Actually, one of the two temples is still clearly visible today.

53 “Gewone Boeddha houding”.

result, the association of Candi Abang with Buddhism should be treated with caution.

In general, the Dutch inventories tend to overestimate the role of Buddhism in ancient Java. In the absence of clear evidence, some sites and sculptures were simply presumed to be Buddhist: the case of Candi Loro Jonggrang is well known.⁵⁴ This approach is found most frequently in the earlier works but has since been translated into the archaeological vocabulary itself. Hoepermans, for example, frequently used the term “boedhakop” to designate what is now known as a *kāla*.⁵⁵ Simultaneously, there is a tendency to avoid the word “yoni”, which is replaced by “voetstuk” (pedestal). The mention of such “pedestals” in the cases of Candi Keblak and Kanggan, or the presence of a “linga met voetstuk” in Candi Ijo, makes it clear that we are dealing here with *yoni* rather than simple, unspecified pedestals.

Indonesian sources

In recent times, the National Centre for Archaeological Research and the National Heritage Institute have also made inventories of sites and artefacts. However, in contrast to their Dutch predecessors, these inventories are mainly non-standardised, unpublished lists of remains. Descriptions are rarely given and certain areas, especially within the province of Jawa Tengah, are poorly covered.

In the area that constitutes the geographical focus of the present study, three Indonesian institutions have carried out surveys: the Suaka Peninggalan Sejarah dan Purbakala Daerah Istimewa Yogyakarta (SPSP DIY); the Suaka Peninggalan Sejarah dan Purbakala Jawa Tengah (SPSP JT);⁵⁶ and the Balai Arkeologi Yogyakarta,⁵⁷ a local office of the National Archaeological Institute (Pusat Penelitian dan Pengembangan Arkeologi Nasional).

SPSP DIY

The SPSP DIY has made two inventories - one dealing with movable archaeological artefacts, the other listing temple sites.

54 Before the cleaning of the temple by Ijzerman, it was commonplace to associate Loro Jonggrang with Buddhism (Brumund 1868:12; Leemans 1855:420, 23). For a recent discussion on the possible Buddhist background of Loro Jonggrang, see Jordaan 1993.

55 This is clear on p. 148, where Hoepermans mentions “een monsterachtige boedhakop met slangtanden (van boven de ingang eener temple)”. Such a sculpture is unmistakably a *kāla* (Hoepermans 1891:148). The *kāla* is also known as *banaspati* or *monsterkop*. See, for example, Verbeek 1891:136, n°237; Vogler 1949.

56 Since my fieldwork was carried out, both SPSP have changed names. They are now the Unit Pelaksana Teknis Balai Pelestarian Peninggalan Purbakala DIY and JT (UPT BP3 DIY and UPT BP3 JT).

57 At the time of writing, the new name of the Balai Arkeologi is Unit Pelaksana Teknis Balai Arkeologi (UPT Balar).

The inventory of movable archaeological artefacts covers the whole province of Yogyakarta. Each artefact, sculpture, loose temple stone or metallic object is given an inventory number, measured and often photographed. Its administrative location is recorded. The data is organised in various series according to *kabupaten* or *desa*. The main series are: *Hasil pengumpulan data kepurbakalaan*, *Laporan inventarisasi benda cagar budaya*, *Laporan peninjauan situs kepurbakalaan* and *Laporan inventarisasi kepurbakalaan*. One must emphasise that these lists do not include *in situ* temple remains and, although they are of high interest, they can be difficult to use. Artefacts are listed according to inventory number/discovery date and not according to location. Artefacts found in the same village are therefore not specifically listed together, so that it is difficult to get an idea of the site in its totality or to propose a correct interpretation of it (that is to say, whether it is the site of a former temple or not).

Besides these small-scale lists of antiquities, the SPSP DIY also possesses a general inventory of the province, named *Daftar peninggalan sejarah dan purbakala benda bergerak di propinsi DIY*. However, it was compiled in 1985 and is today somewhat incomplete, so that one still needs to go through the smaller lists to find more recent information. As a parallel project to these artefact inventories, the SPSP DIY is now in the process of building up a new list, including only temple remains.

SPSP JT

In the province of Jawa Tengah, the situation is more confused. The extent of the area makes any inventory a much more difficult enterprise. However, some districts have been the subject of in-depth surveys by the SPSP JT, surveys that have provided information for inventories such as the *Daftar inventaris peninggalan purbakala Jawa Tengah*, *Karesidenan Semarang*, or *Laporan hasil pengumpulan benda-benda purbakala di daerah Klaten*. For other areas, like *kabupaten* Magelang, only brief lists of antiquities exist and they do not really give any details concerning the finds, their dimensions or nature. In some cases, such as the Boyolali area, the best information does not emanate from the central office of the SPSP JT, but from the various *kepala desa*, who generally hold a list of the antiquities found within their village limits.

Balai Arkeologi

While the two SPSP officially deal with the conservation and restoration of archaeological remains, another institute is in charge of archaeological research: the Balai Arkeologi, a branch office of the Pusat Arkeologi (national archaeological service).

Its research projects concerning so-called marginal sites on the one hand and brick architecture in the Magelang area on the other have led the Balai Arkeologi to produce a series of local inventories, covering mainly west Central Java and the *kabupaten* of Magelang.

The inventory of west Central Java first appeared in a series of unpublished works by B.D. Tjahjono (Tjahjono 1994; 1995; 1997; 1998). This data was later gathered in a single volume published by the Balai Arkeologi in 2000, as part of the collection *Berita penelitian arkeologi*, under the title *Budaya marginal masa klasik di Jawa Tengah* (Tjahjono 2000). This highly valuable work provides a list with administrative localizations and descriptions of all the archaeological remains (including sculptures and architecture) in the *kabupaten* of Kulon Progo (DIY), Purworejo, Kebumen, Cilacap, Banyumas, Purbalingga, Banjarnegara, Kendal, Batang, Pekalongan, Pemalang, Tegal and Brebes. It is accompanied by a few photographs and a map at a scale of 1:1,500,000. Unfortunately, the more precise maps (at 1:200,000) that were included in the earlier reports have been omitted from the later publication.

A list of temple remains of the *kabupaten* of Magelang has also appeared in another work by B.D. Tjahjono (Tjahjono 2002: table 1). This list includes the name of the temple, its administrative localization, geographical coordinates, situation (village, field, graveyard...) and state of preservation. Unfortunately, the data included in this table occasionally differs from the data mentioned within the text, so that it is sometimes difficult to determine which version is correct. For instance, on p. 16, one reads of *Situs Tempurrejo*, that it is located in the *dusun* of Semirejo II, *desa* Tempurrejo, *kecamatan* Tempuran, with the coordinates 7° 34' 22" S, 110° 10' 72.8" E. In table 1, the same site is located in the *dusun* of Kemirirejo II at 7° 34' 57" S, 110° 10' 53" E. We can see here that not only do the *dusun* and the coordinates differ, but that, in the first instance, the coordinates are incorrectly expressed.⁵⁸ Similar mistakes are evident on pp. 14-15 in the coordinates for Gombong, Candi, Samberan, Sigentan and Dimajar. Moreover, on p. 7, the coordinates mentioned for Candi Wurung are 7° 37' 18" – 110° 12' 25", while in the table they are 7° 35' 23" – 110° 07' 08". In this case, 110° 12' 25" would correspond to an area around Borobudur, while Wurung is in fact located several kilometres to the west of that prestigious monument.

Furthermore, as administrative boundaries as well as some temple names have changed over time, it is often difficult to establish a precise correlation between the Dutch and Indonesian inventories.

58 110° 10' 72.8" is an impossible number, but even if one converts this decimal number into seconds, it gives 43.7" and does not correspond to the coordinates given in the table.

Fieldwork data

The earlier inventories provided me with highly valuable information, sometimes allowing glimpses of a past that can no longer be observed. However, since the last published inventory of Java in 1915, archaeologists, both Dutch and Indonesian, have done an amazing amount of work and brought many new sites to light. After almost a century of archaeological research, a revised inventory is therefore badly needed.

Furthermore, previous inventories suffered from several shortcomings: a lack of information concerning the method of data gathering, confusion between first-hand and second-hand data, the absence of a reliable archaeological map and problems of locating the sites (due either to a lack of precision or to modification of the administrative boundaries).

My examination of the existing inventories led me to the conclusion that my own research could not treat them as absolute authorities. Above all, I needed to sift carefully through them in order to extract only the information that would be valuable to me, i.e. the data on temple remains.

Based on the drawbacks identified in the existing inventories, I drew up a list of points that should be treated with care in order to create a practical, user-friendly inventory. In short, if I wanted to avoid as far as possible the same weaknesses as my predecessors, I had to be systematic and precise, but I also had to find a way to avoid the obvious difficulties linked to the later modification of administrative boundaries. Although the inventory should remain succinct, it had to be descriptive to be really useful, especially to non-archaeologists. Furthermore, a clear distinction should be maintained between second-hand information and first-hand data, in order to provide the reader with a clear idea of what had once existed and what still remained at the time of the inventory.

The result can be found in the appendixes: a new inventory of Central Javanese temples in the special region of Yogyakarta and in the districts of Magelang, Semarang, Klaten and Boyolali.

Chapter 3

TEMPLE REMAINS OF CENTRAL JAVA: CORPUS

A short geography of Central Java

Topography

The island of Java comprises an elongated stretch of land, more than 1,000 km long from east to west and about 100 km from north to south (Figure 1). Its northern coast, facing the Java Sea, is bordered by an alluvial plain that varies in width across Central Java, from up to 40km (near Tegal) to only a few kilometers (between Pekalongan and Kendal). Further inland, parallel to the coast, runs the impressive North Serayu Ridge. Its main summits are, from west to east, Slamet (3,432m), Ragajembangan (2,177m), Prahu (2,565m) and Ungaran (2,050m). The North Serayu Ridge is continued to the east by the Kendeng Hills, which reach 899m in altitude. South of these mountains lies the central depression zone of Java, which encompasses a number of plains of varying size, such as the plains of Purwokerto, Magelang, Yogyakarta, Solo, Purwodadi and Ngawi. This depression zone is partly fragmented by a series of high volcanoes - Mounts Sundoro (3,155m), Sumbing (3,371m), Merbabu (3,145m), Merapi (2,947m) and Lawu (3,265m) - and is further divided by the presence of the South Serayu Mountains and the Menoreh Hills. In most parts of the island, the central depression zone is bordered to the south by the Southern Mountains; a steep mountainous chain that prevents access to the Indian Ocean.

In Central Java, however, with the exception of its easternmost area, the central depression zone is not bordered by mountains in the south. The plains here gently slope down to the ocean (Figure 2). Historical Central Java,⁵⁹ which encompasses the Progo valley and its immediate surroundings, constitutes a transition zone between the closed, mountainous landscape of the west and the open plains of the east. From a geographer's point of view, it is the border between Central and East Java.

59 By historical Central Java, I mean the area that became the cradle of the Central Javanese Hindu-Buddhist civilization, i.e. the DIY and the central districts of the province of Java Tengah (i.e. the *kabupaten* of Purworejo, Wonosobo, Magelang, Temanggung, Kendal, Semarang, Kota Semarang, Kota Salatiga, Boyolali and Klaten). DIY stands for *Daerah Istimewa Yogyakarta* (Special Region of Yogyakarta), which forms one of the six main administrative divisions of the island of Java, together with the provinces of Jawa Barat (West Java), Banten, Jakarta Raya, Jawa Tengah (Central Java) and Jawa Timur (East Java).

Hydrography

Central Java possesses four main hydrographical basins (Figure 2): the Serayu, Progo, Serang and Solo basins.

The Serayu River has its source on Mount Sundoro and flows westward through the Wonosobo-Purwokerto plain, until it reaches the Indian Ocean in the neighbourhood of Cilacap. The Progo River is the main watercourse of historical Central Java. Unlike the other rivers that originate from the central depression of Java and run east or west, the Progo River flows directly from north to south.⁶⁰ Its source is located high on Mount Sundoro, while its main tributary, the Elo River, takes its source from Mount Merbabu.

The third main hydrographical basin of Central Java is that of the Serang River, which flows down the northeastern slope of Mount Merbabu to the area of Purwodadi, where it meets the Lusi. From here, the Serang continues north-westwards until it reaches the Java Sea, not far from Kudus and Demak. Its main tributary, the Lusi River, originates from the area of Blora and flows from east to west through the plain of Purwodadi.

The last major river of Central Java, the Solo River, is also the longest river in the island. The Solo River has its source in the southern part of the Solo plain. It flows first northwards, receiving tributaries originating from the slopes of Mounts Merapi-Merbabu and Lawu, before heading to the northeast and ending its course faraway in Eastern Java, a little to the north of Gresik.

Apart from these four main hydrographical basins, Central Java possesses numerous short rivers flowing northwards through the northern coastal plain or southwards from the South Serayu Mountains to the Indian Ocean.

Composition of the temple corpus

Now that we have an idea of the natural landscape of the region, we are in a position to gain an overview of the archaeological sites and how they are distributed across the region. More than 280 temple remains were once visible in Central Java, scattered over all areas of the region. Today, however, a large proportion of these ruins has vanished. Some of them have been used as stone quarries to build new houses, mosques or bridges. Others are simply victims of the ravages of time or are now buried under the residues of modern human activity. The situation is scarcely better for the majority of the remaining sites: many former temples have been reduced to a few dozen stones scattered in a field or

⁶⁰ In the central depression of West Java, as well as in that of the Western part of the modern province of Jawa Tengah, rivers flow either from east to west or from west to east. In the inner plains of east Java, rivers originating from the mountains meander in their courses to the northeast to reach the Java Sea. This is due to the fact that in all the other areas of the island, the central depression is separated from the Ocean by a mountain ridge.

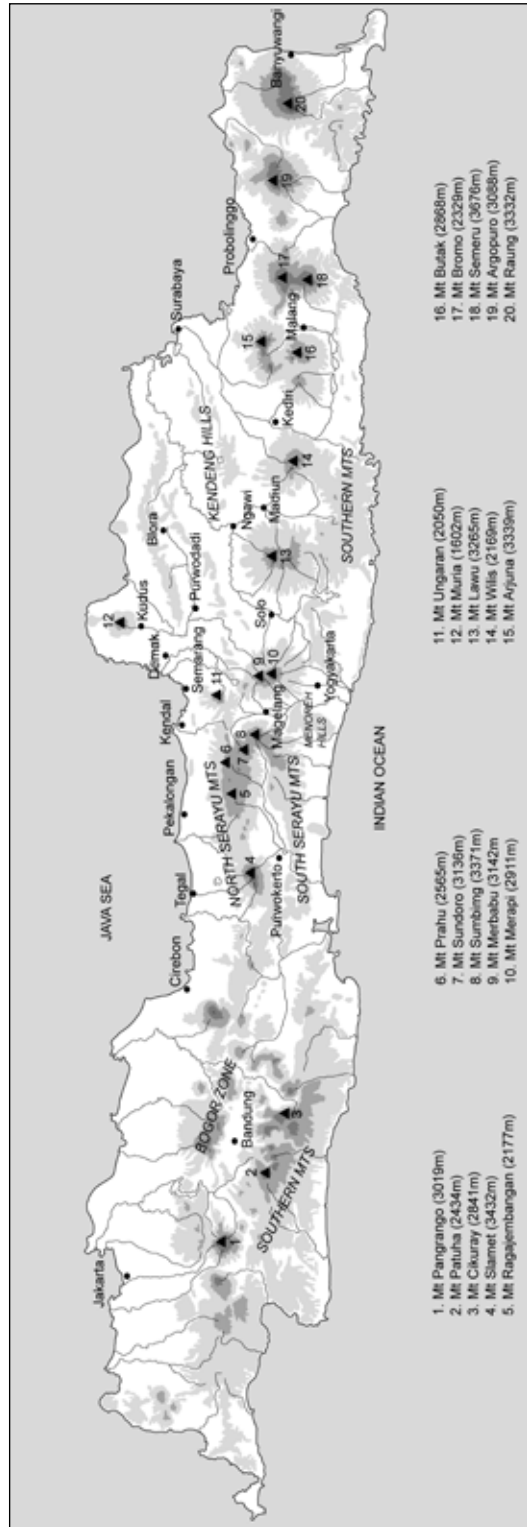


Figure 1: Morphological Map of Java

beside a road. On the other hand, certain buildings are relatively well preserved or have been granted a new life through anastylosis. Recently restored from top to bottom, these temples are now waiting to be visited and admired.

The information concerning temples and temple remains is therefore highly heterogeneous. The corpus is huge if one focuses on distribution, but is quite limited for those interested in architecture or iconography. This means that the number of temple sites I have taken into account in the chapters dealing with distribution is necessarily much larger than the number of temple buildings that I could use for the study of orientation and temple planning.

On the other hand, the abundance of remains to be plotted on a map was so huge that I could not afford to check everything through field survey. For the present study, fieldwork was carried out in the regions of Yogyakarta, Klaten, Magelang, Boyolali and Semarang (excluding Kotamadya Semarang). The collected data regarding temple remains in these areas has been brought together in a new, up-to-date inventory (Appendix 1-3). Because distributional studies benefit from a broad coverage, I have also introduced data concerning the surrounding regions, taken from older inventories;

in particular from the work of Baksoro Daru Tjahjono (Tjahjono 2000). Unfortunately, as the latter survey focuses on the western and southern parts of Central Java, the inventory of 1914 (Krom 1914a) remains the main reference for the eastern districts. It appears that very few remains are known around the modern town of Solo, with the exception of the later temples of Suku and Ceto.⁶¹

The region including the DIY and the *kabupaten* of Klaten⁶² counts 110 sites that can be considered as being (or having been) temple remains (Table 1). The district of Magelang contains 80 sites, Boyolali 10, Semarang 21,⁶³ Kotamadya Semarang 5,⁶⁴ Temanggung 23, Wonosobo 5,⁶⁵ Kendal 7,⁶⁶ Batang 4,⁶⁷ Kebumen 1, Banyumas 7, Purbalingga 1, Pemalang 2,⁶⁸ Tegal 2, Brebes 2, Purwodadi 1, Kudus 1, Purworejo 1⁶⁹ and Banjarnegara 6.⁷⁰

61 In fact, only one temple dating from the Central Javanese period has been recorded: Candi Bendo.

62 The Kabupaten Klaten (district of Klaten) is part of the province of Jawa Tengah. It is located east of Yogyakarta and south of Boyolali.

63 Including the seven temple groups of Gedong Songo.

64 The information concerning this district has been taken from printed sources.

65 Dieng is here counted as a single site.

66 Apart from these apparent temple sites, further sculptures from the Hindu-Buddhist period have also been found in other locations within the district of Kendal.

67 Without counting the five additional sites where only sculptures have been found.

68 In these two cases, only a couple of stones have been discovered.

69 Besides these remains, which actually comprise two stone bases, a *lingga* and a *yoni* located near the Seplawan cave, two caves within the district of Purworejo show traces of occupation during the Hindu-Buddhist period. In three other villages, isolated *yoni* have been found.

70 In fact, four of these sites may be considered together, namely the temples located on the Dieng plateau: the Arjuna group, Candi Dwarawati, Gatotkaca and Bima.

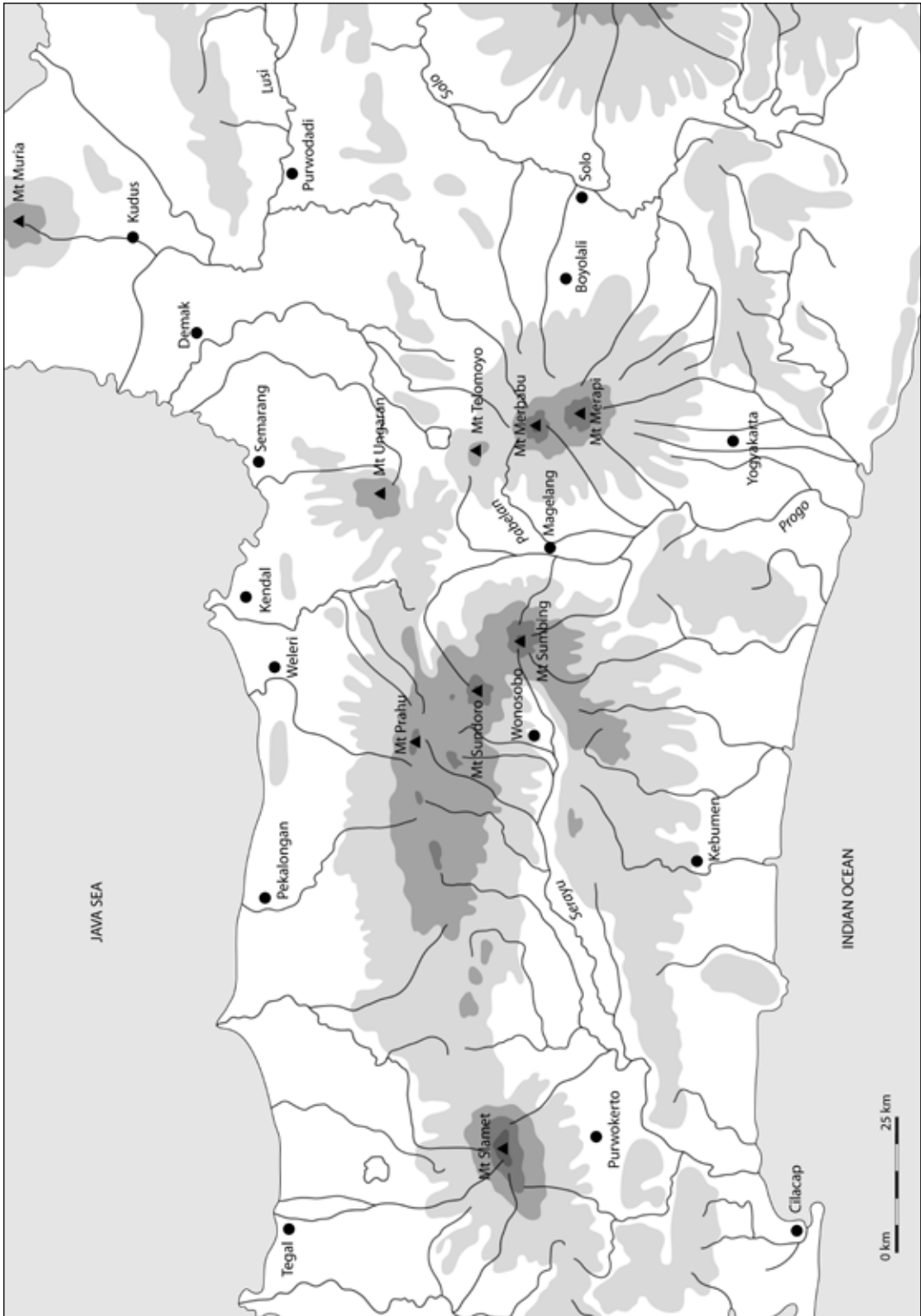


Figure 2: Morphological Map of Central Java

However, it is certain that these numbers do not fully represent the true historical situation: some temples may have disappeared without leaving any noticeable traces, while some surviving temple remains may once have formed a single site rather than separate sanctuaries.

Population density is a critical factor in the recognition and preservation of temple remains, and provides an advantage within the context of an archaeological survey. The region is so densely populated that ancient stones and sculptures lying on the ground can hardly go unnoticed.⁷¹ Moreover, local officials (district heads since the middle of the 19th and village heads since the middle of the 20th century) have the duty to report finds of antiquities. Furthermore, the development of the construction industry and its corollaries (the exploitation of riverbeds as sand quarries, brick making etc.) continually brings new remains to light.

As both the environmental and human conditions are approximately equivalent across the whole region, the probabilities of finding temple remains are, from this point of view, comparable in the different districts. Only three areas might pose exceptions: the southwest slope of Mount Merapi, Yogyakarta and Semarang. The morphology of the summit of Mount Merapi has favoured large mudflows in the direction of Muntilan and Yogyakarta. As the discoveries of Sambisari and Kedulan exemplify, it is possible that these *lahar* cover former temple sites. However, it would not change the general picture substantially, as this is already the richest area in terms of archaeological remains. As for the land now covered by the cities of Yogyakarta and Semarang, it is more difficult to estimate to what extent urbanization may conceal former sites. The significant development of Yogyakarta is a relatively recent phenomenon, but Semarang has long been a bustling city. With an ideal location along the northern coast, Semarang is still a major port today, and would have been the perfect site for an ancient harbour. A programme of urban archaeology here would probably bring interesting results.

Another source of potential bias in our estimation of site distribution results from the use of two different building materials, namely brick and stone. As one might expect, stone temples tend to resist the equatorial climate of Central Java rather better than their brick counterparts. This is especially true when, as was often the case, the bricks were baked at low temperatures.⁷² As brick temples seem to have been slightly more common in the district of Magelang – and perhaps in Semarang – it is possible that more temples may have vanished in this area than, for example, around Prambanan, where the tradition of stone construction was more established.

71 With the exception, of course, of the uppermost slopes of the volcanoes, where cultivation is either very limited or practically impossible.

72 I have not carried out extensive or systematic studies of this subject, but I have noticed that in some of the bricks used to build Candi Retno and Ngampin, the actual rice shaft used as temper was still present – and not merely traceable – suggesting a low baking temperature.

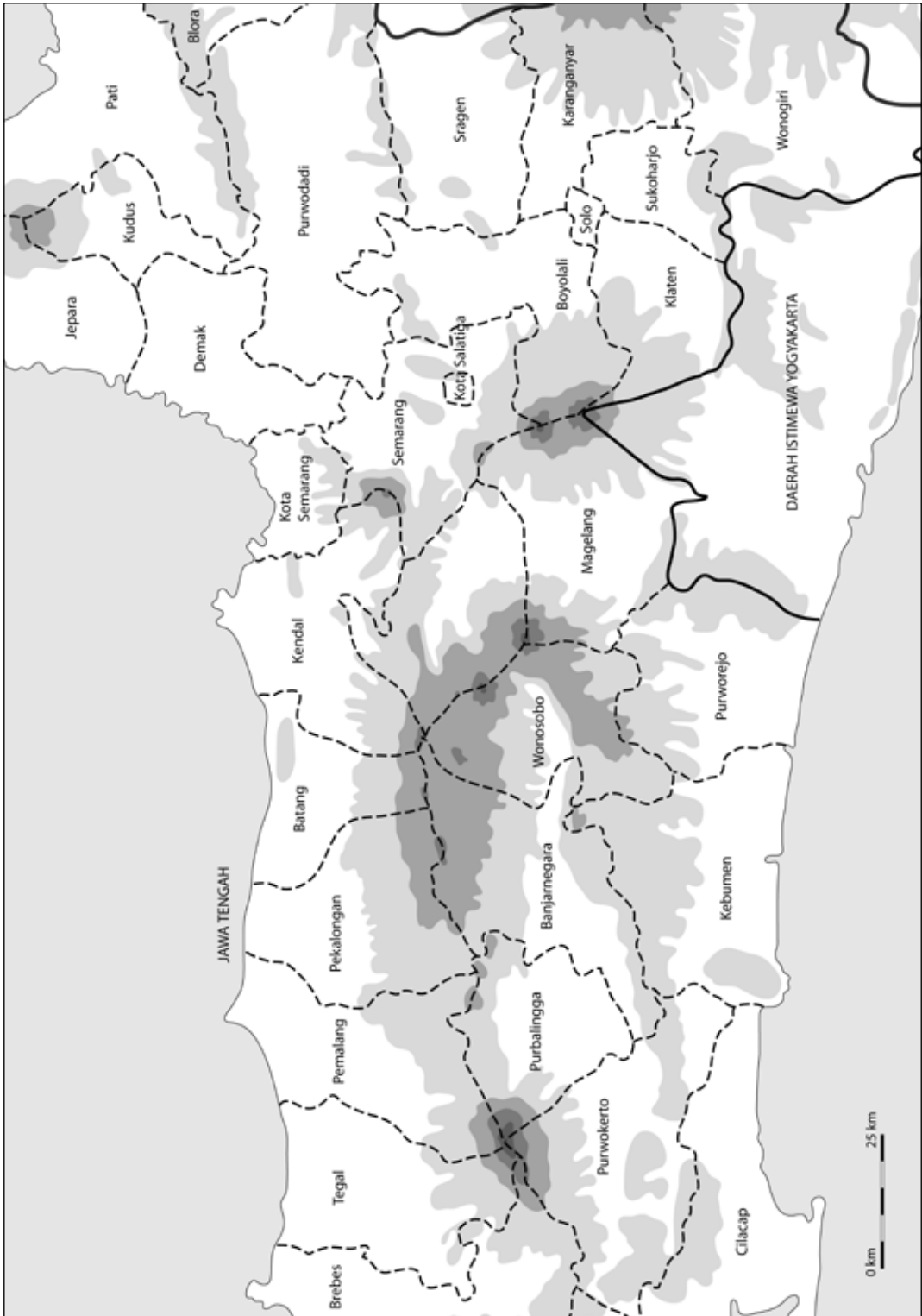


Figure 3: Administrative Map of Central Java

The perception of Hindu-Buddhist antiquities by local populations may also have influenced the survival of temple remains. Temples are key attractions for the tourism industry in the DIY and around Borobudur. In these areas, the perception of temples as potential sources of income may have played a role in the survival of Hindu-Buddhist remains.⁷³

Southern Central Java

As mentioned earlier, resolving the question of whether remains constitute a single site or originate from different sanctuaries is not easy. In southern Central Java (DIY and Klaten district), the sites at which differentiations of this kind remain doubtful are: 1) Burikan, Jumeneng, Konteng and Candi; 2) Maron and Ngepos; 3) Sumur Bandung and Ijo.

Burikan, Jumeneng, Konteng and Candi are four hamlets located within the *desa* of Sumberadi (*kecamatan* Mlati, *kabupaten* Sleman), where loose temple stones and sculptures have been found (Figure 4). The distance between the

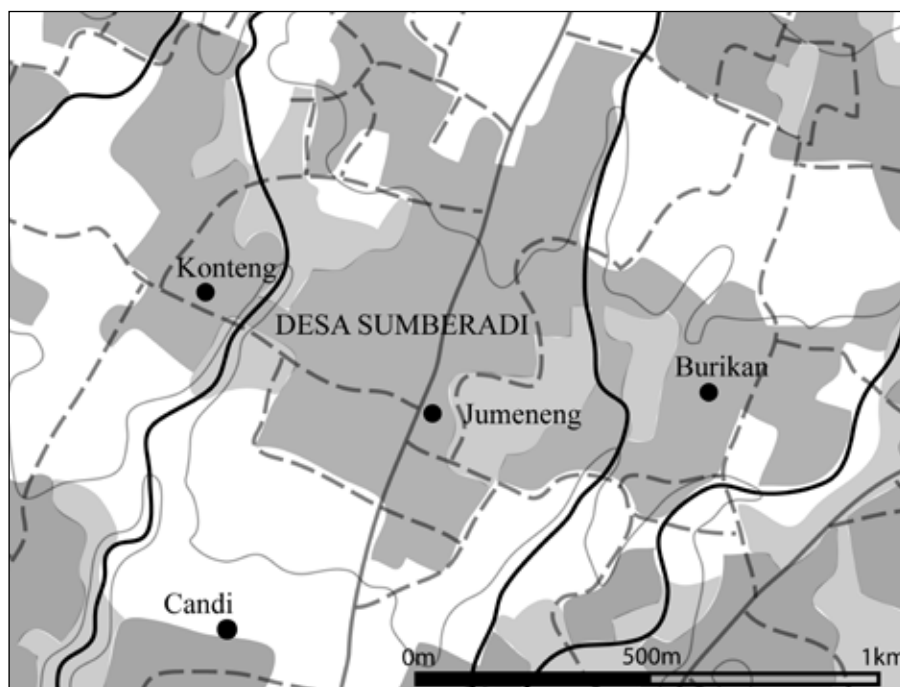


Figure 4: Location map of the temple remains at Burikan, Jumeneng, Konteng and Candi (Sumberadi, Mlati, Sleman, DIY)

73 There might also be more than just an economic reason. During my fieldwork, I noticed on several occasions that the status of *juru kunci* (guardian) of a site was still a mark of status in the villages of the DIY (especially in *kabupaten* Gunung Kidul). However, this was not so apparent in Jawa Tengah.

different hamlets is short: Jumeneng is located 600m from Burikan, 500m from Konteng and 600m from Candi. Apart from this close proximity, the nature of the stones might also be revealing. Plain blocks were found only at Burikan and Konteng, while only carved stones were found at Candi, and only sculptures at Jumeneng. Only Burikan shelters a wide variety of stones: plain blocks, fragments of finials, antefixes, a *yoni*, a *makara*, a statue of Śiwa and that of a goddess, as well as earthen jars that could have been part of a temple deposit. It is therefore possible that we are dealing with the remains not of four separate temples, but rather of two (at Konteng and Burikan) or even of only one (at Burikan).

The distribution of stones belonging to a single temple over a distance of more than 1km is not surprising: antefixes from Candi Merak were found in the *dusun* of Bogor, 1km away from their original site, and other carved stones belonging to the same temple were used to build a crossroads 2km north of Merak (Perquin 1927b: pl. VII). Although carved pieces have always been favoured by those who would remove stones from their original sites, plain blocks have also travelled quite far from their original locations. During fieldwork in the village of Pringapus, near Salaman (Magelang, Jawa Tengah), I noticed a garden fence made of nicely prepared andesite blocks. When I questioned the owner, I was told that a family member used to work in the area of Borobudur and brought the blocks back from there, i.e. 9km away from their present location.

A second case of dubious differentiation is Maron and Ngepos. The two hamlets are located roughly 600m from one another, in the *desa* of Donoharjo, *kecamatan* Ngaglik, *kabupaten* Sleman. In Maron, a few loose temple stones were found together with a Kāla (Verbeek 1891:163), while in Ngepos, plain stone blocks, a *lingga*, a Durgā statue, 2 Gaṇeśa statues, 2 bulls and a male figure were once visible (Bosch 1915a: 18; *Daftar Peninggalan Benda DIY* 1985: 96, 98, 103). Again, the proximity of the sites and the fact that the stone elements show greater variety at Ngepos might suggest that we are dealing with the remains of a single structure, although this cannot be regarded as a certainty.

Sumur Bandung and Ijo reflect a different situation. Sumur Bandung is located 150m away from Candi Ijo. The only feature visible today is the foundation of a wall, although two sculptures were once found on this spot; a Narasingha and a Triwikrama (Santoso 1992:58). The remains of the Ijo complex have not yet been fully explored, but there are strong possibilities that the wall of Sumur Bandung is in fact part of an enclosure wall linked to Candi Ijo.

Therefore, for the regions of Yogyakarta and Klaten, we might actually have 105 temple sites, rather than 110. The possibility that remains found in different villages might belong to a single structure should be kept in mind while analysing the distribution patterns and site density of each particular area: a large number of dots on a distribution map might not always reflect a concentration of temple remains, but a misinterpretation of the archaeological data. The problem however only becomes significant if one introduces the location

of movable artefacts (especially sculptures and metallic objects) found outside an archaeological context. Even the discovery of such materials buried in the ground does not guarantee that they are *in situ* – the first priority would then be to determine how, why and when they were buried.

The Progo Valley

These problems are, of course, not limited to southern Central Java. In Magelang, several sites are so close to each other that, in the absence of *in situ* remains, it is almost impossible to determine if there was formerly one or several temples – and if only one, in which village it was located.

Dipan, for example, lies only 700m from Jowohan, while Barepan is only 600m further away. A brick base has been discovered at Dipan, but only loose bricks were found at Jowohan, and only a *yoni* at Barepan. It is possible that the bricks and the *yoni* originally came from a temple located in the village of Dipan, and that Jowohan and Barepan should not be counted as separate sites.

The situation is similar in the following cases: 1) Kanggan and Karangrejo (located 500m from each other); 2) Wurung, Mulosari and Pringapus; 3) Dimajar and Samberan; 4) Cetokan and Retno; and finally, 5) Singabarong and Mantingan. Based on this variable, the amount of temples in the district of Magelang could be reduced from 80 to 74.

In Temanggung, Verbeek was already of the opinion that the temple stones used for the construction of the mosque in the village of Brongkol had been taken from a temple located in Wonokerso (Verbeek 1891: n° 252 and 256). Similarly, many artefacts (chiefly sculptures and antefixes) that are now to be found in the village of Candi (Parakan, Temanggung) were most probably gathered from the neighbouring villages of Bongkol, Bumen and Gunung Kembang, where temple structures once stood. However, it is now impossible to trace the origin of each sculpture.

Sometimes, however, two temples may give the appearance of being only one, as in the case of Candi Pringapus and Perot. In the late 19th century, two temples were still standing at Pringapus, a village in the neighbourhood of Ngadirejo: Candi Perot and Candi Pringapus (Hoepermans 1913: 160; Krom 1914a: n° 959). Candi Perot was located within the hamlet of Candi, while Pringapus lay several hundred meters to the east. Today, however, there is only a nice row of stones just in front of Candi Pringapus. When the tree growing on Candi Perot was blown over by the wind, the temple collapsed (Krom 1923, I: 209). Some time after this event, the villagers moved the stones of Perot to the temple site of Candi Pringapus.

In the present book, the main unit of analysis is the site. On the various maps, each black spot marks a (religious) site, not a building. The choice of this unit of analysis was a tricky one, as both the site and the building have, for my purposes, clear advantages and disadvantages. The main advantage of using the

building as a unit is its physicality: As an object it is easily defined and identifiable.⁷⁴ By definition, it would also give a more accurate picture of temple density; for example, the reader would become more aware of the differences between the built landscape of the Prambanan area and that of the Progo valley. However, beyond this seeming objectivity, the building, as a unit of analysis tends to distort some essential parameters. By giving the same importance to a subsidiary shrine as to the main temple (i.e. a simple dot on a map), it may distort our perception of the settlement pattern (the multiplication of dots being easily confused with the former existence of numerous villages) and confuse the study of temple orientation. It also erases the physical relationship existing between the buildings of a single temple complex. Opting for the site as the main unit of analysis is, on the contrary, to underline this link, by recognizing the architectural unity envisaged by the constructors. It is difficult however to define with precision and objectivity what a site actually is. In this book, the term “(religious) site” is used to designate an isolated shrine, a series of shrines enclosed within a perimeter wall, or a series of shrines built next to one another and organized according to a recognizable pattern. According to this understanding of the term, Candi Pawon (an isolated shrine in the Muntilan area) is therefore a site on the same basis as Loro Jonggrang (an impressive sanctuary comprising 232 separate shrines within a series of three enclosure walls) or Gedong Songo III (a group consisting of two shrines in a line with a secondary structure facing the main temple). On the other hand, the temples of Asu, Lumbung and Pendem, in the village of Candi Pos (*kabupaten* of Magelang), although also known under the generic name of “Candi Kuning”, are nevertheless considered as three separate sites, as are the different temple groups of Gedong Songo.

D.I. Yogyakarta

Abang	Grogol	Maron	Sambiroto
Arca Ganesa	Gunung Mijil	Miri	Sambisari
Balangan	Gupolo	Miring	Sampangan
Banyunibo	Ijo	Morangan	Sanan
Barong	Jatiwangi	Mulungan Wetan	Sari
Bogem	Jetis (Cangkringang)	Ngaglik (Mlati)	Sawo
Besalen	Jetis (Ngemplak)	Ngaglik (Prambanan)	Semarangan
Bugisan	Jetis (Sleman)	Ngepos	Sentono
Burikan	Jetis (Wonosari)	Ngesong	Singo

⁷⁴ Although one might discuss the case of the *stūpa*, since it does not correspond to the usual perception of a building as a structure with a roof and walls.

CANDI, SPACE AND LANDSCAPE

Candi (Mlati)	Jumeneng	Nogosari	Sosrokusuman
Candi (Ngaglik)	Kadisoka	Palgading	Sumberwatu
Candi (Pakem)	Kalasan	Panggeran	Sumur Bandung
Candirejo	Karanganjung	Payak	Susukan
Cebongan	Karang Tengah	Planggal	Tanjungtirto
Cepet	Kebalak	Plaosan	Tangkisan
Condrowangsan	Kedulan	Plembutan	Tawangrejo
Cupuwatu	Kepitu	Plumbon	Tegalsari
Dawangsari	Klaci	Polangan	Tinjon
Dengok	Klodangan	Polengan	Wadas
Gajah	Konteng	Pondok	Warak
Gampingan	Krapyak	Pringtali	Watugilang
Gatak	Lengkong	Punden	Watugudig
Gebang	Loro Jonggrang	Puren	Wiladeg
Glagah	Malang	Ratu Boko	Wringinrejo
Grembyangan	Mantup	Risan	

Klaten

Bubrah	Karangnongko	Merak	Sojiwan
Gana	Kulon	Plaosan Kidul	
Kaliworo	Lor	Plaosan Lor	
Kalangan	Lumbung	Sewu	

Magelang

Asu	Giombong	Krincing	Retno
Banon	Gombong	Lumbung	Salakan
Barepan	Gunung	Mantingan	Samberan
Batur	Gunung Gono	Mendut	Seketi
Batu Rong	Gunung Lemah	Mulosari	Selogriyo
Bengkung	Gunung Pring	Mungkidan	Semawe
Blaburan	Gunung Sari	Nambangan	Setan
Bobosan	Gunung Wukir	Ngampel	Sidikan
Borobudur	Jeronboto	Nganten Kidul	Singabarong
Bowongan	Jlegong	Ngawen	Sigentan
Bringin	Jomboran	Ngrajek	Soborojo
Brongkol	Jowahan	Pakem	Sumber
Candi	Kalangan	Pawon	Tempurrejo
Cetokan	Kalimalang	Pendem	Tiban
Dampit	Kanggan	Pirikan	Tidaran

TEMPLE REMAINS OF CENTRAL JAVA: CORPUS

Dimajar	Kaponan	Plandi	Tumbu
Dipan	Karangrejo	Pringapus	Umbul
Gedongan	Kemiren	Progowati	Wates
Gedungan	Kendal	Pucanggunung	Wurung
Gejagan	Ketoran	Rambeanak	

Boyolali

Cabean Kunti	Kuwarigan	Pahingan	Tampir
Candipetak	Lawang	Sari	
Candirejo	Mangis	Sumur Songo	

Temanggung

Argapura	Gondosuli	Ngabean	Plikon
Bongkol	Gunung Kembang	Ngepoh	Pringapus
Brongkol	Gunung Pertapan	Nglarangan	Tlahab
Bumen	Jamus	Perot	Traji
Butuh	Karangbendo	Piatak	Wonokerso
Candi	Kedunglo	Pikatan	

Semarang

Arca Ganesa Besar	Ngempon	Aracwinangun	Tugu
Bedono	Ngentak	Banyumudal	
Butak Wetan	Renteng	Candinegara	
Dukuh	Sanjaya	Kalibening	
Gedong Songo	Sidomukti	Kaliduren	
Gentong	Wujil	Kaliencit	
Kaliklotok		Lembu Ayu	

Banyumas

Wonosobo

Bongkottan	Dieng	Candi	Ngresep
Candi	Karangsari	Duduhan	Tugurejo
Candi Bogang		Kangkung	

Kotamadya Semarang

Kendal

Ganawerti Wetan	Krincing	Banjarkulon	Karanggondang
Gunung Gentong	Nglimut	Candiagung	Karangpucung
Jumbleng	Pengilon	Condong	Kromong
Kentengsari			

Banjarnegara

Batang	Pemalang	Tegal	Brebes
Bendosari	Banyumudal	Bantarsari	Karangdawa
Kauman	Kalilingseng	Muncang Larang	Krikil
Kecepit	Plawangan		
Simangli			

Purwodadi	Kudus	Purworejo	Kebumen
Mendang Kemulan	Prawat	Gua Gong	Kemijing

Purbalingga
Brengkol

Table 1: List of Central Javanese temple remains

State of preservation

The state of preservation of the temple remains varies greatly from site to site and from one region to another. In southern Central Java (DIY and Klaten), 50 temples out of the 110 listed are no longer visible (45.5%), while 19 (17%) now consist only of loose, scattered stones. In only 41 cases (37.5%) do remains still exist partly *in situ* (Table 2). In the district of Magelang, 53.75% of the sites have vanished (43 sites in total), 27.5% are now just loose stones (22 sites), while only 16.25% are described as *in situ* remains (13 sites).⁷⁵ In Boyolali, out of the 10 temple remains recorded, 3 have disappeared, 2 are reduced to scattered stones and only 4 are still present as *in situ* structures.⁷⁶ In contrast, out of the 20 known sites in Semarang, 4 are no longer visible, while 6 are merely loose stones, but 9 remain *in situ*.⁷⁷

For the areas outside the scope of my fieldwork, the data derived from the Dutch inventories and the work of Tjahjono suggest that the vast majority of the sites is composed of loose architectural elements. In 2000, apart from the relatively well-preserved temples at Dieng (in Wonosobo district) and Pringapus (in Temanggung), only 3 sites represented *in situ* remains: Bantarsari (in Tegal), Karangdawa (in Brebes) and Gua Gong (in Purworejo).

From the point of view of preservation, the fate of temple remains has been slightly better in the area of Yogyakarta than elsewhere in Central Java. This state of affairs is probably not of natural origin: volcanic eruptions and landslides are at least as frequent in Yogyakarta as in Magelang. Part of the explanation may lie in the fact that, for the small province of D.I. Yogyakarta, tourism is an important source of income. The role of tourism within the local economy

75 I have not been able to visit Baturong and Gunung Lemah, so their present state of preservation is unknown.

76 I have been unable to identify the location of Candirejo, Boyolali.

77 I have been unable to locate Gentong.



Figure 5: Remains of miniature shrines at Mantup (Bantul, DIY) – June 2002



Figure 6: Candi Retno (Secang, Magelang) – April 2003

may have stimulated a greater consciousness of the value of archaeological remains. Another relevant variable is that almost all the temples in the region of Yogyakarta are made of stone, while more fragile brick structures are relatively more frequent in Magelang and Semarang.

Province/kabupaten	Total	Disappeared	Loose stones	In situ
DIY/Klaten	110	50 (45.5%)	19 (17%)	41 (37.5%)
Magelang	80	43 (53.75%)	22 (27.5%)	13 (16.25%)
Semarang	20	4	6	9
Boyolali	10	3	2	4

Table 2: General state of preservation of temple remains per province/kabupaten

Southern Central Java

In southern Central Java, among the 41 sites that preserve in situ remains, only 23 structures are relatively well-preserved (at least up to the foot of the temple body), representing a mere 1/5 of the total number of sites. In other words, while there is enough data to create a distribution map giving a fair idea of the ancient built landscape, the information available for the study of both orientation and spatial organization is more limited. In many cases, only a few layers of stones are preserved (Figure 5). Sometimes, the in situ remains are even limited to a simple mound of earth mixed with stones or bricks (Table 3).

The present list contrasts with the older inventories: Both Verbeek and Bosch listed 44 temple sites in their work (Verbeek 1891; Bosch 1915a).⁷⁸ Among the 44 temple remains mentioned by Verbeek for southern Central Java, 12 consisted of loose stones, while 15 had “completely collapsed”,⁷⁹ 10 had “collapsed”⁸⁰ and only 7 were still standing (namely Jetis, Kalongan, Loro Jonggrang, Lumbung (Klaten), Plaosan Lor, Sewu and Watugudik).⁸¹

Bosch added three newly-found temple remains (then still *in situ*) to Verbeek’s list: Cebongan, Cupuwatu and Plumbon.⁸² He also noticed that most of the structures seen by Verbeek in the valley of the Sorogeduk/Gawe River (south of Prambanan, along the northwestern edge of the Gunung Kidul) had since disappeared: Grembyangan, Krapyak, Nogosari, Polangan, Polengan,

78 The other sites mentioned in these older inventories are merely the find-spots for sculptures and metal objects or collections of artifacts.

79 “Geheel vervallen”.

80 “Vervallen”.

81 According to the spelling used by R.D.M. Verbeek: Djëtis, Watoe goedig, Prambanan, Sewoe, Loemboeng, Plaosan and Kalongan.

82 According to the spelling used by F.D.K. Bosch: Tjebongan, Ploembon and Tjoepeo Watoe.

Sawo, Semarang and Tinjon.⁸³ This was also the case for Candi Kulon and Lor, in the vicinity of Sewu.

Even though some temples were in a better state of preservation in Verbeek's time than today, excavations carried out before and after World War II have extended our knowledge of some important structures. The temples of Banyunibo, Barong, Gebang, Ijo, Loro Jonggrang, Plaosan Kidul, Plaosan Lor, Ratu Boko, Sewu, and Sojiwan, all of which used to be in a critical state of decay, have been (or are being) restored with some success.

In total, 66 remains have been added to the 44 temple sites mentioned in the older inventories for the area of Yogyakarta-Klaten. Most of them are no more than piles of loose stones, but some are *in situ* structures that are still clearly visible. This is the case with Gampingan and Payak in the *kabupaten* of Bantul, Dengok and Plembutan in *kabupaten* Gunung Kidul, Kaliworo and Merak in *kabupaten* Klaten, Glagah and Sambiroto in *kabupaten* Kulon Progo, and finally, Dawangsari, Gebang, Kadisoka, Kedulan, Lengkong and Sambisari in the *kabupaten* of Sleman.⁸⁴

State of preservation	Total	Site names
Mound	5	Abang, Dengok, Plembutan, Sambiroto, Tinjon.
Foundation	1	Sumur Bandung.
Base only	10	Dawangsari, Gana, Glagah, Kadisoka, Kaliworo, Karangnongko, Klodangan, Miri, Ratu Boko, Watugudig.
Base and temple foot	4	Bubrah, Gampingan, Mantup, Risan.
Base and temple body	5	Kedulan, ^a Lumbung, Merak, Morangan, Sojiwan.
Up to superstructure	14	Banyunibo, Barong, Gebang, Ijo, Kalasan, Lengkong, ^b Loro Jonggrang, Payak, ^c Plaosan Kidul, ^d Plaosan Lor, Pringtali, ^e Sambisari, Sari, Sentono, ^f Sewu.

Table 3: State of preservation of *in situ* temple remains in southern Central Java (DIY and Klaten)

- a. This temple is currently under restoration and will probably be restored up to the level of the superstructure, judging by the number of stones preserved.
- b. *Stūpa*.
- c. Bathing place.
- d. Two secondary shrines were restored up to the superstructure, while the central structure has disappeared.
- e. Miniature temple.
- f. Cave.

83 In fact, loose stones from Candi Semarang, Sawo and Nogosari are still visible today, while some *in situ* remains of Candi Tinjon are still standing along the road leading from the plain of the Sorogeduk to Candi Ijo. The reason that Bosch thought that Tinjon had disappeared can be easily explained: the site is quite far from the *dusun* of Tinjon, and most inhabitants of Tinjon *desa* do not know of its existence. Moreover, the simple mound of earth and stone fragments are not very noticeable.

84 Dengok, Plembutan, Glagah, Sambiroto, Kaliworo, Gampingan, Payak, Kadisoka, Sambisari, Kedulan, Dawangsari and Lengkong have been discovered by the Indonesian archaeological services, while the other sites were excavated by Dutch archaeologists before World War II.

Magelang

In the district of Magelang, temples are generally not as well preserved as in southern Central Java (Table 4). During the last century, the number of visible remains has drastically decreased; so much so that, in the attached inventory, most of the sites are recorded on the basis of older information taken from Krom and Verbeek. In his inventory, Krom mentioned 45 sites showing *in situ* structures - today, only 13 structures are still to be seen. In 22 other cases, the number and variety of the scattered stones alone testify to the former presence of an ancient building.

State of preservation	Total	Site names
Foundation	1	Wurung.
Base only	4	Gunung Sari, Gunung Wukir, Retno, Samberan.
Base and foot	3	Asu, Lumbung, Pendem.
Base and temple body	1	Ngawen.
Up to the superstructure	4	Borobudur, Mendut, Pawon, Selogriyo.

Table 4: State of preservation of *in situ* temple remains in the district of Magelang

A couple of new sites, including Samberan, have been identified by Indonesian archaeologists. Furthermore, recent archaeological excavations have widened our knowledge of certain sites already known from the Dutch inventories. This is the case, among others, with Gunung Sari, where several buildings have been discovered; Wurung, where an octagonal brick foundation has been brought to light; and Retno, where the temple plan is now known (Figure 6).

One of the greatest losses for the region – and for Javanese archaeology as a whole - is certainly the disappearance of Candi Setan. Nothing is left of this temple today, although it was still partly standing in the early 20th century. The site, described by N.J. Krom, was composed of a single, elongated brick terrace, on which stood 7 temples arranged in a row. The central temple measured 4.85m in height and was flanked on either side by three smaller shrines (Krom 1923, I: 408; 1914a: 236; 1914b: 56; 1914c: 189). This spatial organization was, to my knowledge, unique in Central Java. Given that no less than fourteen sculptures of Ganeśa were found at the site, Krom believed that the temple had been dedicated to the elephant god; this also would be unique in Java (Krom 1923, I:408).

Kabupaten Boyolali

The region of Boyolali is not particularly rich in archaeological remains and, in terms of visible sites (Table 5), the situation is roughly the same as at the beginning of the last century. Intensive restoration programs have however transformed Lawang and Cabean Kunti, turning the former heaps of stone into standing buildings.

State of preservation	Total	Site names
Foundation	2	Sari, Sumur Songo.
Base and foot	1	Lawang.
Up to the superstructure	1	Cabean Kunti.

Table 5: State of preservation of *in situ* temple remains in the kabupaten of Boyolali

Kabupaten Semarang

In the *kabupaten* of Semarang, the *in situ* temple remains that were once visible at Butak Wetan, Ngentak, Renteng and Sidamukti have since disappeared. The latter site had already been destroyed in the early 20th century: its stones had been used by the *Topografische Dienst* for the construction of a topographical marker (Krom 1923, I: 222). On the other hand, two new sites, Ngampin (Dwiyanto, Nitihaminoto & Pinardi 1980-1981) and Ngempon (Soekmono 1951-1952:19), have been discovered and excavated by the archaeological service of Indonesia (Table 6).

State of preservation	Total	Site names
Base	2	Dukuh, Gedong Songo VII.
Base and foot	1	Gedong Songo V.
Base and temple body	1	Ngempon.
Up to the superstructure	5	Gedong Songo I, II, III, IV and VI.

Table 6: State of preservation of *in situ* temple remains in the *kabupaten* of Semarang

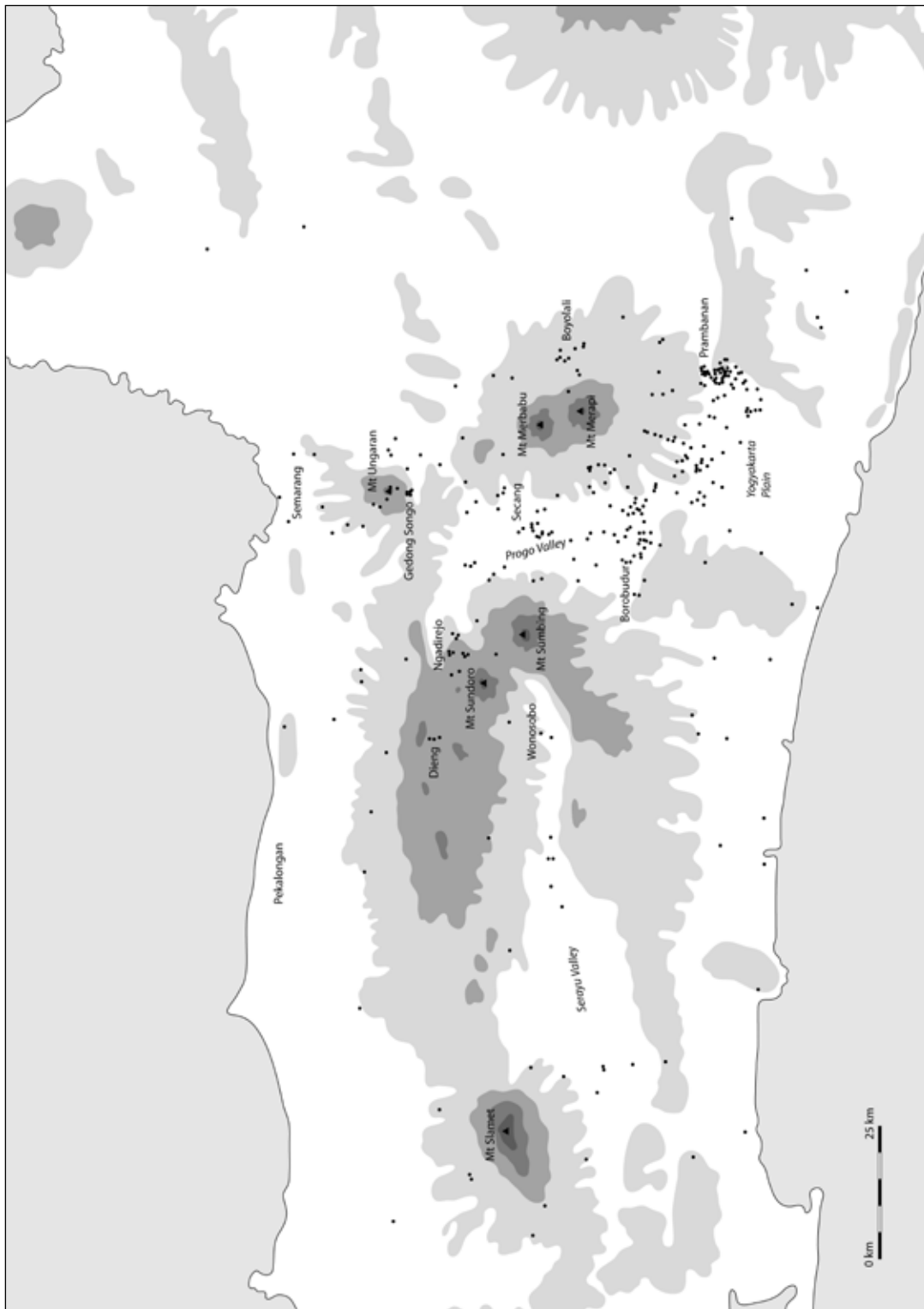


Figure 7: General distribution of Central Javanese temple remains

Chapter 4

DISTRIBUTION OF TEMPLE REMAINS: GENERAL TRENDS AND PATTERNS

In this chapter, I will describe the general distribution trends and patterns of Hindu-Buddhist temple remains, first at a regional level (Central Java), then at a sub-regional level (namely southern Central Java, the Progo valley and the area around Mount Ungaran). During the course of this discussion, I will describe in more detail the geography of the sub-regions and introduce a first series of hypotheses that might explain the distribution patterns observed. In the following chapter (chapter 5), I will try to correlate the distribution patterns with specific natural features and show how this interdependence helps us to understand the religious landscape of Central Java.

Regional distribution trends: extent of the Hindu-Buddhist sphere of influence

Temple remains of the Central Javanese period are found in most of the districts (*kabupaten*) of the provinces of Jawa Tengah and DIY, with the exception of the easternmost areas.⁸⁵ The density of remains, however, varies considerably. In general, Hindu-Buddhist shrines are clearly clustered in the Yogyakarta plain, the Progo valley and on the surrounding volcanic slopes – the region which forms the focus of the present book. To the east of this zone, there are almost no remains. As for the western part of the province of Central Java, it is scattered with Hindu-Buddhist remains, although the density is considerably lower than in the core region.⁸⁶ In western Central Java, the remains are mainly dispersed along the southern coastal plain, the Serayu valley and on the lower slopes of Mounts Sumbing and Slamet.⁸⁷

In the core region itself, site density is not homogeneous (Figures 7 and 8). The zones with the highest density of temple remains occur around the two largest known sanctuaries of Central Java: Prambanan (*kabupaten* of Sleman) on the one hand, and Borobudur (*kabupaten* of Magelang) on the other. A medium-density corridor stretches between these two centres and extends north-

85 No temple remains from the Central Javanese period have been recorded in *kabupaten* Blora, Demak, Jepara, Karanganyar, Pati, Rembang, Sragen, Sukoharjo and Wonogiri: See above, p.34.

86 There are 0.1055 sites per 25km² in the districts west of the Sundoro-Sumbing massif, whereas the mean density is 1.7266 sites per 25km² in the Progo valley-Yogyakarta area.

87 A nearest neighbour analysis of this area comes up with a nearest neighbour value of 0.8874, i.e. a tendency towards randomness. See Hodder & Orton 1976: 38-40; Wheatley & Gillings 2002: 129-130.

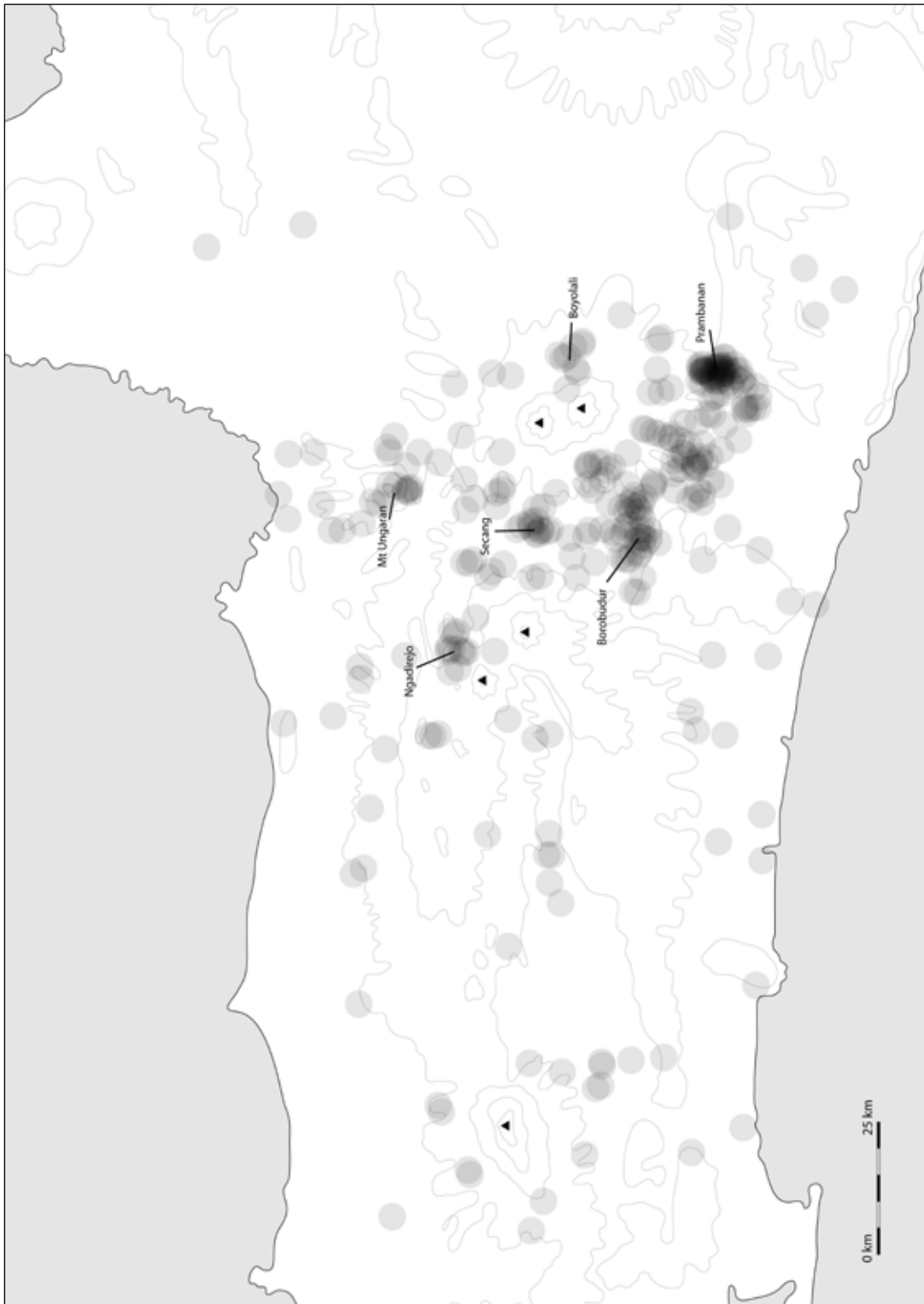


Figure 8: Density of temple remains

wards, following the course of the Progo River, up to the area of Secang (northern Magelang district). Three other areas of medium temple density can be seen on the map, respectively around Ngadirejo (to the northwest), Mount Ungaran (to the north) and Boyolali (to the east).

The differences between the core region (the Progo valley – Yogyakarta) and its periphery are not limited to site density (high *versus* low) or distribution pattern (clustered *versus* dispersed): the size and the character of the remains are also at variance. With the exception of Dieng, Gedong Songo⁸⁸ and – perhaps – Candi Bogang (in Wonosobo), none of the temple remains in the peripheral regions can match in size the temples of Magelang or Yogyakarta. In many cases, the only significant remnant is a *yoni* accompanied by a few cut stones. It is possible that we are not always dealing here with the standard type of brick or stone temple, but perhaps with more rudimentary structures, such as terraces or light wooden shelters for a *lingga* and *yoni*.

The layout of the site of Seplawan would support this idea: It consists of two small, simple platforms, one supporting a *yoni* (Soekatno 1982:223). A similar, open-air place of worship has been discovered in the village of Tumbuk (Batang). Here, four rectangular inscribed pillars were found surrounding a bull (Oemar 1981). Although the text engraved on the pillars is illegible, palaeographic analysis has ascribed the script to the late 9th or early 10th century (Wissemann Christie 2002-2004, n° 174).⁸⁹

The scarcity and simplicity of the known remains in the districts surrounding the Progo valley suggest that these regions were already on the fringes of the Central Javanese kingdoms.⁹⁰ The kings who built Borobudur and Loro Jonggrang seem to have ruled directly over the Yogyakarta-Prambanan plain, the Progo Valley and, at some point, the northern coast, but were perhaps not directly involved in the administration of the western regions.

In some areas, and particularly in the district of Pekalongan, megalithic traditions seem to have played an important role. A couple of sites even suggest that there was some connection between the megalithic and the Hindu-Buddhist traditions, since Hindu-Buddhist sculptures are sometimes found in

88 Dieng and Gedong Songo are very large complexes, but they are made up of small-sized structures, in contrast to the most important sanctuaries of Kedu and Prambanan, which are articulated around one or several large shrines.

89 In the absence of a clear archaeological context (these two sites are at ground level and have never been excavated) it is not certain that the structures are in their original state. The different elements - the platforms and *yoni* in the case of Seplawan, the pillars and the bull for Tumbuk - might have been combined after the classical period to build a *punden*, a place of worship for villagers from the surrounding areas. Artefacts from the Hindu-Buddhist period are indeed quite frequent at such sites: See, for example, the Jurang terracottas (Sujatmi Satari 1981: 1-2). My own field experience, however, suggests that in many cases there might also be continuity in the use of sacred locations. Some modern *punden* or meditation places are clearly *in situ* archaeological remains (such as Candi Dukuh in Semarang, Candi Dengok in Gunung Kidul or Unur Lempeng at Batujaya, West Java).

90 I mean here the *kabupaten* of Banjarnegara, Banyumas, Batang, Brebes, Cilacap, Demak, Jepara, Kebumen, Kendal, Kudus, Pekalongan, Pemalang, Purbalingga, Purworejo and Tegal.

places of worship belonging otherwise to the megalithic tradition. The site of Baron Sekeber (Gunung Garamanik) is a well-known example of this relationship. The five terraces shaped from the Gunung Garamanik hill have indeed yielded artefacts from both traditions: half a dozen menhirs and several *batu lumpang*⁹¹ together with two *dwārapāla* and one (small) *yonī* (Krom 1914a: 132; Tjahjono 2000: 41). Dating the megalithic sites, however, is problematic: megalithic cultures were still active in some parts of Indonesia until the last century and it should not be taken for granted that menhir and other similar remains necessarily date very far back in time. Without any specific archaeological evidence, it is possible that part or all of the megalithic sites of Central Java may be contemporaneous with – or even more recent than – the Hindu-Buddhist remains (Bellwood 1997: 287-293; Heine-Geldern 1945; Suleiman 1976: 8).

Megaliths have also been found in the heartland of Central Java. A two metre long stone phallus, for example, is now stored in the archaeological depot of Candi Sambisari. It was apparently brought there from the nearby village. This type of artefact recalls the art of the quite late Candi Sukuh (in the *kabupaten* of Karanganyar, east of Solo) or the numerous wooden drums still in use in the Yogyakarta area. A thorough study of the megalithic traditions of Java would be needed to assess the age and extent of these cultures – and to determine whether the Progo valley and the Prambanan area shared a megalithic tradition with the surrounding regions before the development of the Hindu-Buddhist polities.⁹²

Distribution patterns in southern Central Java

The geography of DIY and Klaten

The geography of southern Central Java is quite complex and requires a closer look if one wants to understand the pattern of temple distribution (Figure 9). From a topographical point of view, the area is characterised by the presence of the two rich agricultural plains of Yogyakarta and Solo, bordered by high hills (the Menoreh hills and the Gunung Kidul) and dominated by Mount Merapi.

The plain of Yogyakarta is bordered to the northwest and to the west by the Menoreh hills, a chain of steep hills that reach a height of 1,022m. To the southeast, the ring of the Gunung Kidul marks the frontier between the plain of Yogyakarta and the Wonosari depression, while to the northeast the impressive Mount Merapi guards the access to the Solo and Kedu plains.

91 A circular stone with a small cavity in the centre: See on next page, footnote 8.

92 Apart from megaliths proper, there are also, in Central Java, quite a number of mortar stones. Some are small and round; others large and rectangular. Their area of distribution extends at least from Brebes to Magelang. Some of them are associated with temple remains. This is the case at Bumiayu (in Brebes; Tjahjono 2000:48), Gunung Wukir (Magelang), Kalimalang (Magelang) and Ngrajek (Magelang). Several rectangular mortar stones have been found in the village of Payak (DIY) where an ancient bathing place has also been unearthed. However, this list is certainly not exhaustive.

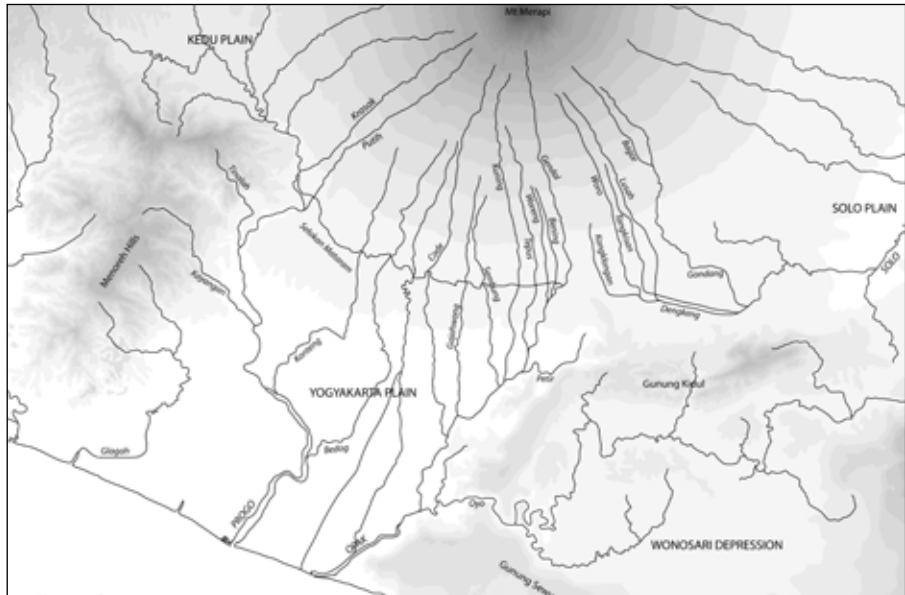


Figure 9: Southern Central Java, topography and main rivers

Located in the southeastern part of the DIY, the depression of Wonosari is a dry area surrounded on all sides by a chain of high hills commonly known as the Gunung Kidul.⁹³ Its highest summit within the DIY culminates at 785m above sea level.

The other major plain in this area, the plain of Solo, geographically belongs to East Java. Mount Merapi and the northern branch of the Gunung Kidul separate the Solo plain from the Progo valley and the plain of Yogyakarta.

The most impressive landscape marker of the DIY is undoubtedly Mount Merapi. It is actually the southernmost summit of a volcanic chain extending northwards to Mount Ungaran and including Mounts Merbabu, Telomoyo and Soropati. Mount Merapi is a stratovolcano of which the present summit, Mount Anyar (2,947m), is located to the southwest of the older Batulawang volcano (Neumann van Padang 1951:24).⁹⁴ On the southern slope of Mount

93 The southern ridge of the Gunung Kidul, parallel to the coast, is named Gunung Sewu.

94 The estimated height of the original Batulawang volcano is 3,300m (Neumann van Padang 1951:25). Its summit collapsed to the south-southwest following an eruption. R.W. van Bemmelen and M. Neumann van Padang were of the opinion that this event occurred in 1006 A.D. (Bemmelen 1949:560; Neumann van Padang 1951:25). However, more recent studies prove that the collapse – together with the formation of the Gendol hills – did not take place in historic times, but rather during the late Quaternary (Bahar, quoted in Voûte 1999:9). It appears that, during the Central Javanese period, Mount Merapi did not show any increase in volcanic activity. An eruption has been dated by radiocarbon analysis to around 870 A.D. (± 100 years) and another to 940 A.D. (± 100 years), but they were by no means as dramatic as the collapse of the Batulawang (Smithsonian Institution, access date: 26/04/2008).

Merapi, close to the summit, are located the sulfatara fields of Kawah Gendol and Kawah Woro.

Mount Merapi is also one of the most active volcanoes of Indonesia. Its activity is characterised by the growth and collapse of a lava-dome summit, accompanied by lava flows, *lahar*,⁹⁵ ash falls and pyroclastic flows.⁹⁶ While lava flows are generally limited to areas close to the summit, pyroclastic flows, ash falls and *lahar* may have more dramatic consequences.⁹⁷

Although the plain of Solo and the depression of Wonosari are fenced off from the ocean, the plain of Yogyakarta slopes gently down to the sea (Figure 10). This access to the southern ocean is of limited economic interest: the area is classified as a high wave-energy coast and offers no shelter from the wind, oceanic streams or waves (Swan 1979:10, fig.1.7). In other words, it is not suitable for navigation. As far as we know, trade ships have always preferred the northern coast, which is a low wave-energy area and offers numerous places for safe anchorage.

The region possesses four important rivers, namely the Progo, Opak, Oyo and Dengkeng. The source of the Progo River is located high on Mount Sundoro, in northern Central Java (Figure 2). In the DIY (Figure 9), it follows the foothills of the Menoreh before heading into the plain and flowing down to the ocean. Along its course, the Progo River receives many tributaries, originating from both the Menoreh hills and Mount Merapi.

The Opak River flows southwards from the upper slopes of Mount Merapi until it reaches the northern tip of the Gunung Kidul. Then it bends to the south-southwest. In its lower course, it receives the waters of the Oyo River. With the exception of the Oyo, all the tributaries of the Opak originate from Mount Merapi.

The third important river of the area is the Oyo itself. Unlike the others, its source lies in the depression of the Wonosari, draining water from the surrounding Gunung Kidul hills. It flows westwards until it reaches the neighbourhood of Imogiri, where it joins the Opak River.

The last main watercourse is the Dengkeng River (Figure 8). The Dengkeng belongs to a completely different water basin. While the Progo, Opak and Oyo rivers are part of the Progo valley zone and flow to the Indian Ocean, the Dengkeng flows down Mount Merapi before bending east and meeting the

95 A *lahar* is a mixture of rock debris and water that originates on the slopes of a volcano. The speed of a *lahar* may vary from a few meters per second to tens of meters per second.

96 A pyroclastic flow is a ground-hugging avalanche of hot ash, rock fragments and volcanic gas. Its temperature may be greater than 500° C and its speed is typically more than 80km per hour (Smithsonian Institution, access date: 02/01/ 2004).

97 In 1984, ash falls from Merapi were reported as far as Weleri, Kendal and Semarang. In 1872, pyroclastic flows rushed down the Apu, Tlising and Senowo rivers, destroying all the villages above 1,000m (Pusat vulcanologi dan mitigasi bencana geologi, access date: 26/04/2008). In 1975, a *lahar* in the Krasak river crushed the bridge linking the provinces of DIY and Jawa Tengah, on the Yogya-Semarang highway, about 25km southwest from the summit (Institut de physique du globe de Paris, access date: 26/04/2008).

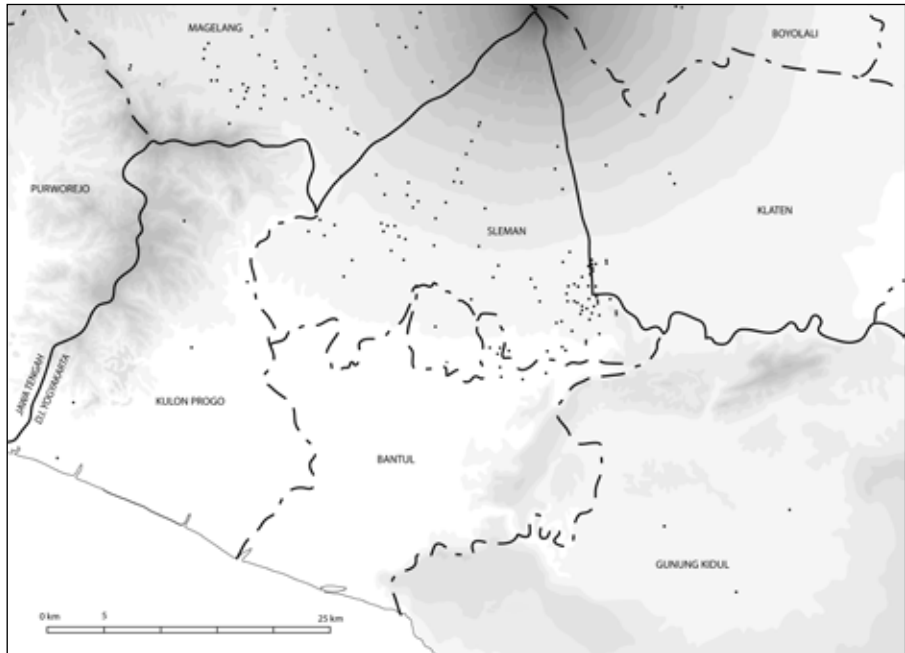


Figure 10: Temple remains in south Central Java, distribution map

Bengawan Solo, the longest river of Java. The Solo River (Bengawan Solo) flows through the plain of Surakarta, and then crosses the whole of eastern Java before reaching the Java Sea slightly to the north of Gresik, near Surabaya (Figure 2).

Most of the rivers flowing down the southern side of Merapi are natural pathways for pyroclastic flows, avalanche debris and *lahar* heading down the volcano. This is especially true for the Krasak, Boyong, Gondang, Kuning, Gendol and Woro rivers.

Although the general characteristics of the natural landscape are dictated by long-existing physiographic features (namely Mount Merapi and the Gunung Kidul) and have therefore remained similar since the Hindu-Buddhist period, local modifications have inevitably occurred and are difficult to evaluate properly.

Firstly, the full impact of the activity of Mount Merapi on early historic times is hard to determine. Although it was no more active then than it is today, the exact shape of its former summit remains unknown, as do the most frequent channels for pyroclastic flows and *lahar* from that period. Generally speaking, however, all the areas above 1,000m and/or around main river beds should be considered dangerous, especially on the southern and western slopes of the volcano.⁹⁸ *Lahar* may also have altered river courses, as the debris they

98 The eastern slope is partially protected by the remains of the Batulawang volcano.

carry can block former tributaries, thereby changing river flows along their upper reaches.

Secondly, the possible impact of human activity is also difficult to estimate. In most of the upper Yogyakarta plain, changes in the river courses due to man seem limited, as the rivers are generally not canalised. The main artificial waterworks belong to the Selokan Mataram, a canal built during the Japanese occupation. It collects water from the Progo River and runs eastwards, crossing riverbeds with the help of bridges and redistributing water along its path. However, the upper courses of certain rivers, well known for being channels for *lahar*, have been fortified by dykes. This is the case for the Krasak, Gendol and Woro rivers.

In the plain of Yogyakarta and Bantul, only two important watercourses have been canalised (namely the Winongo and the Winongo Kecil). The picture is quite different however in the *kabupaten* of Klaten. In this zone, the lower beds of numerous rivers have been canalised, many during the Dutch colonial period, in order to satisfy the demands for water of sugarcane fields and sugar factories. The courses of the following rivers have been straightened: Kongklangan, Woro, Tangkisan, Lusah, Dengkeng and Ujung.

Furthermore, everywhere on over-populated Java, water is diverted from natural rivers into small channels that carry it to the rice fields. The extension and intensification of agriculture was carefully planned to respond to the growing needs of a population that increased significantly from the 19th century onwards (Owen 1987). Before this period, when population pressure was not so strongly felt, it is therefore probable that less land was cultivated and irrigated. As a result, during the Hindu-Buddhist period, less water would have been diverted from the rivers and watercourses would have had a stronger water flow than today.⁹⁹

Temple distribution: general distribution trends

In southern Central Java, the *kabupaten* correspond roughly to the geographical divisions of the area: the *kabupaten* of Kulon Progo encompasses the dry Menoreh Hills, Gunung Kidul the southern mountains and the depression of Wonosari, Bantul the lower plain, and Sleman the middle plain on the southern slope of Mount Merapi.

Temples are most numerous in Kabupaten Sleman (more than 70%) and in Klaten (12.7%), but are quite scarce in other districts (Table 7).

⁹⁹ During the 18th century, ships could navigate along some of the rivers in the Prambanan area, as testified by Sterrenberg (quoted in Jonge 1878, X: 45).

Kabupaten	Sites	%
Gunung Kidul	4	3.6
Kulon Progo	5	4.6
Bantul	7	6.4
Klaten	14	12.7
Sleman	80	72.7

Table 7: Distribution of temple remains per district in southern Central Java

It can be observed that the area of DIY and the *kabupaten* of Klaten is widely scattered with temple remains, with the exception of the central south (Bantul) and extreme east (eastern Klaten). However, the ruins are unequally distributed. They are far more numerous within Kabupaten Sleman and its immediate surroundings (north Bantul and west Klaten): 101 temple sites, i.e. 91.8% of the total number of remains, are situated here. Furthermore, none of the sites located outside this area can match the size of the remains of the Prambanan plain, except Candi Risan (*kabupaten* of Gunung Kidul).¹⁰⁰

It is clear that - by the end of the Central Javanese period at least - this whole area was within the sphere of influence of the Hindu-Buddhist culture. However, this common Hindu-Buddhist presence did not translate into an equal density of sanctuaries. The highest density of temples remains is to be found to the north (east), i.e. on the southern slope of Mount Merapi, and especially around the modern town of Prambanan (Figure 10). The heterogeneity of the distribution pattern may express a difference either in population density and/or the degree of penetration of Hindu-Buddhist ideas and cultural practices.

Within Kabupaten Sleman and its direct environs, we can discern three distinct spatial patterns: to the east (Prambanan area), the sites are densely clustered; to the west, sites are more dispersed, with a tendency towards regular distribution;¹⁰¹ while higher on the slopes of Merapi, we can see a series of sites in a line (Figure 10).

Site clustering around Prambanan: central place or religious centre?

An intriguing feature of the distribution of Hindu-Buddhist temple remains in Central Java is the location of the highest density zone in the Prambanan area. I would like to demonstrate here that this feature is best explained if we consider Prambanan not as a population centre, but rather as an essentially religious area; initially founded at the easternmost limit of the Hindu-Buddhist

¹⁰⁰ Candi Risan is sadly in a poor state of preservation. Its dimensions however are still impressive. It is composed of two buildings on the upper slope of a high hill. Both constructions are 12-13m square.

¹⁰¹ The nearest neighbour formula produces a value of 1.1265 for that area (on the map, within the rectangle).

polity of Central Java. To do so, I will first propose an alternative view, *i.e.* that Prambanan was a population centre, and show how this fails to explain satisfactorily the temple distribution in the area.

If temples were necessarily linked to settlements – or at least those temples located in fertile areas, as suggested by Mundarjito (2002: 375) – temple density would be proportional to population density. Prambanan would then have been the largest settlement of Central Java. According to the usual understanding of central place theory, providing that the environment is uniform, the existence of a large – and thus high order – settlement (providing high order services, such as well-furnished markets, learning centres etc.) implies that there are low order service centres around it (Christaller 1933; Hodder & Orton 1976: 60). However, in the case of Prambanan, the smaller shrines that would testify to the existence of such lower order settlements are only found to the west. Site density is indeed quite high west of Prambanan, where sites are scattered across the landscape up to Borobudur, while, to the east, the density drops sharply and temple remains are almost non-existent. In other words, there are no traces of smaller centres east of Prambanan.

This singularity could have three main origins: 1) the central place theory as such is not applicable to Central Java; 2) the model is generally applicable to Central Java, but is disturbed by factors unique to the Prambanan area; 3) Prambanan was not a population centre.

The central place theory is a geographical model that seeks to explain the size and distribution of towns and villages. In Central Java, however, the very existence of towns has received strong criticism by J. Wisseman Christie (1991). She has argued that, since none of the inscriptions refer to towns, the economic landscape of Central Java should be perceived as a network of markets serving neighbouring villages, with no tendency towards urbanization. Is the central place theory therefore applicable to a culture without cities? The idea behind the central place model is that small settlements do not provide sufficient demand to support certain large-scale activities or services. These services can only be supplied by larger centres – that are normally located close to smaller settlements but far away from other main centres. The emphasis is thus less on urbanization (the abandonment of agriculture and a concentration of population in a single place) than on the function of towns as market places and the existence of a sufficient demand for high-ranking goods and services. Now, a densely populated area where villages adjoin one another in an uninterrupted sequence may have a demand sufficient enough to sustain a high-order market – even if a great part of its activity is agricultural. Such markets could then be considered as central places. As we see, there is thus no *a priori* reason to think that the model could not be applied to Central Java, all the more because it has already been stressed that markets functioned in hierarchical networks, with high-order markets catering for more specific goods.

If the model applies generally to Central Java but does not fit in the case of Prambanan, then it could be that local factors have disturbed expected settlement patterns. Such disturbances are well known, since the central place model only works perfectly in the case of a uniform landscape; any change in the natural environment can indeed lead to a modification of the pattern. However, there is, to my knowledge, no significant difference in resource availability between the areas east and west of Prambanan. Neither is there any change in climate or topography. Rivers large enough to restrict land passage but too shallow to allow river transportation exist in the west as well as in the east.¹⁰² The natural environment is actually quite uniform and fails to explain the sharp drop in temple remains. Nevertheless, we have to take into consideration the possibility that the disturbance is of another nature - not geographical, but political: the Prambanan area could have constituted the easternmost limit of the Central Javanese polity.

This last hypothesis deserves attention, since not only temple remains, but also inscriptions suggest that this was indeed the case. Although it must be treated with caution, as inscriptions are usually easily movable artefacts, the epigraphic data apparently shows distribution patterns similar to those already noted for temple remains. Kalasan, Ratu Boko, Sari and Sewu, the most ancient remains of the Prambanan plain,¹⁰³ are all clustered in a small area. Towards the east, building activity seems to have been at first limited to Candi Merak.¹⁰⁴ After c.830 A.D., another, later phase of building activity began in and around Prambanan. During this phase, a temple was built well to the east of the Konklongan River: Candi Morangan.

The distribution of inscription find spots presents a comparable situation. For the period from 732 A.D. to 855 A.D., 40 inscriptions have been found in Central Java¹⁰⁵ (Figure 11), but only three of these were found to the east of Prambanan: the inscriptions of Garung (819 A.D., found near Boyolali), Abhayānanda (early to mid 9th c., found near Klaten) and Sragen (of similar date, found to the northeast of Solo; for references to all of the above see Soekarto 1969:18-21; Sarkar 1971-1972: n° 8; Jordaan 1999: 34, 85 n.39; Wisseman Christie 2002-2004: n°32, 37, 47). For the period from 855 A.D. to 898 A.D (Figure 12), the discovery of six inscriptions¹⁰⁶ around the modern town of Klaten suggests that the influence of the Central Javanese polity had

102 See for example the Opak River.

103 See p.15 for the comparative dating of these temples.

104 Remains of what was probably another temple have also been found at Candirejo, near Tulung, in the district of Boyolali.

105 These are inscriptions for which the original find spot is known. Seven other inscriptions, most probably from Central Java, are of "unknown origin" and cannot therefore be used on a distribution map.

106 Namely the inscriptions of Upit (866 A.D.), Anggèhan (875A.D.), Pastika (881 A.D.), Ngruweng (882 A.D.), Kuringan (885 A.D.) and Kaduluran (885 A.D.). See Stutterheim 1940b: 29-32; Soekarto 1969: 6-7, 22-24; Sarkar 1971-1972: n°33, 60; Soekarto 1975: 247-253; Wisseman Christie 2002-2004: n° 75, 87, 113, 116, 122, 123.

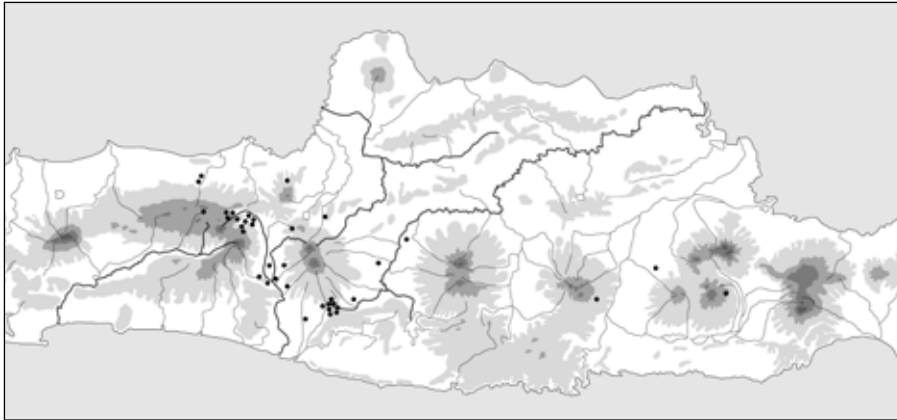


Figure 11: *Inscriptions of Java (732-855 A.D.), distribution map (adapted from Wisseman Christie 2002-2004)*

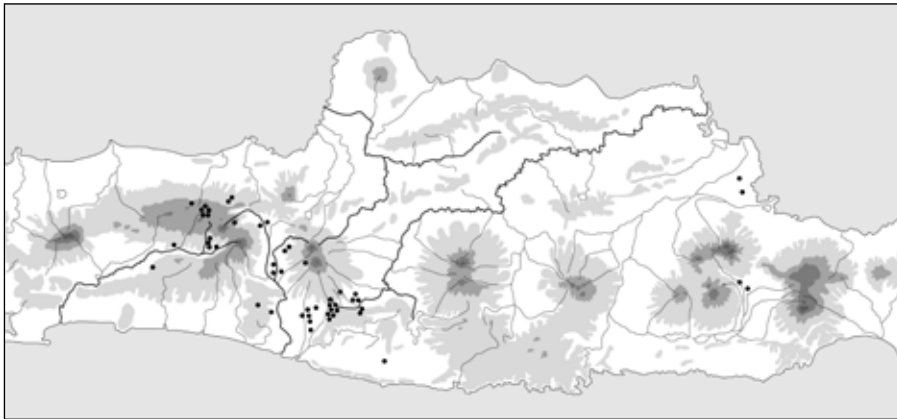


Figure 12: *Inscriptions of Java (855-898 A.D.), distribution map (adapted from Wisseman Christie 2002-2004)*

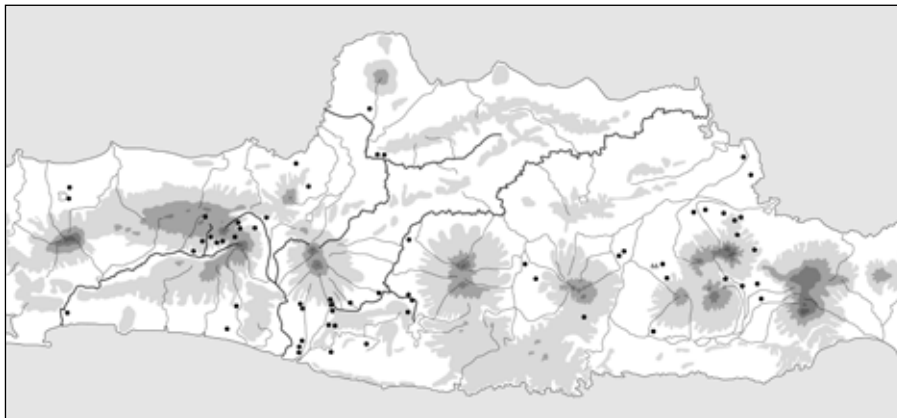


Figure 13: *Inscriptions of Java (898-928 A.D.), distribution map (adapted from Wisseman Christie 2002-2004)*

then extended a little more to the east. From 898 A.D. to 928 A.D., inscriptions of Central Javanese kings are found from Wonosobo in western Central Java, to Mojokerto and Malang in East Java (Figure 13).

The distribution of both inscriptions and temple remains seems to indicate that, at least prior to 855 A.D., the Central Javanese polity extended little beyond Prambanan. It further suggests that the area with the highest density of temple remains in the whole of Central Java was not at the heart of the polity, but at its periphery. This observation could well explain the lack of low order settlements further to the east: the proximity of the border would have impeded the development of these settlements, since much of the land to the east of Prambanan may have belonged to a separate polity.

It is possible to imagine that the political border between the Hindu-Buddhist polity of Central Java and the adjacent territories was so sealed as to prevent the natural development of lower order settlements – or at least settlements belonging to the same culture. This hypothesis, however, runs counter to most models of state organization proposed for Central Java.¹⁰⁷ There seems indeed to be a consensus among historians that the boundaries of Javanese states were not fixed, but rather fluid. With fluctuating borders, the presence of a (very) large settlement on the eastern fringe of the kingdom would certainly, as a consequence, have forced adjacent territories to fall under the sphere of influence of this settlement, thus pushing the boundary further east. However, this did not happen in the Prambanan area. We are thus left with two possibilities: either we reject the idea of fluctuating boundaries, or we face the conclusion that Prambanan did not develop to the east because it was actually not a settlement – or at least not a large one.

As the other possibilities have already been discarded (changes in natural setting or an hermitically closed border), the absence of temples to the east of Prambanan would therefore suggest that temples in this area were not actually linked to a major settlement centre; and that, in this case at least, temple density is slightly misleading as an indication of population density, since this area was perhaps no more densely populated than the rest of Kabupaten Sleman. Indeed, it cannot be assumed that one temple stands for one village, although there is a general relationship between village and temple: no temple can survive without income from at least one village community and all Hindu-Buddhist settlements must have had access to a place of worship – the stone or brick temple being the most appealing. In the case of Prambanan, the distribution pattern should probably be interpreted as a sign that the temples built there were only loosely related to villages, and that their function was not to serve a large community. The numerous land gifts and place names enumerated in the *sīma* charters found in the area suggest that, during the 2nd half of the 9th century when most of the temples were already in use, the plain of Prambanan

107 See above, p.13.

was covered in a network of villages and rice fields, and that forests were limited to the peripheral areas to the north and south of Prambanan.¹⁰⁸ However, the same picture can be drawn for many places in Central Java. Prambanan would not have been a particularly important centre of population, nor a main trading centre – such a central place could have been located anywhere to the west of Prambanan, perhaps between Prambanan and Borobudur, in order to serve as many villages as possible within the polity.

How can we then explain the concentration of temple remains and the distribution patterns? Why are there so many temples in a single place, all the more so if it was a peripheral settlement far away from the heart of the realm and probably not even a main market centre? My hypothesis is that the importance of a location cannot be judged solely on the basis of population and trade. It is obvious that Prambanan – and the Ratu Boko hill – had been centres of religious importance since the very beginning of the Hindu-Buddhist period. The remains of the original Candi Kalasan are among the most ancient vestiges of Central Java and references to Sinhalese monks and Indian religious teachers are found in inscriptions from this area.¹⁰⁹ My own explanation to the singular distribution pattern of temple remains around Prambanan is that Prambanan was not a population or trading centre – at least not at first – but was above all a religious centre on the fringes of the kingdom. The existence of important religious foundations far away from the centre of political power is a phenomenon that has already been observed for later periods. The religious practices of the 14th century Majapahit kingdom, for example, included a “Royal Progress” during which the king visited various ritual sites dispersed around his kingdom, sometimes at a considerable distance from the *kraton* (Hall 1996).

The *Nāgarakērtāgama*, an East Javanese text of the 14th century commissioned by King Hayam Wuruk, gives a fairly detailed description of the Royal Progress of 1359. During this progress, the king worshipped at the temples of his ancestors and of previous rulers, as well as at the shrines of mountain deities. The places he visited included Candi Jawi, Bureng and Panataran, situated several days’ journey away from the royal capital of Majapahit (*Nāgarakērtāgama* 57.5; 17; 38; Pigeaud 1962, 4: 236). In addition, the king undertook an annual pilgrimage to Panataran, after which he proceeded to Lodaya and Sumping, located further south (Hall 1996: 113). Hall’s interpretation is that, through his

108 The inscription of Panggumulan I (902 A.D., found north of Yogyakarta) mentions the existence of a forest-visitation levy, while the Rumwiga I inscription (904 A.D., discovered at Payak, southwest of Prambanan) lists a hunting official among the members of the Rumwiga community. Both indices suggest the presence of forests in the area – but they were perhaps already under pressure, since officials were required to manage their resources. Forest officials are listed in the inscriptions of Tunahan (873 A.D.), Humanding (875 A.D.), Jurungan (876 A.D.) and Haliwangbang (877 A.D.), all found near Polengan, south of the Ratu Boko hill. To my knowledge, no mention of forests is found in inscriptions coming directly from Prambanan, whereas references to wet-rice cultivation are overwhelming. For translations of these inscriptions, see Sarkar 1971-1972: n° 64; Christie 1996: 275-278; Wissemann Christie 2002-2004: n° 82, 88, 90 and 144.

109 See Abhayagiriwihāra and Kēlurak inscriptions (Sarkar 1971-1972: n° 6 and 6a).

progress to distant ritual sites, the king of Majapahit acknowledged local practices and incorporated the worship of indigenous spiritual forces into the official religion (Hall 1996: 116-117). The royal patronage of local places of worship was therefore of the utmost importance for the cohesion of the kingdom. My hypothesis is that Prambanan acquired its importance due to its religious significance, rather than to any central, political position, and that it played in the southern part of the kingdom the same role probably played by Dieng and Gedong Songo in the north.¹¹⁰

Nevertheless, we should not consider religious, population and political centres as static classifications. What was initially a place of religious importance may, over the years, have evolved into a major population/political centre. I have mentioned earlier that from around 820 A.D. (the inscription of Sragen), and even more after 855 A.D., temple remains and inscriptions start to appear east of Prambanan, suggesting an eastward extension of the Hindu-Buddhist sphere of influence and perhaps a modification of the status of Prambanan. It is possible that by this point, the demographic and/or political importance of Prambanan had grown. New, major temples – namely Plaosan Lor and Loro Jonggrang – were built in Prambanan at this time. Moreover, the Śiwagrha inscription, issued in 856 A.D. and most probably referring to the building of Candi Loro Jonggrang (Casparis 1956: 303), mentions that the king established his (new) palace at Medang in Mamrati. It is possible that the text refers to a transfer of the capital from the Muntilan area to the Prambanan area. This would explain why Prambanan only began to develop its sphere of influence in all four directions after 855 A.D., while, before that date, it seems to have constituted some kind of eastern border settlement. The development of Prambanan from 855 A.D. can further be seen as the first step in the extension of the Central Javanese polity to East Java.

From 898 A.D. to 928 A.D., inscriptions of Central Javanese kings are found in East Java as well (Figure 12). Within the context of a kingdom including both Central and East Java, Prambanan now appears to be a logical location for the capital. It is still close to the cradle of the realm, but it is closer to its new geographical centre than Muntilan and, in particular, it is located at the starting point of the road linking the Progo valley to the Brantas plain.¹¹¹ Inscriptions

110 As will be shown later, both sites are located on grounds unsuitable for rice cultivation and are unlikely to have been associated with large settlements. Nevertheless, both count an extensive number of buildings and were occupied during a very long period. All factors make them likely to have been ritually significant places rather than large population centres.

111 See below, p.102-111.

spread across the southern part of Java, from Prambanan to Malang, testify to the presence of such an axis in early times.¹¹²

The final stage of the eastwards extension of the kingdom is well known: it was the transfer of the capital from Central to East Java, most probably under the authority of Siṅḍok, around 928 A.D. From this time onwards, most inscriptions and monuments are found in East Java.

This is not the place to enter into a discussion about the reasons for the shift to East Java. However, I agree with Barrett Jones that this event is not the consequence of a dramatic eruption or earthquake, but rather a gradual process beginning around 855 A.D., under the influence of the growing commercial power of the eastern part of the island (Barrett Jones 1984: 6, 23-45). On the one hand, the evidence for a natural cataclysm is missing,¹¹³ while on the other, temple distribution and the provenance of inscriptions demonstrate that the shift from west to east was already underway well before 928 A.D.

Remains in the Progo Valley

If we leave the region of Yogyakarta and head north, we reach the Progo valley. This area was the cradle of Javanese civilization. It is here, on the slopes of Mount Merbabu, that the inscription of Tuk Mas – probably the earliest epigraphic record of Central Java – was discovered. It is also on a hill overlooking the Progo River that the first inscription to mention a Javanese ruler, the *narapati* Sañjaya, was erected.¹¹⁴

Geography of the Progo Valley

The landscape of the area is quite different from that of the Prambanan plain. The view is not open; the line of sight is continually obstructed by a barrier of high peaks and steep hills (Figure 14). The Progo valley is edged to the north by the North Serayu Ridge and Mount Ungaran (2,050m). To the west rise the twin peaks of Mounts Sundoro and Sumbing, while to the east the valley is separated from East Java by the mountain massif formed by Mounts Merapi, Merbabu, Andong and Telomoyo. To the south, the valley is almost closed by the steep and dry Menoreh Hills.

112 A number of inscriptions, mostly relating to king Balitung, have been discovered in the plains of Wonogiri, Madiun, Blitar, Malang and Mojokerto: the inscriptions of Tēlang (904 A.D.), along the Bengawan Solo near Wonogiri; of Taji (901 A.D.) near Ponorogo; of Kinēwu (907 A.D.) near Blitar; of Sugih Manek (915 A.D.) near Singosari; and finally the inscriptions of Kētanen I (904-905 A.D.) and Kaladi (909 A.D.) in the neighbourhood of Mojokerto. For these inscriptions, see respectively Sarkar 1971-1972: n° 65, 61, 75, 84; Wisseman Christie 2002-2004: n° 143; Barrett Jones 1984: 178-194.

113 My own observations of the stratigraphic history of Candi Kedulan show that the temple was covered several times by mudflows, none of which seem to have been particularly important. Given that Kedulan is located near a river – and therefore near a potential *lahar* channel – it is to be expected that areas located further away from the river beds were less damaged, if at all.

114 The inscription of Canggal, on the Gunung Wukir (Sarkar, 1971-1972: n° 3).

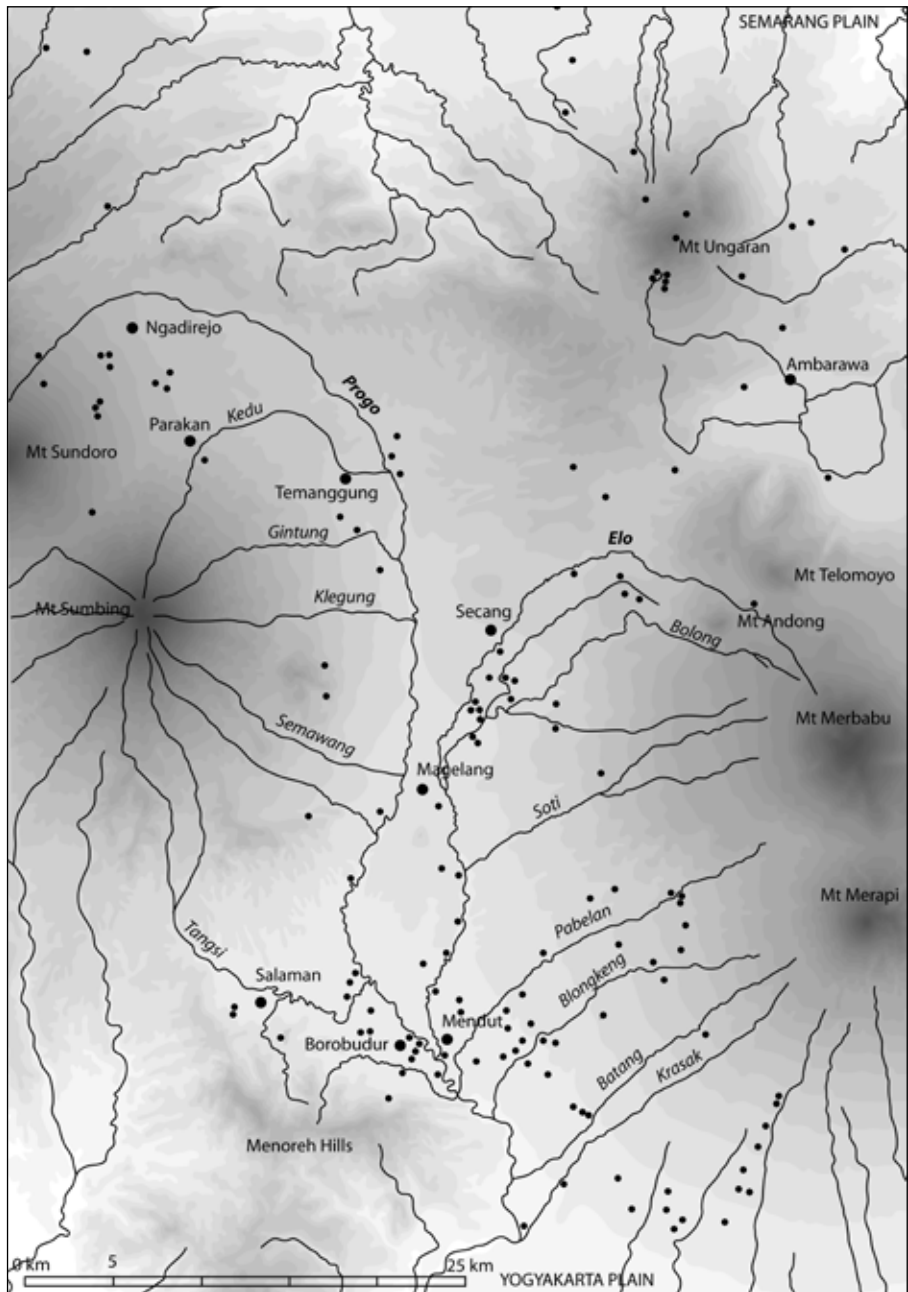


Figure 14: The Progo Valley, topography and rivers

The only easy access into the Progo valley is from the south-southeast, between the Menoreh hills and Mount Merapi. Other, more difficult, passages exist to the northeast (between Mounts Ungaran and Telomoyo), the northwest (north of Parakan, through the Serayu Ridge), and from the west (through the highlands of Wonosobo or through the hilly zone around Salaman). The Progo valley itself is rugged in the north but becomes progressively wider to the south, where it finally opens out into a plain (in the region of Borobudur).

The Merbabu-Merapi massif and its volcanic deposits shape the topography of the whole area located to the east of the Progo River. The northern peak of this massif, Mount Merbabu, is a high volcano (3,145m) with a heavy outline. It is not as active as its southern neighbour, Mount Merapi. Indeed, Mount Merbabu has erupted but once (in 1797 A.D.) since the year 1600.¹¹⁵

Mount Sumbing, to the west, has a similar volcanic record, with only one eruption in 1730 A.D.¹¹⁶ Mount Sundoro however is slightly more active: its last recorded eruption was as recent as 1971. Traces of a prehistoric debris avalanche are visible on the northeastern flank of Sundoro, while later (historical) pyroclastic flow deposits extend as far as 13 km from the summit.¹¹⁷

Down in the valley, between the volcanoes, flows the Progo River itself. Its source is located high on the slopes of Mount Sundoro. It flows to the northeast before making a large clockwise bend. From Temanggung to Borobudur it follows a roughly north-south course before being deviated to the southeast by the Menoreh Hills.

The main tributary of the Progo River is the Elo, a wild watercourse that originates near the summit of Mount Merbabu and merges with the Progo River in the vicinity of Candi Mendut.

Other important tributaries of the Progo River are, from north to south, the Gintung, Klegung, Semawang and Tangsi, and to the south of Mendut, the Pabelan, Blongkeng, Kedu, Batang and Krasak. The main tributaries of the Elo River are the Bolong and Soti rivers.

Temple distribution

The Progo valley has the second highest density of temple remains, after Kabupaten Sleman (in D.I. Yogyakarta). However, temples are not evenly distributed over this area; the district of Magelang has 80 temple remains, while Temanggung has only 23. Furthermore, temple remains are far more numerous in the southern sub-districts of Magelang (around Muntilan) than anywhere else in the Progo valley (Figure 15). Two additional zones show (small) aggregates of remains: Secang and the area around Ngadirejo and Parakan.

115 Smithsonian Institution, access date: 28/04/2008.

116 Smithsonian Institution, access date: 28/04/2008.

117 Smithsonian Institution, access date: 28/04/2008.

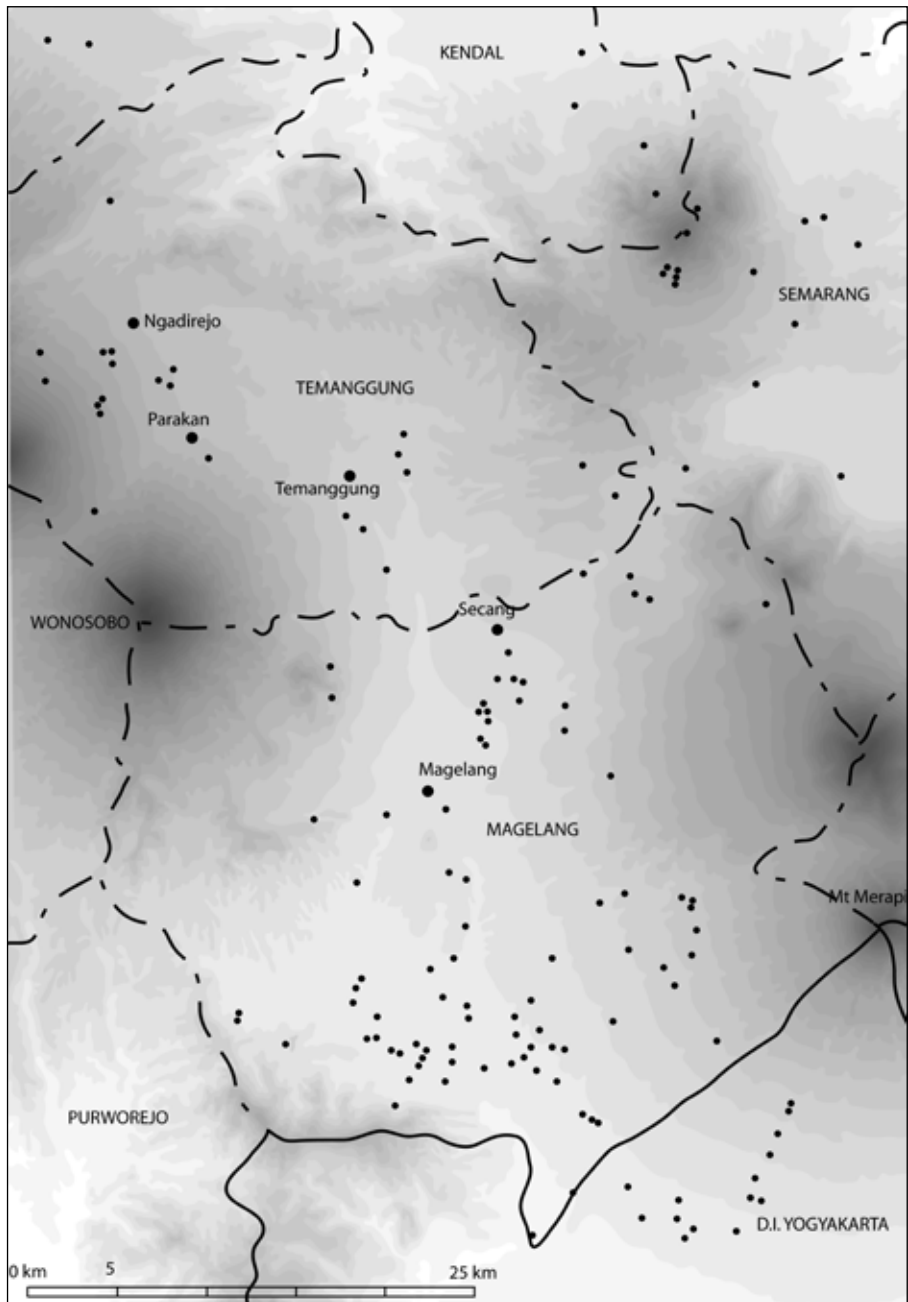


Figure 15: Temple remains in the districts of Magelang and Temanggung

While remains are numerous around Muntilan, they are not all clustered in a small area, as is the case at Prambanan: they are rather dispersed, apparently at random, with no sign of clustering. The occupation of the lower Progo valley, in terms of temple remains, is less dense than that of the Prambanan plain, but more so than in the areas directly to the southeast (i.e. between Prambanan and Muntilan)¹¹⁸ and to the north. In other words, the relatively high temple density around Muntilan¹¹⁹ decreases gradually as one moves away from the centre.¹²⁰ Although at present it is not possible to locate the main population and trading centre(s) more precisely, the distribution of sites all across the plain would fit well with a central place model. Furthermore, the fact that temple density is significantly higher here than in any other area of Central Java – with the sole exception of Prambanan – makes the Muntilan area appear as a likely candidate for an administrative/political centre,¹²¹ thus possibly fitting the accounts in the Chinese annals.¹²²

Not only the number, but also the dimensions of the temples built around Muntilan suggest that this area was important. It was at least important enough for numerous noblemen, officials, members of the royal family or rulers to have built shrines in the area, and it might thus be hypothesized that some important Central Javanese families had their strongholds in the Kedu plain. Inscriptions discovered in the Progo valley confirm that several high officials had close relations with religious foundations located around Muntilan and Temanggung. For example, the sole inscription recovered from the reign of Sañjaya,¹²³ the first known Central Javanese king, is from the Muntilan area, suggesting that this region might have been the cradle of at least part of the royal tradition. Furthermore, high officials bearing the titles of *Sang Pamgat* Tiru Rañu,¹²⁴ *Sang*

118 The mean nearest neighbour distance is 0.8758 km in the region of Muntilan, while it is 1.4 km for the *kabupaten* of Sleman (excluding the Prambanan area).

119 The centre of this high-density zone is roughly around Candi Mendut.

120 To the south, however, site density drops more sharply, since the plain is interrupted by the dry and steep hills of the Menoreh chain.

121 Especially as, in Java, this does not imply a large settlement, but only a *kraton*.

122 See below p.64.

123 The inscription of Canggal (732 A.D.). See Sarkar 1971-1972: n° 3.

124 The name of Tiru Rañu is found in one of the minor inscriptions of Candi Sewu. *Sang Pamgat* Tiru Rañu *Pu* Langkā is one of the donors of Plaosan Lor (830-850). One of his successors, *Sang Pamgat* Tiru Rañu *Pu* Apus was responsible for a religious foundation at Salingsingan, according to the inscriptions of Kurambitan I-II (869 A.D.). Apus later gained the high title of *Sang Pamgat* Hino (inscription of Śrī Manggala II, 874 A.D.) and his foundation received gifts on behalf of King Kayuwangi (inscription of Salingsingan, 880 A.D.). Given that the Śrī Manggala II inscription was found near Candi Asu and Pendem (Dukun, Magelang), it is possible that the inscription relates to one of these temples. Further, people from villages belonging to the *watèk* of Tiru Rañu are cited as witnesses in the inscriptions of Palēpangan (906 A.D., discovered near Borobudur), Sima Bhatāri (907 A.D., from the Wonosobo area), Rukam (907 A.D., from Parakan) and Lintakan (919 A.D., probably from Temanggung). See Casparis 1950: 115; 1958; Sarkar 1971-1972: n° 7, 28, 42, 68, 86; Wisseman Christie 2002-2004: n° 157, 158.

*Ra Sbang*¹²⁵ and *Rake Layuwatang*,¹²⁶ who contributed to the royal foundation at Plaosan Lor, have otherwise left inscriptions only in the Magelang-Muntilan area.¹²⁷

Moreover, our reading of the Chinese annals might also suggest that the centre of Hindu-Buddhist Central Java was located in this area. The Sung annals, though dating from the East Javanese period (960-1279 A.D.), give a description that probably corresponds to the capital of Central Java (Boechari 1997: 8). They mention that the distance from the capital to the sea was a journey of one month to the east, 45 days to the west, 5 days to the north and 3 days to the south (Groeneveldt 1877: 15).¹²⁸ As noted by Boechari, the distance to the eastern sea does not fit with an area located as far eastward as the banks of the Brantas River, while it does fit with Central Java (Boechari 1997: 8).¹²⁹ Furthermore, the distance given between the capital and the southern sea, three days, is far too long for the Prambanan plain, but fits well with the Muntilan area, suggesting that the capital of the ancient kingdom was closer to Borobudur than it was to Sewu or Loro Jonggrang.¹³⁰

125 A *sang ra Sbang pu* Mañju is listed among the donators of Plaosan Lor (830s - 840s A.D.). A *sang pamgat* Swang is credited with the creation of a *sima* in the Sang Pamgat Swang inscription, discovered near Mungkid, Magelang (Wisseman Christie 2002-2004: n° 114).

126 *Rakai Layuwatang Dyah* Mahārṇawa is referred to in one of the minor inscriptions of Plaosan Lor (830s - 840s A.D.), while *Sang Layuwatang Pu* Mananggung demarcated a *sima* in 845-846 A.D., according to the Layuwatang inscription, found at Kadiluwih, at the foot of the Gunung Wukir. *Sang Layuwatang Pu* Mananggung could be either the representative or the successor of *Rake Layuwatang Dyah* Mahārṇawa. Further, a *Sang Wiridih Si* Daṇu, resident of Skar Tān and of the *watèk* of Layuwatang, is listed in the inscription of Rukam (907 A.D., from Parakan). See Casparis 1958:25; Wisseman Christie 2002-2004: n° 46, 158.

127 The corresponding *watèk*, however, are mentioned in (later) inscriptions from the Prambanan area. For example, residents of villages belonging to the *watèk* of Tiru Raṇu are mentioned as the witnesses of *sima* demarcation ceremonies in the inscriptions of Panggumulan I (902 A.D., from Sleman), Poh (905 A.D., from Klaten) and Tihang (914 A.D., from Prambanan). A *Sang Wiridih Si* Daṇu, resident of Skar Tān of the *watèk* of Layuwatang is referred to in the inscriptions of Panggumulan (902 A.D., from Sleman) and Poh (905 A.D., from Klaten). See Sarkar 1971-1972: n° 64, 66 and Wisseman Christie 2002-2004: n° 158, 185.

128 'History of the Sung dynasty', book 489, translated by W.P. Groeneveldt (Groeneveldt 1877: 15): "Djava is situated in the southern ocean. Going from the capital to the east, one comes to the sea in a month, and from here it takes a ship half a month to go to Pulo Condore. On the west the sea is at a distance of forty five days. On the south it is three days to the sea and from there five days sailing to the Tazi. On the north the distance from the capital to the sea is five days (...)"

129 The road from the Progo valley to Banyuwangi via Klaten, Ponorogo, Tulungagung, Blitar, Kepanjen, Lumajang and Jember is roughly 650km long. From the Progo River to Serang (west of Jakarta) via Purworejo, Kebumen, Banyumas, Ciamis, Bandung, Bogor and Rangkasbitung, the distance is 640km. However, the latter road passes through more numerous mountain passes than the eastern road. The given travel times of, respectively, 1 month and 45 days, seem reasonable.

130 The distance from Prambanan to Parangtritis, on the southern coast, is 40km – via a smooth plain – while it is 120 km to Semarang and 100km to Purwodadi. If it takes 3 days to go from Prambanan to Parangtritis, then 5 days are not enough to go all the way to the northern coast, given that the road is more steep. Muntilan is 65km from Parangtritis, 85km from Semarang and 100km from Godong, between Demak and Purwodadi. From here, 3 days to the southern sea and 5 days to the northern coast seems reasonable. Note that I give the distance to Purwodadi because, according to certain scholars, the main Central Javanese port would have been located in that area (Orsoy de Flines 1941-47: 66-84).

Some 20 km to the north of Muntilan, not far from the modern town of Secang (Figures 14 and 15), there is another - though small - concentration of remains, possibly indicating the existence of a lower order centre. From here, remains become far less numerous. They stretch to the northeast in the direction of Ambarawa, and to the northwest to the modern towns of Parakan and Ngadirejo. No less than nine temple remains have been recorded around Ngadirejo and Parakan;¹³¹ two of them, namely Candi Perot and Gondosuli being directly associated with inscriptions. As was already the case for the Magelang-Muntilan area, some high-ranking officials were obviously involved in granting gifts to temples in this area. For instance, a key figure of the construction of the Plaosan temple complex, known under the title of *Śrī Kahulunnan*, might have had a stronghold in the area between Magelang and Temanggung. The title occurs four times at Plaosan Lor and in one other inscription (Tru i Tēpussan, 842 A.D.), which is said to come from the district of Magelang.¹³²

Similarly, *Rake Wka* is linked to the northern part of the Magelang district. An allusion to this title first appears at Plaosan Lor.¹³³ Nevertheless, the only inscriptions that record grants made by *Rake Wka* are a series of copper plates from Ngabean. Two successive *Rake* of *Wka* founded and endowed a religious foundation at Pastika,¹³⁴ a place which became the funerary temple of *Śrī Mahārāja Rake Kayuwangi*.¹³⁵ *Rake Wka pu* Catura was apparently quite favoured by the king, since *Śrī Mahārāja Rake Kayuwangi* made a donation to his religious foundation.¹³⁶ Shortly before 882, Catura was endowed with the title of *Rakarayān Halu*.¹³⁷ *Rake Wka* is further listed as one of the *rakarayān mapatih*, the most important dignitaries after the king, in numerous inscriptions from Central and East Java.¹³⁸

131 Candi Pringapus, Perot, Gunung Pertapan, Butuh, Bongkol, Bumen, Gunung Kembang, Nglarangan and Gondosuli.

132 The villages listed in the Tru i Tēpussan inscription relate, as far as we can trace, to places in the area of Temanggung or Parakan. For example, Kayumwungan is mentioned in the inscriptions of Tulang Air (Candi Perot) and Muṇḍuan (from Temanggung), while Mantyaśih is listed in the inscriptions of Gaṇḍasuli I (Parakan), Muṇḍuan (Temanggung), Tulang Air (Candi Perot) and Rukam (Parakan). See Sarkar 1971-1972: n° 16, 107 and Wisseman Christie 2002-2004: n° 158, 48.

133 In the minor inscriptions of Plaosan Lor there appears a *Sang da Wka*, probably a representative of the *Rake Wka* (Casparis 1958: 29).

134 *Rake Wka pu* Tanggal (inscription of Supit, from Ngabean, 878 A.D.) and *Rakarayān Wka pu* Catura (Mulak I, 878 A.D.; Kwak I, 879 A.D.; both from Ngabean). See Sarkar 1971-1972: n° 38, 40 and Wisseman Christie 2002-2004: n° 91.

135 The inscription of Munggu Antan (887 A.D.). See Sarkar 1971-1972: n° 53.

136 The inscription of Ra Mwi (882 A.D.). See Sarkar 1971-1972: n° 52.

137 As above. Ibid: n° 52.

138 For example, the inscriptions of Tulang Air (850 A.D., from Candi Perot), Ayam Tēas (901 A.D., from Purworejo), Taji (901 A.D., from Ponorogo, East Java) and Samalagi (902 A.D., from Bantul). See Sarkar 1971-1972: n° 16, 60; Wisseman Christie 2002-2004: n° 140.

In the case of *Rake Patapān*, the data is even more convincing. Indeed, with the exception of a short inscription at Plaosan Lor,¹³⁹ the epigraphic records relating to donations by *Rake Patapān* are found exclusively around Temanggung.¹⁴⁰ Furthermore, mention of the *watĕk* of Patapān also occur essentially in inscriptions from this area¹⁴¹ – the inscription of Mantyāsīḥ I even states that the *watĕk* of Patapān owned land on the slopes of Mounts Sumbing and Sundoro.¹⁴² It is interesting to note that after the death of King Pikatan *Dyaḥ Salaḍū*, it is *Pu Manukū*, former *Rake Patapān*, who received the title of Pikatan, suggesting in this way that *Rake Patapān* was important enough to receive a title formerly held by a king.

Distribution patterns in northern Central Java

The distribution of temple remains in the northern part of Central Java testifies to a Hindu-Buddhist presence along the northern coast, from Brebes to Rembang. Given that the northern coast of Java is a low-energy wave area and offers good anchorage for ships, it is to be expected that ports were located along that coast and, as naturally cosmopolitan places, that they would have been in contact with other Hindu-Buddhist cultures. Furthermore, one can also assume that as the inland road to the west was a rather difficult route, the northern coast was, for the Hindu-Buddhist kingdoms of the Progo valley and the Prambanan area, a window upon the rest of the archipelago and the world beyond.

The hypothesis that the kingdom of Mataram must have needed an important harbour along the northern coast seems initially to be contradicted by the distribution map. At first sight, indeed, Hindu-Buddhist remains appear scarce in the coastal regions – in comparison with the density of remains attained in the Progo valley and the Prambanan plain. A second glance, however, quickly reveals that temple density increases significantly in the area of Semarang (Figures 7 and 8) and that the remains in this area were connected to the temples of the Progo valley (*via* the secondary centre of Secang).

139 It reads: *anumoda sang patapān pu kutī*. See de Casparis 1958:10.

140 The inscriptions of Kayumwungan (824 A.D.), Muḍuan (847 A.D.) and Tulang Air (847 A.D.). See Sarkar 1971-1972: n° 10, 16, 17; Wisseman Christie 2002-2004: n° 48.

141 The only exception is the inscription of Kaṅdangan (906 A.D.), found in the Gunung Kidul area and mentioning a grant for the benefit of a temple at Prasāja, of the *watĕk* of Patapān. See Sarkar 1971-1972: n° 69.

142 The inscriptions of Ra Kiḍan (9th century), Mantyāsīḥ I-II-III (907 A.D.), Sangsang I (907 A.D.), Rukam (907 A.D.) and Kasugihan (907 A.D.); although the provenance of the latter is uncertain. See Sarkar 1971-1972: n° 102, 70, 71, 110, 72, 74; Wisseman Christie 2002-2004: n° 158.

Five sites are located in Semarang and its immediate surroundings: Candi, Duduhan, Kangkung, Ngresep and Tugurejo. At Candi, Duduhan and Ngresep only loose temple stones or bricks have been found.¹⁴³ At Tugurejo and Kangkung, however, parts of the structures were discovered in place. The remains of a brick temple, including antefixes, pinnacles and sculptures of a Durgā and a Gaṇeśa were once visible at Kangkung (Sujatmi Satari 1978: 2). At Tugurejo, a square foundation and a 2.30m high stone pillar were brought to light (Stutterheim 1936: 9; Verbeek 1891: 88).

Further inland, a series of temple remains cover the landscape between Semarang and the modern town of Ambarawa, in the neighborhood of Gedong Songo: Arca Ganesa Besar,¹⁴⁴ Ganawerti Wetan,¹⁴⁵ Jumbleng,¹⁴⁶ Ngempon,¹⁴⁷ Nglimit,¹⁴⁸ Pengilon,¹⁴⁹ Sidomukti,¹⁵⁰ Siroto,¹⁵¹ and Wujil,¹⁵² are probably all former temple sites.

The number of Hindu-Buddhist remains in and around the modern town of Semarang might indicate the presence here of an ancient port, which became incorporated into the Hindu-Buddhist sphere of influence and maintained direct relations with the inland kingdoms.

143 Only temple stones were discovered at Candi (*Daftar inventaris Semarang* 1976: 2; ROD, 1914: 531), but in Ngresep, the numerous stone blocks were accompanied by a sculpture of Durgā (Krom 1914a: 168). In Duduhan, alongside the stones blocks were found several sculptures, including a Gaṇeśa, a bull, five *lingga*-shaped boundary stones and the head of a Durgā (*Daftar inventaris Semarang* 1976: 1-2).

144 A 2m high Gaṇeśa sculpture. Temple stones were also once visible around the statue (Krom 1914a: 177).

145 According to Krom, there were remains of a small temple and a statue of Gaṇeśa (Krom 1914a: 189)

146 Numerous temple stones, as well as fragments of a staircase, a *yoni* and part of a female figure (probably Durgā), were found in the village (*Daftar inventaris Semarang* 1976: 1).

147 A well-preserved temple complex, composed of at least eight buildings and an enclosure wall.

148 Around the villages of Gono and Nglimit, numerous temple stones and antefixes, a *yoni* (1m x 1m x 1.15m), a *peripih* and a *lingga semu* or *lingga*-shaped boundary stone (Tjahjono 1998: 10; 2000: 35-36; *Daftar inventaris Semarang* 1976: 1) were found. This site seems to have been known earlier as "Argakusuma" (Verbeek 1891: 88), and was composed of seven temples: two near a hot spring and five further up on two different terraces (Verbeek 1891: 88; Friederich 1870: 512; Krom 1914a: 189). According to N.J. Krom, several sculptures were found among the remains of Candi Argakusuma: a lion, a bull, two Gaṇeśa, one Kālī, a *ṛṣi* and a *rākṣasa* (Krom 1914a: 189).

149 The old inventories record some temple remains near a spring (Verbeek 1891: 89; Krom 1914a: 189). According to N.J. Krom, there were remains of two buildings. A staircase led from the temple ground to a lower bathing place where a *nāga* was found. Around the temples were discovered further sculptures of a Gaṇeśa, a lion and an elephant (Krom 1914a: 189).

150 There was once a bathing place here and a hilltop temple (Friederich 1870: 505; 1876: 75; Verbeek 1891: 90; Krom 1914a: 173).

151 A 73cm high *yoni* was found in the village (Tjahjono 1998: 9; 2000: 35). This site is probably the one named "Tjandi" by N.J. Krom, as a village named "Candi" lies a few hundred meters away from Siroto (Krom 1914a: 190). The Dutch archaeologist mentioned, together with a *yoni*, a bull sculpture and temple stones.

152 A Hindu temple atop a hill and an ancient bathing place (?) (Verbeek 1891: 89; Friederich 1870: 506-507; 1876: 73; Krom 1914a: 177; Krom 1923, I: 222). Remains of the structures are still visible.

But was Semarang the main harbour of Central Java, or was there another important port around Purwodadi? R. Soekmono, and more recently C. Voûte, have suggested that the main centre of activity along the northern coast was located around the latter city – Soekmono even states that the capital of Central Java was located near the modern town of Grobogan (Voûte 1999: 10; Soekmono 1967).

This theory derives from a former hypothesis of W.F. Stutterheim. The Dutch scholar was convinced that Javanese temples were tombs and that southern Central Java was a sort of realm of the dead (Stutterheim 1932). For him, this argument was buttressed by the fact that the sites of the Prambanan area had yielded very few ceramics and, according to his own view, none of those that were found were for household purposes. Therefore, W.F. Stutterheim suggested that one should give serious credit to folk traditions referring to the existence of an important kingdom named Mendang Kemulan, supposedly located in the Grobogan district.¹⁵³

Then, in the early 1940s, E.W. van Orsoy de Flines undertook an archaeological survey of northern Central Java, focusing on ceramics from the districts of Blora, Japara, Kudus, Pati, Grobogan and Rembang. Van Orsoy de Flines found that ceramics from the 8th through 10th centuries were mainly discovered in hilly regions, while more recent examples were found in the river valleys and alluvial plains as well. South of Pati and Jumono, as well as around Pecangaan (between Kudus and Jepara), no ceramics could be dated before 1700 A.D. (Orsoy de Flines 1941-1947). Van Orsoy de Flines therefore came to the conclusion that these blank areas had remained uninhabited before the 18th century.

In 1967, R. Soekmono used geological data from a study published in 1949 by R.W. van Bemmelen to confirm the conclusion of E.W. van Orsoy de Flines – and to explain it. R.W. van Bemmelen had indeed pointed out that the alluvial plain between Semarang and Rembang had most probably been transformed into a strait by a rise in sea level during the late Quaternary (Bemmelen 1949: 592-593). R. Soekmono saw a confirmation of this hypothesis in an earlier mention of sea vessels navigating from Demak to Rembang *via* Kudus and Pati (Niermeyer 1911: 41), and this led the Indonesian scholar to conclude that:

Whatever the process of sedimentation in the Semarang-Rembang area and its effect on the development of historical centers during the second millennium, we may assume that the period prior to the 10th century saw the Muriah

153 The name Mḍang is known from several inscriptions, though none of them refers to a Mendang Kemulan. The palace of Mḍang in Mamrati is mentioned in the Śiwagrha inscription (Casperis 1956: 280-330; Sarkar 1971-1972: n° 19; Wisseman Christie 2002-2004: n° 53), Mḍang in Poh Pitu in the Manṭyāsiḥ I inscription (Sarkar 1971-1972: n° 70), and Mḍang in bhūmi Matarām in the Sangguran (Sarkar 1971-1972: n° 96) and Kampak inscriptions (Wisseman Christie 2002-2004: n° 211). The holy ancestor of Mḍang is listed in the Wanua Tēngah III inscription (Kusen 1988; Wisseman Christie 2001; 2002-2004: n° 161) and the holy spirits of Mḍang are called upon in the inscription of Kuṭi (Sarkar 1971-1972: n° 12).

as an island separated from Java by a strait stretching from Semarang eastward to Rembang. (Soekmono 1967: 5)

R. Soekmono went on to state that the ceramic find locations in the areas between Semarang and Rembang that are now lower than 25m above sea level would have been underwater during the Hindu-Buddhist period (Soekmono 1967: 5).

One should, however, handle R. Soekmono's conclusions with caution. Firstly, it is now known that, after a period of fluctuation during the late glacial and post-glacial periods, sea levels arrived at approximately their present values by around 8,000-6,000 BP (Bellwood 1997: 33; Woodroffe & Horton 2004). Limited variation may have occurred during the historical period, but only within an amplitude of 2-3m (Woodroffe, Horton 2004: fig.6-7). This updated reconstruction of recent sea-level changes appears to be confirmed by the results from excavations carried out in the 1970s in the Rembang district. One of the sites excavated by T. Asmar and B. Bronson, Patok 129, which was apparently occupied well before 900 A.D., was barely 4m above sea level and 25m away from the coastline. It is thus impossible that, during the period of occupation at the site, the sea level could have been more than 3m higher than it is today, otherwise it would have been underwater. T. Asmar and B. Bronson naturally came to the conclusion that the sea level could not have been much higher during the 10th century than it is today.

Moreover, contrary to R. Soekmono's opinion, our understanding of the silting process of the strait becomes significant. If changes in sea level cannot explain the existence and disappearance of a Demak-Rembang strait, then the whole theory relies on the dating of the alluvial deposits. Unfortunately, no scientific analysis has yet been made to date these sediments, and although there is no doubt that there are quaternary deposits (Bemmelen 1949: 592-593), they do not necessarily date from historical times.

In addition, R. Soekmono's reconstruction of the coastline is misleading, since the 25m contour line is incorrect¹⁵⁴ and does not correspond with known finds of 8th-10th century ceramics.¹⁵⁵ Further, one should underline that E.W. van Orsoy de Flines did not survey the district of Demak, an area that is crucial in understand the silting process of the supposed strait.¹⁵⁶

The absence of ceramics earlier than the 18th century in some parts of the northern coastal plain might also be explained by the presence of marshlands. Nowadays, large marshy areas are still found to the southeast of Kudus, between the Serang and Juwono rivers. I am therefore tempted to think, together with T.

154 Both Blora and Purwodadi are located below the 25m contour line on R. Soekmono's map, while in reality the elevation of Blora is around 140m and that of Purwodadi around 40m above sea level.

155 E.W. van Orsoy de Flines reported finds of 8th -10th century ceramics south of Kudus.

156 We know that Demak was already on firm ground in the early 16th century, as it had already developed into an important sultanate by that time.

Asmar and B. Bronson, that the silting process was a long one and that it was already well underway during historical times.

Much work still needs to be done before we can get a clear idea of the physical geography of the northern coast of Central Java – and before we can safely determine the position of the coastline during the early Hindu-Buddhist period. Nevertheless, for the time being, and on the basis of temple distribution, I suggest that we should look for the main harbour of Hindu-Buddhist Central Java in the Semarang area.

In any case, the northern coast of Central Java was not abandoned after 928 A.D., when the centre of power was transferred to the east. A significant number of finds indeed testifies to a continued occupation of the area during the East Javanese period. One may mention: the *lingga-yoni* of Tlagapakis (Petungkriyono, Kendal), with its typically East Javanese *nāga* with horns and open jaw; a *mahākāla* with bulky head and protruding eyes from Boja (Kendal); a so-called polynesian statue, also from Kendal (Sujatmi Satari 1977: Figures 8, 28 and 33; 1978: 4-5); and East Javanese terracottas from the Kudus area (Sujatmi Satari 1981). According to Krom, the temple remains of Ngresep were also in Majapahit style (Krom 1914a: 168).

Furthermore, East Javanese period inscriptions found in the districts of Semarang and Rembang prove that the region was still an area of Hindu-Buddhist culture during the 14th and 15th centuries.¹⁵⁷ Unfortunately, inscriptions and sculptures alone cannot tell us if the occupation was continuous or if the region was re-occupied in the 14th century, after a gap of several centuries.¹⁵⁸ Only a large-scale archaeological exploration of the area around Semarang, Demak and Kudus could help us to clarify the question of the location of the coastline and the patterns of occupation along the coastal region during the classical period.

What kind of relationship did the northern coast entertain with the rest of Central Java? Was it included in the kingdom of Mataram or did it form an independent-seafaring polity, similar to the cities of Śrīwijaya or the *pasisir* states of the Muslim period? In the opinion of J. Wisseman Christie, the area between

157 Several short inscriptions dating from the early 14th to the mid 15th centuries have been discovered in the *kabupaten* of Rembang and Semarang. In Semarang, these are the inscriptions of Adoman I (1338 A.D.), Adoman III (1340 A.D.), Gedong Songo (1382 A.D.), Tajuk I and II (1447 A.D.) and Palmaran/Andoman II (1449 A.D.). In Rembang, the inscriptions of Bitingan (1308 A.D.), Daramukti (1311 A.D.), Bandung (1356 A.D.), Ngluyu (1391 A.D.), Ngesa (1418 A.D.) and Getas (1452 A.D.).

158 The last inscription dating from the Central Javanese period and found along the northern coast of Central Java is the inscription of Wutit. It seems to belong to the late 9th - early 10th century (Wisseman Christie, 2002-2004: n°174). The earliest dated inscription from the East Javanese period is the inscription of Bitingan (1308 A.D.), discovered in Kabupaten Rembang. There is thus a gap of nearly four centuries. Nevertheless, two inscriptions may fill this gap: An illegible inscription from Mount Murya (but, according to its script, perhaps dating from the 11th century); and the inscription of Pupus, which is an 1100 A.D. copy of an earlier text, most probably from the early 10th century (Wisseman Christie 2002-2004, n° 180 and n° 180, remark 2).

Semarang and Pekalongan was the centre of a Malay/Sundanese maritime state as early as the 7th century (Wisseman Christie 1994: 28).

The earliest inscription in a local language found in the region (the inscription of Sojomerto, 800-825 A.D.)¹⁵⁹ is indeed written in a dialect related to Old Malay (Wisseman Christie 2002-2004: n° 13). Nevertheless, the situation is not as simple as it sounds. Firstly, the most ancient epigraphic records of northern Central Java are in Sanskrit and do not tell us much either about ethnic identity or state organization.¹⁶⁰ Secondly, the use of Old Malay is not limited to the coastal area: two inscriptions in this language have also been discovered in the Prambanan plain.¹⁶¹

It is nevertheless true that the majority of the Old Malay inscriptions have been found in the northern part of the island (but not specifically along the coast).¹⁶² In addition, the inscriptions from northern Central Java (Dieng, Temanggung and the coastal region) do not often make reference to known officials and kings. In the inscriptions originating from the north, the earliest mention of a king also ruling in south Central Java is, to my knowledge, to be found in the inscription of Kayumwungan (824 A.D.), where there is a reference to the Śailendra.¹⁶³ There is apparently no evidence from the inscriptions that the districts to the north of Temanggung were part of the kingdom of Mataram prior to 824 A.D. Unfortunately, there is not enough evidence to state categorically that northern Central Java formed an independent Malay seafaring state until 824 A.D. nor that it was, at that date, incorporated into the Javanese kingdom of Mataram.

We should nevertheless keep these hypotheses in mind when considering the material culture of the northern regions. It is indeed possible that the stylistic peculiarities of Gedong Songo and Sanjaya cannot be understood as products of a peripheral society, but as expressions of a different cultural sphere.

159 The Sojomerto inscription was first dated to the 7th century by Boechari, but it was later reconsidered by L.C. Damais who, on palaeographical grounds, re-ascribed it to the early 9th century (Boechari 1966; Damais 1970: 44).

160 The inscriptions of Tuk Mas (mid 7th century, from north Magelang), Hampran (750 A.D., from Salatiga), and Blado (mid 8th century, from Batang). See Sarkar 1971-1972: n° 2; Wisseman Christie 2002-2004: n° 3 and 4.

161 The inscriptions in “a coastal dialect similar to Old Malay” found in the Prambanan area are Mañjuśrīgrha (792 A.D.) and Payangan (early 9th century). See Wisseman Christie 2002-2004: n° 9 and 17.

162 They were actually found in the district of Temanggung and on the Dieng plateau: the inscriptions of Gaṇḍasuli II (810 A.D.), Gaṇḍasuli I (827 A.D.), Dang Manangan (early 9th century) and “temple inventory” (815-845 A.D.) See Wisseman Christie 2002-2004: n° 15, 18, 31 and 38.

163 Unfortunately, the provenance is uncertain. It was reported as having been found in Karangtengah, north of Parakan (Verbeek 1891: 138), but J.G. de Casparis was of the opinion that it probably came from the Magelang area (Casparis 1950: 24-25).

Conclusion

In the course of this chapter, we have started to understand how the Central Javanese territory was structured. Its core area occupied the Progo valley and the south-western slope of Mount Merapi. Its political centre was probably first located in the Muntilan area, while its main religious centre was at the eastern periphery (Prambanan). The main access to the sea was in the region of the modern town of Semarang. Further, two zones of relatively high temple density – Secang and Ngadirejo – could indicate the existence of secondary centres further north.¹⁶⁴ Before the mid 9th century this polity appears to have extended little beyond Prambanan in the east. The development of this area seems to go together with a shift of the political/economic centre from the Borobudur region to the Yogyakarta plain, a shift that would foreshadow the transfer of the political centre from Central to East Java.

In addition, we have raised the delicate problem of the relationship between temple and settlement patterns, showing in the case of Prambanan that a high site density is not always indicative of a high population density. Before going on, I should also point out that the reverse supposition is equally untrue: the absence of temple remains does not mean that the area was uninhabited. Firstly, it is not known whether the entire population adopted Hinduism and Buddhism. It is not impossible that villages preserving traditional beliefs co-existed with communities converted to these imported religions – and local cults may have left very few monumental traces. Secondly, it is nowhere stated that every village had to have its own stone or brick temple. Wooden shelters or free-standing sculptures were very likely considered proper places of worship, as is nowadays the case in Hindu and Buddhist countries. Furthermore, numerous inscriptions indicate that a particular temple could collect income from several village authorities¹⁶⁵ – implying that different hamlets may have shared a common place of worship. Thirdly and finally, there were many kinds of temples belonging to different religious communities, some of which probably established themselves deliberately outside and away from main populations centres. Hermitages (*ka-bikuan*) are mentioned, for example, in the inscriptions of Jurungan (876 A.D.) and Haliwangbang (877 A.D.),¹⁶⁶ both found in the Prambanan area. Similarly, a meditation monastery occupies a large part of the Ratu Boko hill, just south of Prambanan. It is therefore obvious that several temple remains in the area were certainly not built within large villages.

164 Since there are few remains between Ngadirejo and Secang, one may wonder if Ngadirejo did not evolve from an originally independent polity.

165 Numerous inscriptions mention that a single temple could receive income from parcels of land located in several villages (see for example the inscriptions of Kamalagi and Munḍuan; Christie 2002-2004: n° 33, 48; Sarkar 1971-1972: n° 9). This suggests that if these villages were endowed with their own local shrine, it was probably not a costly structure. It also leads to the hypothesis that several villages could share a temple between them.

166 See respectively Christie 1996: 275-278 and Sarkar 1971-1972: n°36.

In this chapter, I have focused attention on the clustered distribution of certain remains, principally around Prambanan. Nevertheless, we have noted that the distribution of temple remains could follow three spatial patterns; not only clustered, but also dispersed and linear. In the following chapter, I will try to correlate these distribution patterns with features of the natural environment and show how this correlation can provide greater insight into the function of certain remains and the mechanisms that have led to the formation of the Central Javanese religious landscape as we know it.

Chapter 5

TEMPLE REMAINS AND NATURAL ENVIRONMENT: SOME ASPECTS OF A COMPLEX RELATIONSHIP

In the first part of the present chapter, I will present the statistical data on temple locations according to regional environmental features – in this case altitude, regional topography, water availability and soil geology. I will then discuss the possible correlation between environmental zones and the distribution patterns observed in the preceding chapter and specify the nature of the relationship between temples, wet-rice cultivation and settlement. In the second part, I will go on to discuss temples that do not seem to have been primarily associated with wet-rice cultivation and explore the possible correlations with ancient routes of communication. Finally, in the third part, I will consider temple remains in the light of local landscape markers (hills and rivers) and try to understand how the shrines insert themselves into the local topography.

Distribution patterns of Central Javanese temple remains and regional environmental features

Temple remains per altitude range

In the area of interest to us, the ground altitude increases as one moves away from the Indian Ocean to the upper Progo valley, and the localization of archaeological sites reflects this geographical reality: temples are located at higher altitudes in Temanggung than in Yogyakarta. It must nevertheless be emphasised that, apart from a few exceptions, temples are usually located below 1,000m (Figure 16, tables 8, 9, 10 and 11). Given the variety of the landscape however, absolute numbers do not carry the same implications across the whole region.

Among the 111 temple sites in the DIY and the *kabupaten* of Klaten, 78 are located in the lowlands (0-199m), 32 in lower mid-altitude territory (200-499) and one at upper mid-altitude (500-1499m). The highest remains are to be found in the *dusun* of Candi (*desa* Purwobinangun, *kecamatan* Pakem, *kabupaten* Sleman, DIY), at an altitude of 565m.

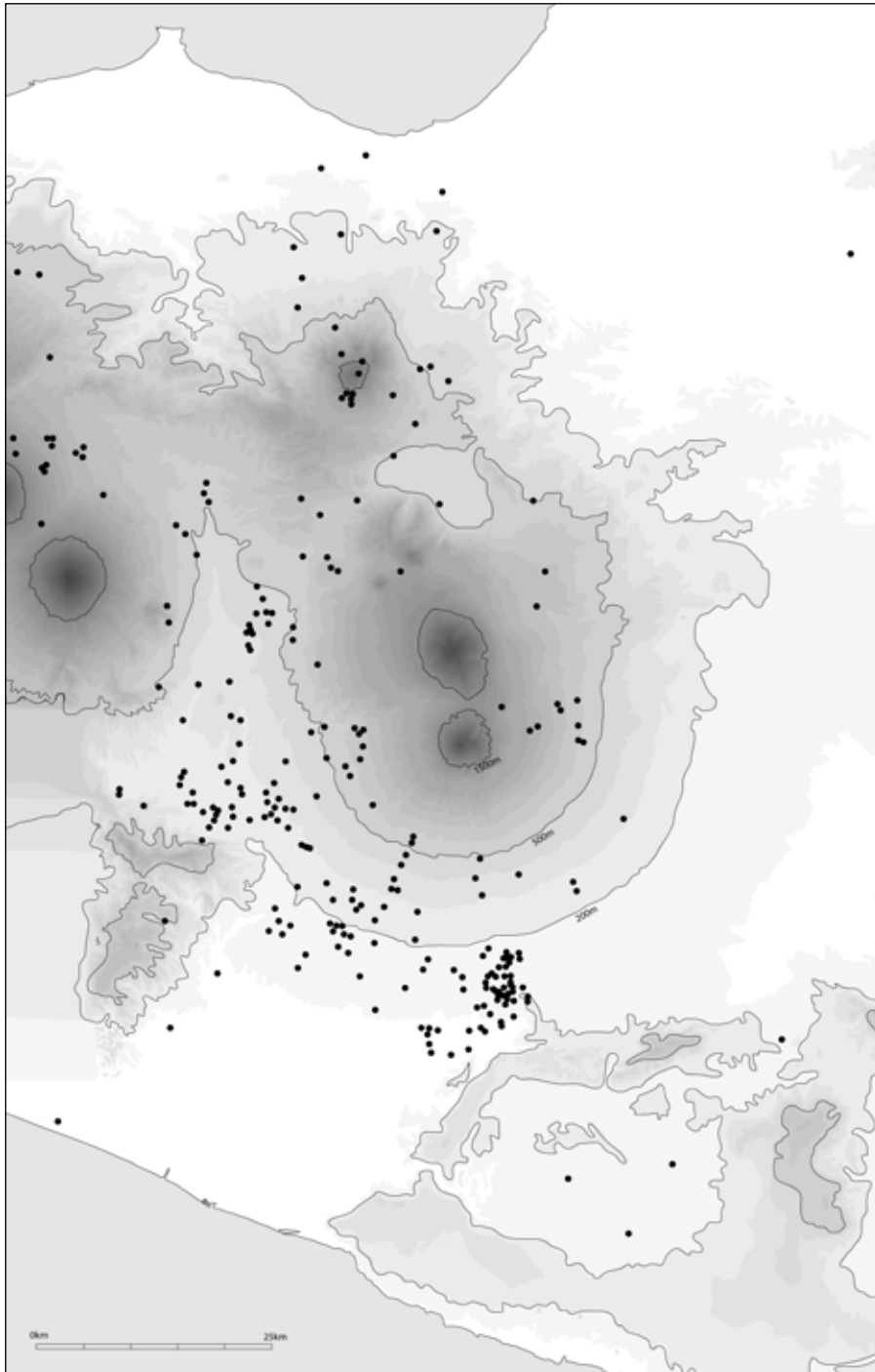


Figure 16: Temple remains per altitude range

Although it might appear from the above figures that the lowlands and lower mid-altitude lands were equally favoured as temple locations,¹⁶⁷ a detailed examination of the distribution leads us to a different conclusion. Mundarjito has already noted in the DIY that archaeological remains are mainly located below 200m (Mundarjito 2002: 368). As far as temple remains are concerned, we may narrow down his observation: the majority are situated between 75m and 200m above sea level (Table 8). In fact, 75 sites out of 111, i.e. 67.5%, are located in that zone.¹⁶⁸ Only one site, namely Glagah (*desa* of Sidorejo, *kecamatan* Temon, *kabupaten* Kulon Progo), lies below 50m.

In the middle Progo valley, where the average altitude is higher, at around 200m, all the sites but one¹⁶⁹ are located on mid-altitude land (59 sites on lower middle land, 42 on upper middle land; see Table 9). In the upper Progo valley, sites are located still higher: all temples are situated in the upper middle territory and 8 are higher than 1,000m above sea level (Table 9). Although the average altitudes in the *kabupaten* of Boyolali (Table 11) and Semarang (Table 10)

	Altitude	Sites	Names
Lowland	0-49m	1	Glagah.
	50-74m	2	Sambiroto, Tangkisan.
	75-99m	11	Candirejo, Condrowangsan, Gampingan, Jatiwangi, Klodangan, Krapyak, Mantup, Payak, Sampangan, Tegalsari, Watugilang.
	100-199m	64	Abang, Balangan, Banyunibo, Blaburan, Bogem, Bubrah, Bugisan, Burikan, Candi (Mlati), Cebongan, Cupuwatu, Dawangsari, Dengok, Gajah, Gana, Gatak, Gebang, Gremyangan, Grogol, Gunung Mijil, Jetis (Ngemplak), Jumeneng, Kadisoka, Kalasan, Kalongan, Karang Tengah, Keblak, Kedulan, Klaci, Konteng, Kulon, Lor, Loro Jonggrang, Lumbung, Mulungan Wetan, Ngaglik, Nogosari, Pendem, Planggak, Plaosan (Mlati), Plaosan Kidul, Plaosan Lor, Plembutan, Polangan, Polengan, Pondok, Puren, Ratu Boko, Sambisari, Sanan, Sari, Sawo, Semarangan, Sentono, Sewu, Singo, Sojiwan, Sosrokusuman, Susukan, Tanjungtirto, Warak, Watugudig, Wiladeg.
Lower Middle Land	200-299m	20	Arca Ganesa, Barong, Candi (Ngaglik), Gupolo, Jetis (Pendowoharjo), Karangnongko, Karangtanjung, Kepitu, Lengkong, Malang, Merak, Miri, Miring, Palgading, Panggeran, Plumbon, Risan, Sumberwatu, Tinjon, Wadas.
	300-399m	8	Candirejo, Ijo, Jetis (Cangkringan), Kaliworo, Maron, Morangan, Ngepos, Sumur Bandung.
	400-499m	4	Besalen, Cepet, Pringtali, Wringinrejo.
Upper Middle Land and Highland	500-3,000m	1	Candi (Pakem).

Table 8: Altitude of the temple remains in the Yogyakarta-Prambanan plain

167 The lowlands represent roughly 60 % of the territory and include 70 % of the temple remains, lower middle lands 30% of territory and 29% of the remains, the upper middle land and highlands the remaining 10% of the territory and 1% of the remains (these numbers do not include the *kabupaten* of Gunung Kidul).

168 Whereas this altitude level corresponds to less than one-third of the territory.

169 Namely Blaburan, which is located at the border between the *kabupaten* of Magelang and the DIY.

CANDI, SPACE AND LANDSCAPE

	Altitude	Sites	Names
Lowland	100-199m	1	Blaburan.
Lower Middle Land	200-299m	29	Banon, Barepan, Bobosan, Borobudur, Bowongan, Brangkal, Dimajar, Dipan, Gedongan, Gejagan, Jomboran, Jowahan, Karangrejo, Kendal, Mendut, Nganten Kidul, Ngawen, Ngrajek, Pawon, Plandi, Progowati, Rambeanak, Salakan, Samberan, Semawe, Sidikan, Sigentan, Tempurrejo, Tiban; /.
	300-399m	15	Dampit, Gombang, Gunung, Gunung Pring, Gunung Sari, Gunung Wukir, Jlegong, Kalimalang, Kanggan, Ketoran, Mantingan, Mulosari, Nambangan, Pringapus, Wurung; /.
	400-499m	15	Bengkung, Bringin, Candi (Secang), Cetokan, Gunung Lemah, Jeronboto, Mungkidan, Pakem, Pirikan, Pucanggunung, Retno, Setan, Singabarong, Tidarar, Tumbu; /.
Upper Middle Land and Highland	500-599m	14	Batu Rong, Gunung Gono, Krincing, Ngampel, Seketi, Sorobojo, Umbul, Wates; Brongkol, Kedunglo, Ngabean, Plikon, Pikatan, Wonokerso.
	600-799m	15	Asu, Batur, Gedungan, Giombon, Kalangan, Kaponan, Kemiren, Lumbung, Pendem, Plumbon, Selogriyo, Sumber; Karangbendo, Ngepoh, Piatak.
	800-999m	6	/ ; Argapura, Gondosuli, Gunung Pertapan, Perot, Pringapus, Traji.
	>1,000m	8	/ ; Bongkol, Bumen, Butuh, Candi (Parakan), Gunung Kembang, Jamus, Nglarangan, Tlahab.

Table 9: Altitude of the temple remains in the Progo valley. Sites listed before the semicolon are located in the district of Magelang. Those listed after are in the kabupaten of Temanggung. The sign / signifies that there are no remains within this altitude range for the district

	Altitude	Sites	Names
Lowland	0-199m	3	Candi, Kangkung, Tugurejo.
LowerMiddle Land	200-399m	6	Arca Ganesa Besar, Duduhan, Dukuh, Ngampin, Ngempon, Ngresep.
Upper Middle Land and Highland	500-999m	6	Bedono, Kaliklotok, Plimpungan, Sanjaya, Sidomukti, Wujil.
	>1,000m	4	Butak Wetan, Gedong Songo, Gentong, Renteng.

Table 10: Altitude of the temple remains in the area of Semarang and Ambarawa

	Altitude	Sites	Names
Lowland	0-199m	0	
LowerMiddle Land	200-399m	0	
Upper Middle Land and Highland	500-999m	7	Cabean Kunti, Kuwarigan, Lawang, Manggis, Pahingan, Sumur Songo, Tampir.
	>1,000m	2	Candipetak, Sari.

Table 11: Altitude of the temple remains in Boyolali district

TEMPLE REMAINS AND NATURAL ENVIRONMENT

Local topography	Sites	Names	%
Slopes of Mount Merapi	9	Besalen, Candi (Pakem), Cepet, Jetis (Cangkringan), Kaliworo, Maron, Morangan, Ngepos, Wringinrejo.	8.2
Area of (steep) hills	13	Arca Ganesa, Barong, Dawangsari, Gupolo, Ijo, Miri, Pringtali, Ratu Boko, Risan, Sambiroto, Sumberwatu, Sumur Bandung, Tinjon.	12.7
Plain	88	Abang, ^a Balangan, Banyunibo, Blaburan, Bogem, Bubrah, Bugisan, Burikan, Candi (Mlati), Candi (Nglaglik), Candirejo, Cebongan, Condrowangan, Cupuwatu, Dengok, Gajah, Gampingan, Gana, Gatak, Gebang, Glagah, Grebyangan, Grogol, Gunung Mijil, ^b Jatiwangi, Jetis (Ngemplak), Jetis (Sleman), Jumeneng, Kadisoka, Kalasan, Kalongan, Karangnongko, Karangtanjung, Karang Tengah, Keblak, Kedulan, Kepitu, Klaci, Klodangan, Konteng, Krapyak, Kulon, Lengkong, Lor, Loro Jonggrang, Lumbung, Malang, Mantup, Merak, Miring, Mulungan Wetan, Ngaglik (Mlati), Ngaglik (Prambanan), Nogosari, Palgading, Panggeran, Payak, Pendem, Planggak, Plaosan, Plaosan Kidul, Plaosan Lor, Plembutan, Plumbon, Polangan, Polengan, Pondok, Puren, Sambisari, Sampangan, Sanan, ^c Sari, Sawo, Semarangan, Sentono, Sewu, Singo, Sojiwan, Sosrokusuman, Susukan, Tangkisan, Tanjungtirto, Tegalsari, Wadas, Warak, Watugilang, Watugudig, Wiladeg.	79.1

Table 12: Temple remains and regional topography in southern Central Java

- a. Situated atop a 50m high, isolated hill rising above the Sorogeduk plain.
- b. Atop a low hill rising above the Prambanan plain.
- c. Situated on slightly elevated ground.

are slightly lower, most of the sites are still located at upper mid-altitude, with the exceptions of Dukuh (496m), Ngempon (405m) and Candirejo (310m).

The general picture that emerges is that temples are rarely located above 600m on the western flank of Mount Merapi. This limitation is probably of very pragmatic origin. Although their soil is rich, higher areas indeed have serious disadvantages; such as the scarcity of water and the danger implied by the proximity of the active volcanic crater of Mount Merapi.¹⁷⁰ On the southwestern and southern flanks of Mount Merapi, the area above 550m is classified as ‘Hazard Zone II’ by the Merapi Volcano Observatory and risks of *lahar* and pyroclastic flows are serious.¹⁷¹ By contrast, the eastern flank of Mount Merapi, as well as the slopes of Mounts Sumbing, Sundoro, Telomoyo and Ungaran, is slightly safer;¹⁷² villagers could settle higher up the slope and still be reasonably protected from volcanic hazards. The archaeological remains seem to follow this pattern: the highest temple ever reported on the southern and western flanks of Mount Merapi, Candi Pendem, is located at an altitude of 675m above sea

170 See below, p.61-64.

171 Pusat vulcanologi dan mitigasi bencana geologi, access date: 24/05/2008. The summit is classified as ‘Hazard Zone III’ or the ‘Forbidden Zone’. Hazard zone II is the area most frequently affected by *lahar*, especially along river courses, while pyroclastic flows sometimes reach down to the 900m area. In November 1994, the village of Turgo (950m) near Kaliurang was burned down by such a hot gas cloud.

172 The eastern flank of Mount Merapi is protected by the remains of the Batu Lawang volcano, which form a rim on the eastern side of the summit and divert possible lava flow; Mounts Sumbing, Sundoro, Telomoyo and Ungaran are less active than Mt Merapi, see p.61 and 74.

level, while on the eastern flank of Mount Merapi and on the slopes of Mounts Sundoro, Merbabu and Ungaran, some remains are situated above 1,000m.¹⁷³

Temple remains and regional topography

To be meaningful, these observations must further be analysed in the light of local topography (Table 12). In southern Central Java (DIY and Klaten), most of the temples are located on the plain at the foot of Mount Merapi, at an altitude between 75m and 300m (where the slope is roughly between 1% and 3.5%). The number of sites decreases as one climbs up Mount Merapi.¹⁷⁴ However, the regions of Gunung Kidul and the Menoreh hills have yielded remains as well, though in smaller number: 11 sites are located in the Gunung Kidul – mostly around Ratu Boko – and 3 sites in the Menoreh hills – namely Pringtali, Sambiroto and Tangkisan.

In the middle Progo valley (*kabupaten* of Magelang), temple remains are concentrated in the Kedu plain and on the lower slopes of the volcanoes¹⁷⁵ (67 sites out of 80 are located below 600m; see Tables 9 and 13). Temple remains are also present in the more hilly area around Secang (to the northeast), but are almost entirely absent from the Menoreh hills and the south-eastern slope of Mount Sumbing – which is an area of steep hills as well.

Local topography	Sites	Names	%
Volcano slopes			
Mount Merapi-Merbabu	10	Asu, Gedongan, Giombon, Gunung Gono, ^a Gunung Lemah, ^a Lumbang, Pendem, Seketi, Sumber, Wates.	14
Mount Sumbing	3	Batur, Batu Rong, Selogriyo.	3.75
Hilly area	18	Bengkung, Candi, Cetokan, Jeronboto, Kalangan, Kaponan, Krincing, Nambangan, Pakem, Pirikan, Plumbon, Pucanggung, Retno, Setan, Soborojo, Tidar, Tumbu, Umbul.	21.25
Plain	49	Banon, Barepan, Blaburan, Bobosan, ^a Borobudur, ^a Bowongan, Brangkal, 60 Bringin, Dampit, Dimajar, Dipan, Gedongan, Gejagan, Gombong, Gunung, Gunung Pring, ^a Gunung Sari, ^a Gunung Wukir, ^a Jlegong, Jomboran, Jowahan, Kalimalang, Kanggan, Karangrejo, Kemiren, Kendal, Ketoran, Mantingan, Mendut, Mulosari, Mungkidan, Ngampel, Nganten Kidul, Ngawen, Ngrajek, Pawon, Plandi, Pringapus, Progowati, Rambeanak, Salakan, Samberan, Semawe, Sidikan, Sigentan, Singabarong, ^a Tempurrejo, Tiban, Wurung.	

Table 13: Temple remains and local topography in the middle Progo Valley. a - Situated atop a small, isolated hill

173 It is not easy however to be certain that no temple was ever built high on the southern or western slopes of Mount Merapi as the remains could have been destroyed or buried by the volcano.

174 The slope is already 4% at Morangan and 6% at Candi (*desa* of Purwobinangun, *kecamatan* Pakem, *kabupaten* Sleman).

175 Essentially Mount Merapi and - to a lesser degree - Mount Sumbing.

Local topography	Sites	Names	%
Volcano slopes	15		65
Mt Merapi-Merbabu	10	Cabean Kunti, Candipetak, Candirejo, Kuwarigan, Lawang, Mangis, Pahingan, Sari, ^a Sumur Songo, Tampir.	
Mt Ungaran	5	Butak Wetan, Gedong Songo, Gentong, Gunung Wujil, ^a Sidomukti.	
Hilly area	7	Arca Ganesa Besar, Bedono, Ngampin, Ngempon, Ngentak, Plimpungan, Sanjaya.	30.5
Plain	1	Dukuh. ^a	4.5

Table 14: Temple remains and local topography in Semarang and Boyolali. *a* - Situated atop a small, isolated hill

In Boyolali, the remains are all located on the flank of Mount Merapi-Merbabu; while in the northernmost part of Central Java, they are divided mainly between the slope of Mount Ungaran, the hilly area at its foot and from there to the Java Sea (Table 14).

To summarize, temple remains are mainly found on gently sloping ground, i.e. on the plains (principally of Borobudur and Prambanan) and on the lower slopes of Mount Merapi. A series of remains, however, distance themselves from this schema: 1) remains located in the Menoreh and Gunung Kidul hills; 2) temples situated on undulating terrain around Secang and higher in the Progo valley; 3) remains located in the hilly area between the modern towns of Secang and Ambarawa; and 4) temple remains situated on high, sloping ground around Mount Ungaran and on the eastern flank of Mount Merapi.

Temple remains, ground water availability and soil geology

An important element in characterizing a natural environment is water availability. A map showing both ground water capability and temple distribution quickly reveals that a large majority of the temple remains (203 out of the 246 for which we have information) are located in areas with a good to high potential of ground water (Figure 17). Few are situated in zones that are poor in ground water (36 sites) and even fewer in areas that are extremely poor in ground water (7 out of 246). Although it appears from the above that there is a clear link between temple location and ground water potential, no temple remains have yet been reported in the plains of Bantul (between Yogyakarta and the Ocean) or Solo, where ground water is nevertheless abundant.

As ground water availability is dependent – though not exclusively – on the prevailing type of soil, this preference for water-rich areas accompanies a preference for volcanic terraces (Figure 18), to the detriment of other soil types such as alluvium (essentially in the north) and sediments (tuff and limestone).

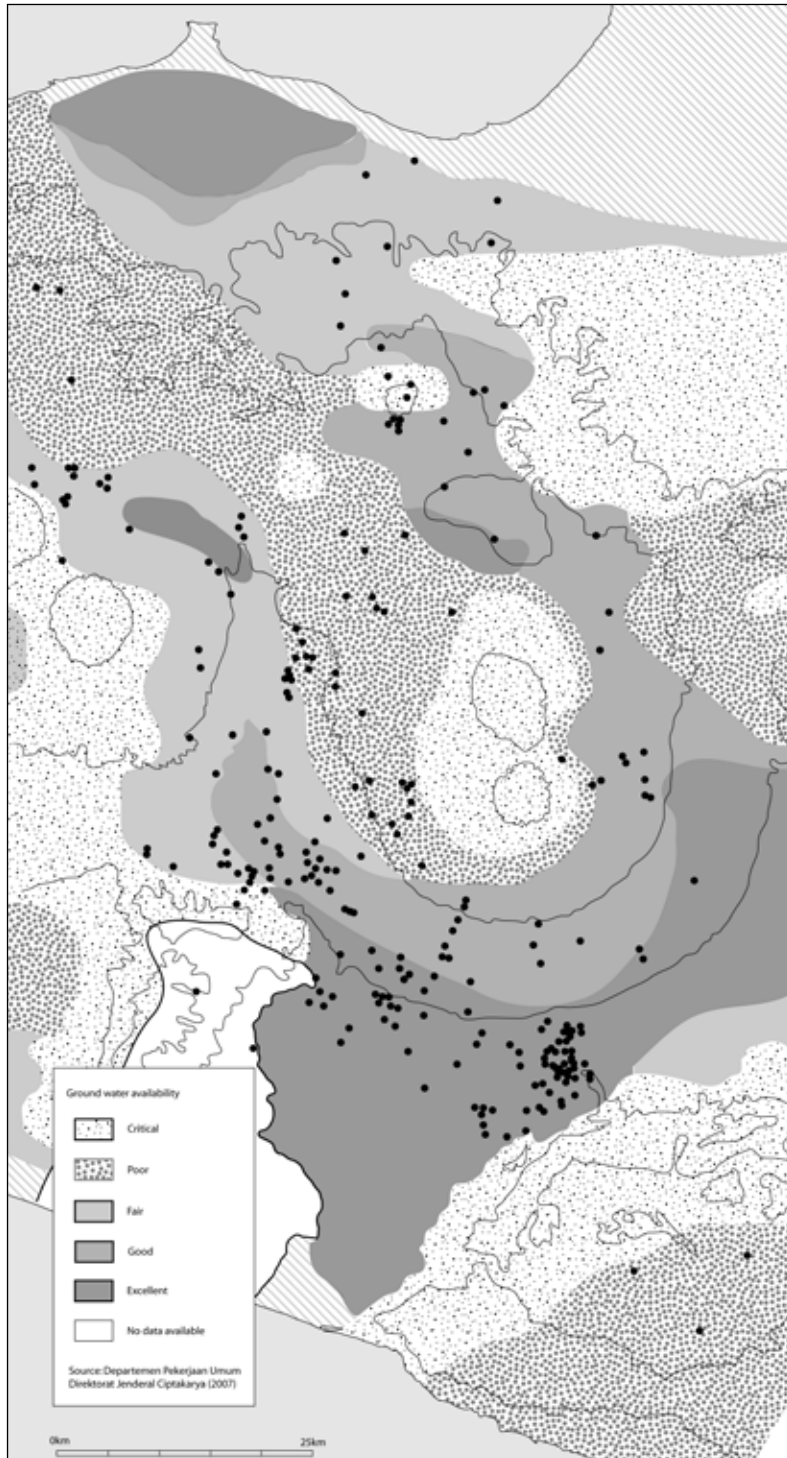


Figure 17: Temple remains and groundwater

Correlations between temple remains, environmental zones and wet-rice cultivation

On the basis of altitude, regional topography, water availability and geology, we may divide central Java into several environmental zones (Figure 19, Table 15). Let us now compare these zones with temple distribution.

Generally speaking, sediment zones, volcanic peaks and upper slopes are dry (with scarce ground water and a limited number of rivers), infertile and unsuitable for wet-rice cultivation, and have also yielded extremely few remains (Table 15: IVa-c, IIa-b). Hilly areas have scarcely yielded more (Table 15: III). We shall go back to the temple remains of these regions later, but for now, I would like to focus on the location of the large majority of the temples. Actually, most of the remains are concentrated in four zones; all of them volcanic terrains relatively rich in water, gently sloping or undulating, crossed by numerous small rivers and perfectly suited for wet-rice cultivation (Table 15: Ib, Ic, IIc, Id). The remains are more numerous and more evenly dispersed over large areas at lower altitudes, whereas they tend to decrease in number and to cluster together on higher grounds.

Based on these observations, we may formulate the hypothesis that a vast majority of Central Javanese shrines were somehow related to wet-rice cultivation and thus to settlement. The main sign in favour of this hypothesis is that there is a direct relation between the density of temple remains and the suitability of each area for wet-rice cultivation, even though this might not be immediately apparent (Table 15). Nine environmental zones are described as suitable for wet-rice cultivation (Table 15: Ia-e, IIc-d, Va-b). Nevertheless, wet-rice cultivation cannot be implemented in all these areas with the same ease. Two important factors required for implementation are in fact the slope of the terrain and the presence of rivers.

Where rivers are numerous and the slopes gentle, *sawah* fields are easy to create: irrigation works are barely necessary and can be handled by local communities, even families. Irrigation can be planned without significant problems, diverting water from the numerous small rivers without the need for large irrigation canals or equipment for lifting water. To the north of Magelang, where the natural environment becomes hilly and more fragmented, rivers are often found flowing in small canyons between the hills. Irrigation requires greater planning skills and the upper slopes of the hills are often occupied by dry fields. At higher altitudes on the volcano slopes, even if ground water is still abundant, the rivers are smaller and less numerous while the climate may even become cooler, rendering these areas less suitable for wet-rice cultivation. On the upper slopes of Mount Merapi, above the 400-500m level, watercourses become less plentiful and mainly drain water from the summit, where clouds are trapped, provoking frequent rainfalls, even outside the rainy season. At about 400-500m, the cone of Mount Merapi is encircled by a spring belt: it is at this altitude that most of

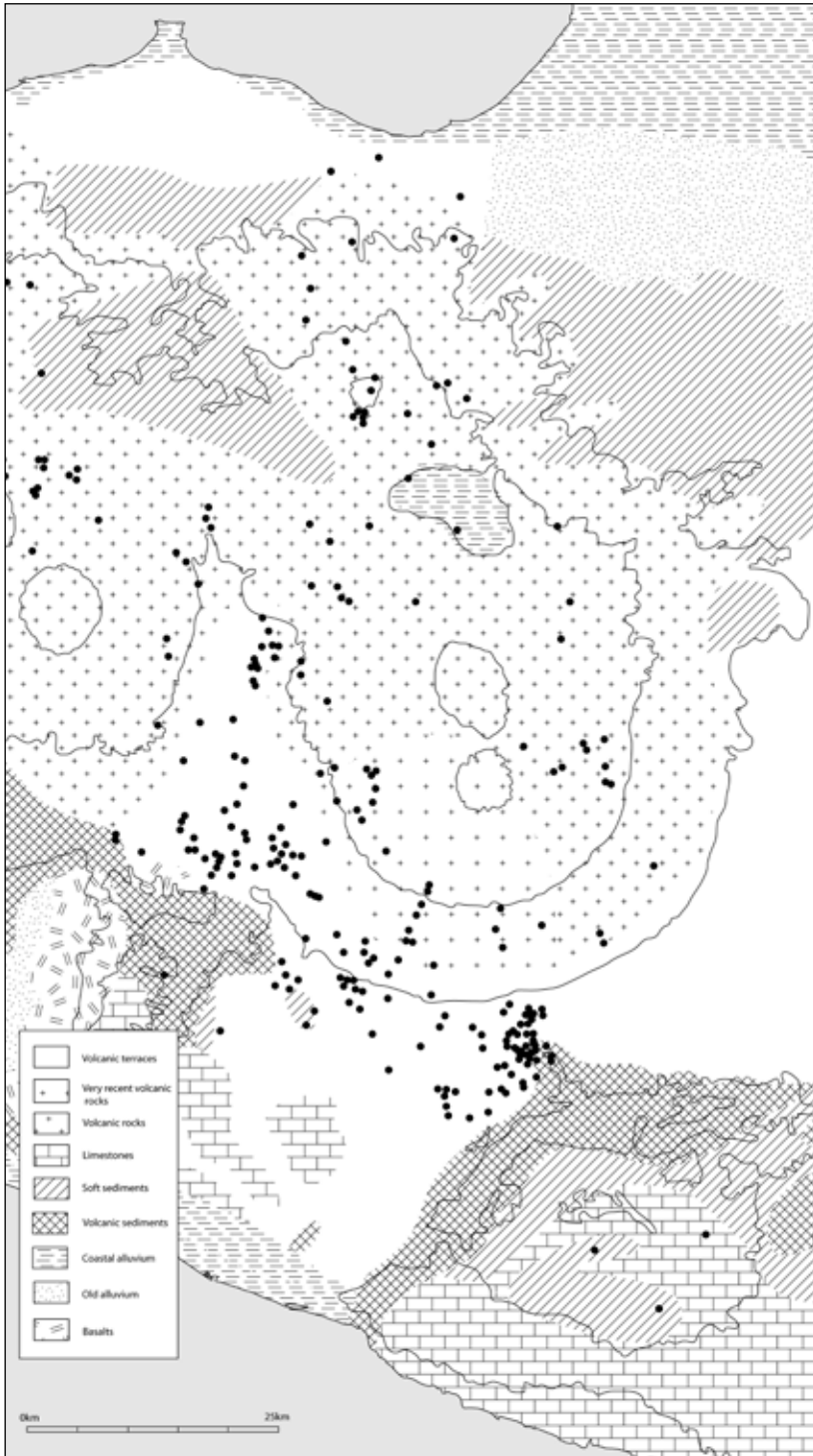


Figure 18: Temple remains and geology

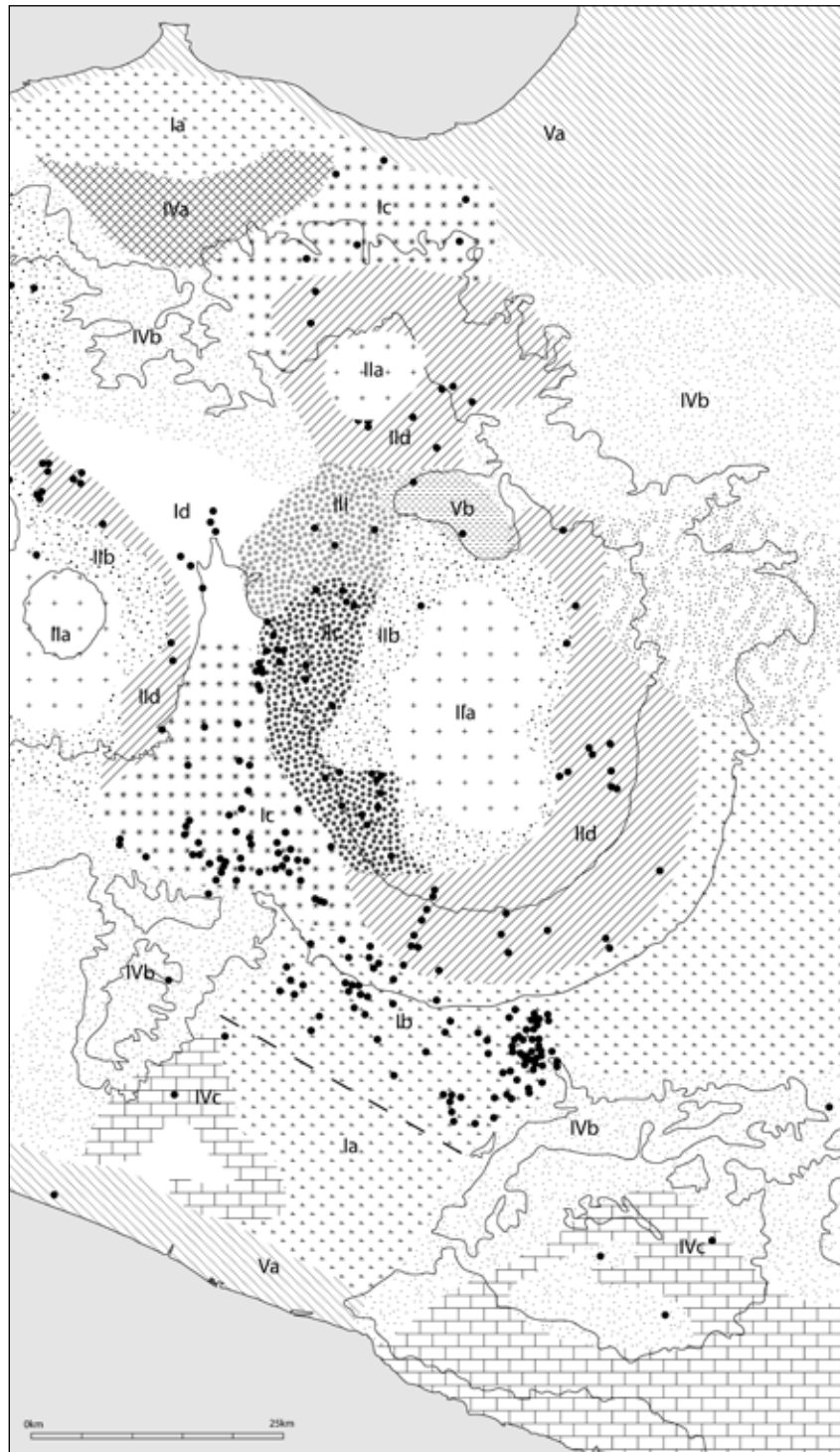


Figure 19: Temple remains and ecological zones

		Suitable for wet-rice?	Sites	Distribution Pattern
Volcanic formations				
Plains and terraces				
Ia	Flat, volcanic plain with high ground water potential, crossed by a few, large rivers.	Yes	0	/
Ib	Volcanic plain, sloping gradually to a flat plain, with high ground water potential and numerous – though mainly small – rivers.	Yes	85	Dispersed (regular)
Ic	Gently undulating volcanic terrace, gradually flattening, with good ground water potential and numerous rivers.	Yes	57	Dispersed (random)
Id	Undulating volcanic terrace, dotted with hills, with good ground water potential and numerous rivers.	Yes	6	/
Ie	Volcanic terrace interrupted by a sediment formation, gradually sloping down, with limited ground water and numerous, small rivers.	Yes	0	/
Mountainous areas				
Ila	Volcanic peaks, with extremely limited ground water potential and almost no permanent watercourse.	No	0	/
Ilb	Steep volcano slopes, with limited ground water and a few, small rivers.	No	8	/
Ilc	Volcano slopes of medium steepness, with limited ground water and numerous, small rivers.	Yes	24	Clustered
Ild	Volcano slopes of medium steepness, with good ground water potential and numerous, small rivers.	Yes (depending on altitude)	50	Linear/ clustered
Hilly areas				
III	Dissected, hilly area between two volcanic massifs, with limited ground water and few, small rivers.	No	3	/
Sediments				
Hilly areas				
IVa	Undulating terrain made of volcanic sediments	Moderately	0	/
IVb	Steep hills made of volcanic sediments (tuff and other soft rocks), with very limited ground water potential, dissected by small, often intermittent rivers.	No	6	Clustered
IVc	Limestone (rounded) hills and cliffs, with limited ground water and very few, small rivers.	No	3	/
Alluvium				
Vla	Flat coastal alluvial plain with salty ground water.	Yes	2	/
Vlb	Inland alluvial area, with good ground water potential	Yes	1	/

Table 15: Central Javanese temple remains and environmental zones

the rivers of the DIY – Klaten area have their source. As they flow down Mount Merapi, the streams converge and join the *kali* of Glagah, Progo and Opak.

At first sight, the low plain stretching from the south of Yogyakarta to the Indian Ocean¹⁷⁶ seems to have everything necessary to become a rich agricultural zone: fertile volcanic soil, high ground water potential, large rivers (the Progo

176 The same remark is valid for the plain to the east of Semarang (between Semarang and Grobongan) and for the plain of Demak.

and Opak) and a uniform, flat topography. Nevertheless, the last two elements mentioned, when associated with one another, may constitute a handicap rather than a blessing. In the region of Bantul, the landscape is almost completely flat and the rivers, though large, are not numerous; this would actually make wet-rice cultivation more complicated than, for example, in the Prambanan plain. The comparative scarcity of watercourses would have necessitated the digging of irrigation canals to bring water to the fields from the large but distant rivers – and the flat topography would not have helped. If, as stated by J. Wisseman Christie, the size of the population was low and farmers were not under pressure to intensify rice production (Wisseman Christie 1992: 11), then there was no reason to settle in such an area, especially since land was still available in zones more suitable for rice cultivation. Furthermore, large waterworks would probably have required the court itself to play a practical role in their construction and upkeep. This type of royal involvement was apparently lacking in Central Java (Wisseman Christie 1992: 17). Moreover, if we accept that the fluvial water flow was more voluminous in earlier times,¹⁷⁷ then we may conclude that the area south of Yogyakarta, with its wide rivers and slopes of less than 1%, might have seen regular flooding, at least in the areas bordering waterways.

If one integrates the ease of implementation into the equation, then the areas most suitable for wet-rice cultivation are (in decreasing order): 1) the gently sloping volcanic plains and terraces situated around Mount Merapi (Figure 19; table 15: Ib, Ic); 2) the southern and eastern slopes of Mount Merapi, Mount Ungaran and parts of the eastern slope of the Sundoro-Sumbing massif (Figure 19; table 15: IId); 3) the plain of Bantul; and 4) the western slope of Mount Merapi (Figure 19; table 15: IIc) and the undulating terrace forming the upper Progo valley (Figure 19; Table 15: Id). This classification corresponds almost perfectly with a classification of ecological zones according to site density.¹⁷⁸

We have thus shown that there is a direct correlation between temple density and the suitability of land for wet-rice cultivation. Since it would be nonsense to maintain that the most fertile terrains of Central Java were free of cultivation, we must conclude that the plains of Prambanan and Muntilan, as well as the lower slopes of Mount Merapi, were actually cultivated and that most of the temples stood in the vicinity of rice fields.

177 See above, p.15.

178 The only exception is the plain of Bantul, where one would expect to find remains at regular intervals of at least medium distance along the main rivers. Their absence is therefore still puzzling. However, after completion of my own fieldwork, Mundarjito has reported the existence of at least nine brick structures in the plain around the modern town of Bantul: Bintaran, Cepit, Janggan, Jonggalan, Kauman, Kedaton, Melikan, Tajeman, and Watugedog. He has identified two of them as temples (*candi*), namely Bintaran (Bintaran, Srimulyo, Piyungan) and Kauman (Kauman, Plered, Plered) – the last is most probably Payak. *Yoni* were discovered at Melikan Tajeman and Watugedog as well. Unfortunately, no further description of the sites is available. Since I have not visited them yet, I cannot assert that these remains date back to the Central Javanese period: brick structures from the early Islamic period and collections of artefacts are previously known to exist in the area.

The association between temples and rice is well documented in inscriptions. From early times, *sawah* were probably the most important sources of wealth, and temples were dependent on the produce and income from wet-rice fields (Wisseman Christie 1992: 11). As testified by the inscriptions, temples relied heavily on levies on certain *sawah* for their upkeep and maintenance. In the epigraphical record, ample measures are given for the transfer of taxes on *sawah* in favour of a religious foundation.¹⁷⁹

However, the relation between temples and cultivated land seems to have been a complex one. Temples were not always built in the middle of existing *sawah* land; they were apparently also used to stimulate wet-rice cultivation. Several inscriptions clearly mention that tax authority was given to a temple on the condition that the land was transformed into *sawah*. In the inscription of Kwak I, for example, one can read that: “(...) on a palm-leaf was written a confirmation [of the grant status] of the tgal (dry-field) land at Kwak, to be marked out for the creation of wet rice fields to become *sima* of the tower-temple of Kwak” (Wisseman Christie 2002-2004: n° 98).¹⁸⁰

Temple remains and settlement patterns: a possible correlation

A corollary of the close association between temples and rice-fields is the relationship between temples and settlements. Rice-fields require a work force, i.e. village communities. If we accept the hypothesis that the vast majority of the temples located in highly fertile areas were built in the vicinity of rice-fields, then we must also admit that they were built in the vicinity of settlements. However, this does not mean, as we have seen in the case of Prambanan, that temple distribution perfectly replicates settlement patterns. Temples are a clue to the understanding of settlement, but this clue is not precise enough to allow us to pinpoint ancient villages on a map. Dense, clustered distribution patterns, especially, should raise our suspicion, as they might indicate a religious centre rather than a centre of population. It is nevertheless striking that, in the zones that have the highest density of temple remains and are the most suited for wet-rice cultivation, – the temples, though close to one another, are scattered rather

179 *Sima* (freehold) grants that include *sawah* dedicated to temples are mentioned in the following Central Javanese inscriptions: Kamalagi (821 A.D.), Kayumwungan (824 A.D.), Abhayānanda (826 A.D.), Tru I Tepussan I & II (842 A.D.), Wayuku (854 A.D.), Śiwagha (856 A.D.), Lintakan, Talaga Tanjung (862 A.D.), Wanua Tengah I, II and III (863 A.D.), Kurambitan I & II (869 A.D.), Śrī Manggala I & II (874 A.D.), Humandīng (875 A.D.), Lanḍa A & B (c. 879 A.D.), Kurungan (885 A.D.) and Lintakan (919 A.D.). See Stutterheim 1940b: 29-32; Casparis 1956: 280-330; Boechari 1959; Soekarto 1969: 18-21; Sarkar 1971-1972: n° 7, 9, 10, 13, 14, 18, 19, 24, 26, 27, 28, 32, 108, 136; Suhadi & Soekarto 1986: n° 2.7.2; Wisseman Christie 2002-2004: n° 53, 71, 72, 100.

180 The Central Javanese inscriptions that refer to *sima* grants for land to be transformed into wet rice fields are: Mamali (878 A.D.), Kwak I & II (879 A.D.), Ra Tawun I & II (881 A.D.) and Ra Mwi (882 A.D.). In the inscription of Taragal (881 A.D.), the land granted had to be developed for housing. See Sarkar 1971-1972: nr 40, 41, 49, 52; Suhadi & Soekarto 1986: n° 2.7.5, 2.7.6; Wisseman Christie 2002-2004: n° 112.

than clustered. Such a distribution pattern is precisely what one would theoretically expect for settlements in a highly fertile area: a high population density, but spread out over the entire area in order to maximize the exploitation of the agricultural resources of the land. We may thus reasonably suggest that distribution patterns of temple remains in the Yogyakarta and Mutilan plains have a direct correspondence to settlement patterns. Within this context, the slight tendency towards a regularity of temple distribution in the Yogyakarta plain could be interpreted as the sign of a particularly high population density and a competition for land – with villages tending to settle as far as possible from one another, but still on fertile ground, leading to a regular distribution of settlements.¹⁸¹ If this is true, it might help to explain the growing interest of Central Javanese rulers in East Java: an increase in population density, the subsequent pressure on cultivable land and the need to find new land equally suitable for wet-rice cultivation.

Moreover, temples may also have encouraged the existence of a growing manufacturing sector. In order to comply with the needs of the cult, temples certainly required fine products (such as cloth, jewellery, ceramics and sculptures) and sustained the development of a local industry (within or outside their *sīma*).

The interests of the individuals – whether *mahārāja*, *rake* or *samgat* – who transferred their tax authority to a temple is difficult to evaluate. No Central Javanese inscription provides us with a definition of the term *sīma*, so that it is impossible to determine the exact tax status of a *sīma* grant, or the loss it may have represented for the person previously holding fiscal authority over that particular piece of land. It is not obvious from the epigraphic data whether all the taxes were automatically transferred to the religious authorities. Barrett Jones notes that exemption of levies on craftsmanship and other secondary sector activities are specifically mentioned in a number of inscriptions. This would

181 The relationship between increased population, high site density, greater competition between sites for land, and greater uniformity in spacing has been shown by Hudson (1969). See also Hodder & Orton 1976: 73.

suggest that these exemptions were exceptional – and were not part of the basic privileges of a *sīma* (Barrett Jones 1984: 61).¹⁸²

Although temple building resulted in a loss of revenue in terms of *sawah* taxes (at least when the temple was associated with a *sīma* that already included wet-rice fields), it could also support the local economy and help to develop more lucrative activities from which the king or *rake* usually collected the revenue.

Outside the fertile plains: temples and ancient routes of communication

The density of temples, as we have seen, is particularly significant in the Prambanan area and, to a lesser degree, in the Borobudur-Muntilan zone. In both zones, temples are directly related to wet-rice cultivation and, most probably, to settlement. Numerous temples, however, exist outside these rich agricultural plains, in areas moderately suited – or not suited at all – to wet-rice field cultivation. Temples located on - or in the direct vicinity of - mountain peaks clearly form a case apart, to which I will return in the last part of the chapter. For the time being however, I would like to draw attention to the temples located on the undulating terrains of the upper Progo valley, in the hilly area between Mounts Merbabu and Ungaran, and on the eastern slope of Mount Merapi.

182 Inscriptions do not exactly tell us that the *sīma* was exempted from taxes, but that the *mangilala drwya haji* (“those claiming the king’s property”) were forbidden to enter the *sīma* and that the religious foundation had the sole authority over the taxes from it. According to Barrett Jones, these “royal tax collectors” probably bought the right to collect taxes on certain activities from the king, possibly by giving a fixed amount of money once or twice a year (Barrett Jones 1984: 14). When they went to collect the taxes, they certainly pressured the villagers as much as possible in order to increase their own profit. However, that the *mangilala drwya haji* were forbidden from entering a *sīma* does not necessarily mean that tax was not paid, or was paid solely for the benefit of the religious foundation. It could equally signify that the institution having authority over the *sīma* was directly in charge of collecting the taxes, with at least a part of the profits still due to the lay administration.

This was certainly the case with the *sīma* recorded in the inscriptions of Telang II, Sugih Manek, Palebuan and Sangguran. In these four cases, the *mangilala drwya haji* were forbidden from entering the *sīma*, but the surplus of certain trade and craft activities was still paid to them. Furthermore, the profits from producing black paints (dyes?), purple-red paints, spinning, making bed-covers and pillows, etc. were to be divided into three parts: one for the religious foundation, one for the protector of the freehold and one for the collectors of royal taxes. In other words, the king or the *rake* still had a share in the most lucrative activities of the *sīma*.

Central Javanese inscriptions that record a ban on tax collectors from entering a *sīma* are those of: Munduan (847 A.D.), Kancana (860 A.D.), Ra Mwi (882 A.D.), Er Hangat A & B (885 A.D.), Telang II (904 A.D.), Sangsang (907 A.D.), Taji Gunung (910 A.D.), Timbanan Wungkal (913), Sugih Manek (915 A.D.), Palebuan (927 A.D.) and Sangguran (928 A.D.). See Kern 1917: VII, 17-53; Sarkar 1971-1972: n° 22, 52, 65, 72, 80, 82, 84, 93, 96, 106; Wisseman Christie, 2002-2004: n° 48, 124.

Small aggregates of temple remains occur, as we have seen in the previous chapter, near the modern towns of Secang and Parakan. A smaller cluster of temples is also located slightly to the east of Boyolali, on the eastern flank of Mount Merapi. In these three cases, temples are situated on relatively fertile land, but land that is not highly suitable for wet-rice cultivation: The area of Secang is made up of a multitude of small hills and has a limited ground-water potential; the remains around Parakan are located at the upper limit of modern wet-rice fields; while the temples around Boyolali are situated at an altitude which is equally unfavourable for wet-rice cultivation. It is thus very unlikely that this type of agriculture played an important role in the development of these sites.

Secang is relatively close to Muntilan and the temples seem to form a line between the two areas. In the cases of Parakan and Boyolali, however, the physical connection to the plains is quite close. Seven temples, scattered along the Progo River, link Parakan to Secang (and further to the Muntilan area), while only a couple of remains have been reported between Prambanan and Boyolali.

Should these aggregates of temple remains be regarded as secondary centres? The location of Secang, outside but nevertheless in the direct periphery of the core region would suggest so. Are Boyolali and Parakan the remains of originally independent polities that were integrated at a relatively late date into the Central Javanese kingdom? This would at least explain why the territory between these centres and the agricultural plains has yielded so few archaeological remains. In the present state of our knowledge, it is unfortunately impossible to give a definitive answer to these questions. Rather than focusing on how and when these different centres developed, I will try to explain why these places were important for a Hindu-Buddhist polity centred in the plains of Muntilan and southern Central Java. My own hypothesis – which does not exclude the possibility that other factors may have participated in the appearance of these clusters of sites – is that Secang, Parakan and Boyolali are key nodes along a network of communication routes.

Since Secang, Parakan and Boyolali are not places of importance for wet-rice cultivation, their significance must lie elsewhere – and since this book is dealing with the relationship between temples and their natural environment, I propose to observe more closely the landscape around these three clusters of remains. Secang is located in the Progo valley, but in a transitional zone between the valley itself and the hilly region that separates Mount Ungaran from Mount Merapi. Parakan is the northernmost point of the valley, at the foot of Mount Sundoro and of the hills that link Mount Ungaran to the Prahū massif and the Dieng Plateau. Boyolali, however, does not seem to be located in a transitional zone.

Let us now consider the distribution of the remains around Secang, Parakan and Boyolali. It is noticeable that, around Secang, the remains are mainly distributed in three directions: to the south (along the Elo River, in the direc-

tion of Muntilan), to the northwest (along the Progo River, in the direction of Parakan), and to the northeast (across the hills, towards the modern town of Ambarawa). Around Parakan, most of the remains are found to the southeast (along the Progo River), but at least three are located to the north, across the hills. The case of Boyolali is less clear: no remains have been found in its direct neighbourhood, but more distant sites are visible to the north and south. Now, it happens that this description fits almost perfectly with a map of the modern road network – a network that has simply been superimposed over a road system already in use for centuries.

That the roads heading east from the Prambanan area and north through the Kedu plain were already well-known before the introduction of modern transportation is demonstrated by sources dating back to the 17th and 18th centuries.

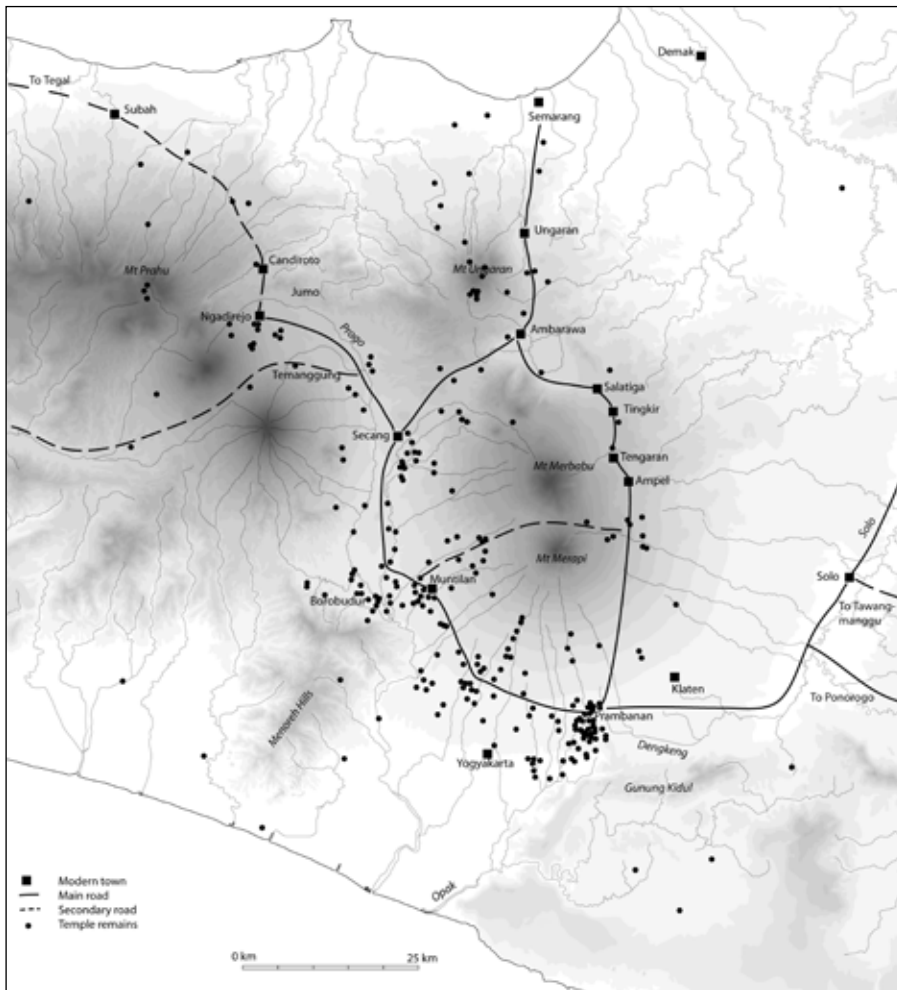


Figure 20: Tentative sketch of Central Javanese routes

This is not the place to analyse in detail the testimonies of Dutch travellers concerning the road system in the kingdom of Mataram; for such a study, I refer the reader to the work of Schrieke (Schrieke 1957). I will mention here only those facts that are significant for the Prambanan and Magelang areas and which may throw some light on transport routes in the Hindu-Buddhist period.

In the report of his journey to Mataram (i.e. the Yogyakarta-Prambanan area) in the year 1656, Van Goens mentions that there were only three roads leading out of Mataram: 1) a road going north to Semarang *via* Prambanan; 2) a road going west to Tegal *via* Muntilan; 3) a road going east to Blambangan *via* the Solo plain (Figure 20; Goens 1856: 348).¹⁸³

From additional sources, it can be determined that the first road, the one going from Mataram to the northern coast, passed through Prambanan, Ampel, Tengaran and Tingkir. From there, one route led to Semarang *via* Ungaran, while the other headed directly north to Demak (Goens 1856: 307-312; Jonge 1869, IV: 88-95; 1870, V: 40-46; Fruin-Mees 1926: 409-413).¹⁸⁴

The road going west *via* Muntilan, and considered “very difficult to travel” by Van Goens (van Goens 1856: 348), was described by de Haan in 1622 (Jonge 1869, IV: 284-300). The route crossed the Kedu plain up to Jumo, then headed north through the mountains and met the coastal road around Subah. From Subah, the road led west to Tegal *via* Batang, Pekalongan and Pemalang.¹⁸⁵ Another road heading west to Tegal – *via* the southern coast – was mentioned

183 “De groote populouse hooftplaets Matârâm heeft 3 wegen om uit deselve te vertrecken ende anders geen, te weten: de eerste hier vooren beschreeven, als den gemeijnsten, gaet uijt de Matârâm Noordwaerts nae Samârangh, welcken wech als den gemakelijxten ende corststen door de poort Tadie meest bewandelt ende ordinair bereijst wert; de 2^{de} wegh gaet nae ’t Westen, ende compt uijt omtrent Tagal, doch is seer moeijelijck; de principaelste poort is hier genaemt Tourajan; de 3^{de} wegh gaet nae ’t Oosten en compt uijt omtrent Balambanghan (...)” (Goens 1856: 348).

184 This road was described in 1618 by van Maseyck (Jonge 1869, IV: 88-95), in 1624 by de Vos (Jonge 1870, V: 40-54), in 1630 by Franssen (Fruin-Mees 1926) and in 1656 by van Goens (Goens 1856). The most complete account is given by Franssen, who gives the names of the following localities: Samarangh (Semarang), Jaty Diejar (Jatijajar, between Ungaran and Bawen), Tongtang (Tuntang), Sasanga (Kesongo), T’sandy (Candi), Pamelouttas (Puluhan? – the three latter villages are between Tuntang and Salatiga), Sallatyga (Salatiga), Caelytiaetsingh (Kalicacing), Tallaga (Tlogo), Inckir (Tingkir, SSE of Salatiga), Caeli Gandou (Kaliganu, near Ngentak), Tangaran (Tengaran), Calyloo (?), Ingampel (Ampel), Sallandacka (Selodoko), Pangack ieran (Payungan?), Ingamboir (Ngambuh), Sallamby (Slembi, S of Boyolali), Lomboen (?), Mandalangou (Mondolangu, between Boyolali and Jatinom), Poelou Waetou (Puluh Watu), Lousa (Lusah, WSW of Klaten), Tagkijsan (Tangkisan), Pammaloon (Plembon?) and Taedzy (Taji, just east of Prambanan). We can see here that the route corresponds roughly with the modern Solo-Boyolali highway. South of Boyolali, it runs close to the Boyolali-Jatinom-Klaten road, although it did not end in Klaten, but further to the west, closer to Prambanan. Temple remains are found all along the route, from Prambanan to Semarang. It is more than probable, therefore, that the road was already in use during early times.

185 De Haan describes the road from Tegal and mentions the following places: Tegal, Somber, Pamalangk (Pemalang), Wiradeça (Wiradesa), Pecalongangh (Pekalongan), Batangh (Batang), Suba (Subah), Pakis (SE of Subah), Tragalangong (?), Tatiem (Tajem, near Ngadirejo), Juma (Jumo), Pakiswieringh (Pakisan, near Temanggung?), Piaman (Payaman, N of Magelang), Tidar (Magelang), Sukerbe (Srikuwe, near Blondo) and Touraian (Trayem, near Muntilan). See Jonge 1869, IV:284-299.

by W. van Imhoff in 1746. It passed through Ambal, Karanganyar, Banyumas and Purwokerto (Imhoff 1853: 406-413).

Three roads leading east are mentioned in documents of the 17th and 18th centuries. The most commonly used route from Mataram to the eastern sea headed from Prambanan to Pasuruan *via* the southern foot of Mount Lawu (Schrieke 1957a: 109). Two secondary itineraries are possible, one through Solo and Tawangmangu (described by Theling in 1742, see Gijsberti Hodenpijl 1918: 601-608; Schrieke 1957: 108), the other *via* the northern slope of Mount Lawu (Schrieke 1957: 108).

If we base our judgement on these descriptions and on the distribution of both the temple remains and inscriptions, it appears that the three major roads leading out of Prambanan were already in use during the Central Javanese period. The road going from Prambanan to the northern coast through the Kedu plain is absolutely clear. The distribution of temple remains suggests that, as today, the road diverged in the area of Secang. The western branch headed to Ngadirejo and the eastern one to Ambarawa, from where it continued further to the coast. A couple of temple remains located in the northern part of the *kabupaten* of Temanggung and in the southern part of the Kendal district suggest the hypothesis that the western road also continued to the coast, through the region of high hills separating Mount Prahū from Mount Ungaran.

The inscription of Mantyaṣiḥ I (907 A.D.) and the presence of temple remains in the Serayu valley suggest that another branch of the northern road connected the Progo valley to the Wonosobo area. The inscribed copper plates are said to come from the Temanggung area. The text explains that a grant had been conferred on the *patih* officials of two local communities, partly because they were in charge of protecting a high road in the region of Mount Sumbing and Sundoro.¹⁸⁶

Temple remains and inscriptions on the eastern slope of Mount Merapi, from Klaten to Salatiga, suggest that this route too was known during Central Javanese times.¹⁸⁷ As for the road heading east *via* the southern slope of Mounts Lawu and Ponorogo, the locations from where the inscriptions of Taji (Ponorogo), Telang I and Telang II (Wonogiri) were found testify to its existence already by the early 10th century.¹⁸⁸ The inscription of Telang II, issued by King Balitung,¹⁸⁹ is a particularly interesting piece of evidence. Given that it commemorates the

186 See Sarkar 1971-1972: n° 70.

187 The temple sites found close to this route are: Sanjaya (near Tingkir, south of Salatiga), Ngentak (near Klero and Tenganan), Sumur Songo (between Ampel and Boyolali), Manggis, Tampir and Pahingan (these three sites are west of Boyolali, in the area of Musuk), Candirejo (south of Boyolali, near Mondolangu) and Merak/Karangnongko (northwest of Klaten). Four inscriptions are reported as having been found in the Boyolali area, namely the inscriptions of Boyolali, Garung, Upit and Candi Lawang (Sarkar 1971-1972: n° 8; Soekarto 1975: 247-253; Nakada 1982: n° 34; Wisseman Christie 2002-2004: n° 6).

188 Taji is dated to 901 A.D., Telang I to 904 A.D. and Telang II to 904-905 A.D. See Sarkar 1971-1972: n° 61, 65, 70; Nakada 1982: n° 80, 86, 87.

189 *Śrī Mahārāja Rakai Watukura Dyah Balitung Śrī Dharmmodayamahāsambhu*.

demarcation of a freehold to maintain a free ferry-service on the Begawan Solo, it may be assumed that the traffic on this river was important enough for the king himself to take measures to support it. The absence of a tollgate must have greatly facilitated communication and trade between Central and East Java.

Traces of a road heading west *via* the southern coast are not so clear, although several *yoni* discovered in the *kabupaten* of Kebumen suggest that Hindu-Buddhist culture also spread some extent along this route.

It is possible that a secondary road linked the Progo valley directly to the Solo plain, passing between the peaks of Mounts Merbabu and Merapi. The positions of the *candi* of Asu, Pendem and Lumbung, Sari and Lawang show that important religious sites were located high on the slope of the Merapi-Merbabu massif, at each end of the high pass running between the two peaks. Traces of a temple were once visible along this pass, at more than 1,300m above sea level, as reported by Van der Vlis (quoted by Krom 1925a: 181ff). This Dutchman, who was told the temple had been destroyed by a mudflow, was still able to identify several sculptures and temple stones.

Epigraphic records and comparisons with 17th and 18th century documents show clearly that temples were placed in close correlation with communication routes. Temples not only benefited from the roads, but they also contributed to their maintenance. Roads established connections between the rice-producing areas of the south Kedu plain and the Prambanan area, the harbours of the northern coast and East Java. It is only natural that agricultural estates developed along these routes, taking advantage of the access they offered to developed local economies, thereby taking an active part in regional trade and, finally, increasing the wealth of local communities. On the other hand, temples were not simply a by-product of the integration of provincial centres into a larger network. As stated in a couple of inscriptions, religious foundations and freeholds were sometimes created with the express purpose of securing roads.¹⁹⁰ This occurred especially in more remote areas, like Temanggung, or on the southern side of Gunung Lawu, where patches of forest probably outnumbered rice fields and settled lands.

To summarize, the clusters of temple remains around Secang, Parakan and Boyolali can thus be, at least partly, explained by their position within a network of communication roads. Secang is located at the junction of the route linking the plain of Muntilan to the upper Progo valley and the northern coast (*via* Ambarawa). Parakan/Ngadirejo is at the beginning of two mountain roads, one climbing to the Dieng plateau, the other crossing the hills to the north as far as the coast. As for Boyolali, it is situated mid-way along a route leading from Prambanan to the north coast *via* Salatiga. The fact that remains along

190 The inscription of Canggal (732 A.D.) praises king Sañjaya, underlining that while he was ruling on earth people could sleep on the roadside without being startled by thieves (Sarkar 1971-1972: n° 3). Although this might be a literary *topos*, it might additionally reflect a real concern in securing roads from the very beginning of the Central Javanese kingdoms.

this route tend to be more widely spaced and are of a later date further suggest that it was developed after the others and was perhaps not yet entirely secured when the political centre of the kingdom was transferred to East Java.

Temples remains and local landscape markers

Up to now, we have considered the distribution patterns of Hindu-Buddhist temple remains and have compared them to the general environmental features of Central Java (ecological zones and regional morphology). We have thus shown that zones where temples are numerous but scattered correspond to the agricultural core of the kingdom, that clusters of temples mark important communication crossroads and that temples located in the hilly areas of north Central Java and on the eastern flank of Mount Merapi are spread along the roads linking the core region to the northern coast. But we have not yet approached the question of the precise location of particular temples – or sets of temples. Within a given environmental zone, or along a given communication road, do local landscape markers influence the choice of a building site? In the following paragraphs, I will focus on the possible role played by topographic relief (hills and mountains) and by water (rivers and springs).

Temples on isolated hilltops

Even when located within plains and valleys, temples are not always built on flat ground. In fact, there is a whole set of shrines that are clearly associated with topographical markers – namely hills and mountains: temples built on small, isolated hilltops and temples located in high, remote areas.

In the area of our focus (DIY, Klaten, Magelang, Semarang and Boyolali), 16 temples belong to the first group.¹⁹¹ Built at the top of a hill, they convey a different impression than temples built in the shadow of high volcanoes. They appear to fuse with the hill and form an apex to be reached by visitors. They organize the natural landscape and re-shape the hill, so that it conforms to cosmological principles. The presence of a temple at its summit transforms the hill into a replica of Mount Meru, the axis of the universe. Although the temple

191 Namely Abang, Gunung Mijil and Sanan (in southern Central Java), Bobosan, Borobudur, Candi, Gunung Gono, Gunung Lemah, Gunung Pring, Gunung Sari, Gunung Wukir, Singabarong and Soborojo (in Kabupaten Magelang), Dukuh, Sari and Wujil (in the *kabupaten* of Semarang and Boyolali). In other areas of Central Java, hilltop temples have been reported at Ganawerti Wetan and Pengilon (in Kendal), Candinegara (in Banyumas), Wonokerso, Gunung Pertapan and Argapura (in Temanggung).

may itself represent Mount Meru, locating it on a hilltop makes the association even more obvious.¹⁹²

In Hindu and Buddhist thought, the symbolism of Mount Meru is inextricably, though not exclusively, linked with royal power. Mount Meru is not only the pivot of the universe, it is also the abode of Indra, who presides over the gods and is presented as a model of the Hindu/Buddhist king. The inscription of Canggal, commemorating the erection of a *lingga* probably at Candi Gunung Wukir, states that Sañjaya was like Mount Meru and that his head was upraised like a mountain peak.¹⁹³ It is thus not surprising that, given their cosmological and royal associations, hilltops were considered appropriate building sites for Hindu-Buddhist shrines.

It must however be noted that hills were not systematically exploited for temple building. In the Sorogeduk/Gawe plain, for example, there is only a temple on the Abang hill, while no trace of archaeological remains have ever been found on the surrounding heights, such as the Bangkel and Curu hills. In *Kabupaten* Magelang, no remains have been found on the eastern Gendol hills or atop the Tidar hill¹⁹⁴ – although these hills are found in zones that do not otherwise lack remains. This would suggest that other factors, at least as important as local topography, played a role in the choice of the site.

Temples in high, remote areas

The second group of temples that is clearly related to topographical features consists of shrines built outside the wet-rice cultivation areas, and away from communication routes, in (relatively) high, remote areas. This group includes the temple remains at the northernmost tip of the Gunung Kidul hills, at Batur, Gedong Songo and Selogriyo.¹⁹⁵

The buildings erected on the northernmost tip of the Gunung Kidul have been raised on dry hills overlooking either the Prambanan or the Yogyakarta plains. These remains comprise Arca Ganesa, Barong, Dawangsari, Gupolo, Ijo, Miri, Ratu Boko, Sumberwatu and Tinjon. With the exception of Ratu

192 The location of temples on top of hills is by no means unique to Java. It is also a well-known tradition in the Angkor region, where temples crown almost all the surrounding heights. When all the natural hills had already been endowed with temples, Khmer architects started to build temples in the plain, on artificially raised land. A similar process may be observed at Loro Jonggrang and Sambisari, although Javanese temples never reached the heights attained by Khmer temple-mountains. Both Loro Jonggrang and Sambisari are built on raised terraces, so they actually rise above the surrounding plain, as if built on (small) artificial hills.

193 Sarkar 1971-1972: n° 3.

194 The Tidar is a small hill now located in the southern suburb of Magelang. Local tradition calls it 'the nail of Java', for it is thought that this small hill pins Java to the earth. It is therefore considered a supernatural terrain and is not built on.

195 One may add to this list the Dieng temple complex, which is located in the *kabupaten* of Wonosobo and therefore lies outside the main research area of the present study, as well as the temples on the northern flank of Mount Ungaran (*kabupaten* of Kendal).

Boko, they do not try to compensate for the dryness of the soil by adding associated systems of pools and water tanks.

A striking feature of these sites is that, in contrast to Abang and Gunung Mijil, they are not located on hilltops. This characteristic is particularly noticeable at Miri and Ijo, and to a lesser degree at Barong. Miri and Ijo are not built on hilltops, but just below them, so that the summit is clearly visible behind the temple. They therefore convey an impression quite distinct from the hilltop temples noted above. Candi Ijo does not represent the summit of Mount Meru, nor does it suggest the pivot of the universe. The real summit of Mount Ijo is a hundred meters behind the temple, and is markedly higher. The temple is no longer the central element, but is only the path that leads to the sacred location, materialised here in the form of the mountain. This impression is strengthened by the distribution of the buildings. The various shrines are spread over a series of terraces clinging to the mountain slope and organized along an east-west axis.¹⁹⁶ There is nothing here that brings to mind the concentric representations of Mount Meru found in Hindu-Buddhist cosmology. This form of organization, and its implication that the mountain is the true object of worship,¹⁹⁷ prefigures what was to happen in East Java. While both systems co-exist in Central Java, in East Java the mountain is commonly the religious point of focus, which led to the development of large mountain-oriented complexes, such as Mount Penanggungan or Panataran (Patt 1979; Klokke 1995).

Architectural and epigraphic data suggest that at least some of the sites located on the Pegat-Ijo hills were related to ascetic practices. This is obviously the case with the religious complex of Ratu Boko. The presence of meditation caves in the northern part of the compound already suggests that the place was used by hermits or ascetics. This interpretation is confirmed by the Abhayagiriwihāra inscription (Sarkar 1971-1972: n° 6a). The inscription, which was found near the *pendopo* terrace, begins with a reference to meditation caves that are not 'ruffled by the strong winds of popular cults'. It goes on to make references to an important Sri Lankan monastery named the Abhayagiri-*vihāra*. This monastery was closely related to the meditation monasteries built in the hills overhanging the Sri Lankan capital of Anurādhapura. In these monasteries, meditation and ascetism constituted an essential part of religious practice (Wijesurya 1998: 22-23). The relationship between Ratu Boko, the Abhayagiriwihāra inscription and the Sri Lankan Abhayagiri-*vihāra* has been underlined by several authors (Casparis 1956; Sundberg 2004), but this connection is not restricted

196 Regarding the spatial organization of Candi Ijo, see below p.159.

197 The inscription of Blado might relate to mountain worship, according to Wisseman Christie (Wisseman Christie 2002-2004: n° 4). The copper plates of Kuṭi however are the most explicit, as they invoke, "the spirits of Marapvi, Humalung, Karuṅdungan, the Mount Sumbi, the sacred (spirits of) Susuṅdara (...)" (Sarkar 1971-1972: n° 12): all of these spirits being mountains in Central Java. However, the inscription is difficult to date with precision: it is a late copy of an inscription dated 840 A.D., but apparently revised during the reign of Balitung (898-910 A.D.; see Wisseman Christie 2002-2004: n° 168).

merely to a mention in one inscription; it is also architectural (Miksic 1993-1994; Degroot 2006). In fact, the whole southeastern compound of Ratu Boko appears to have been conceived as a replica of Anurādhapura. Furthermore, the meditation platform, the most characteristic building in the meditation monasteries of Sri Lanka, was used as a model for the third building stage of the *pendopo* (Degroot 2006). There are therefore good reasons to believe that Ratu Boko was the habitation of Buddhist hermits.

But there are other references to ascetic practices from the Gunung *Pejat-Ijo* hills. An inscription found in the village of Dawangsari (due east of Ratu Boko) near a large Gaṇeśa statue deals with the worship of the god by *sādhu*, indicating that the site was used by Hindu ascetics (Serianingsih 1989: n° BG 355). Similarly, the inscribed golden plate found within the temple pit of Candi Ijo refers to Jaṭiḷa (Śiwa the Ascetic; see Casparis 1956:174; Wisseman Christie 2002-2004: n° 28).¹⁹⁸

Although the epigraphic records are missing for us to clarify the cases of Dieng and Gedong Songo, there are nevertheless good reasons to believe that, like the images of Ratu Boko or Candi Ijo, they did not stand in the middle of large settlements. First of all, in both cases, these two sites occupy a large area and are composed of numerous buildings. Although the shrines are quite small, their number alone places Dieng and Gedong Songo among the largest temple complexes of Central Java. Secondly, their natural environments, high and therefore relatively cold, are not suitable for rice cultivation.¹⁹⁹ It is thus improbable that the dimensions of these sites accurately reflect the size and richness of local communities. Thirdly, Dieng and Gedong Songo have both undergone several building phases, showing early as well as late features.²⁰⁰ A 14th-century inscription further testifies that Gedong Songo was still in use at that time (Nakada 1982: 154-155). All these indications suggest that the importance of Dieng and Gedong Songo outshone that of the surrounding villages, and that the worship performed on the Dieng plateau or beneath the summit of Mount Ungaran had a wider signification.

198 Figures of ascetics are also part of the decoration of the lowermost building of the Ijo temple complex.

199 It is not suitable for rice or other cereal cultivation, but is favourable for market gardening.

200 Dieng (Dihyang) is also one of the very few archaeological sites of which the name is mentioned in numerous inscriptions. The religious foundation at Dihyang received gifts in the inscriptions of Gunung Wule (861 A.D.), Bhatāra Dihyang (mid-late 9th c. A.D.), *Ra Kitan* (mid-late 9th c. A.D.), Indrokilo (882 A.D.) and Taji Gunung (910 A.D.). The name further appears in the inscriptions of Kapuhunan (878 A.D.), Panggumulan I (902 A.D.), Lintakan (919 A.D.) and Wintang Mas B (919 A.D.). In the inscription of Kuti, an East Javanese copy of an original document dated 840 A.D., the holy spirits of Dihyang are called upon in the curse formula to portect the *śima*. See Sarkar 1971-1972: n° 12, 23, 37, 64, 80, 86, 88, 102; Wisseman Christie 2002-2004: n° 70.

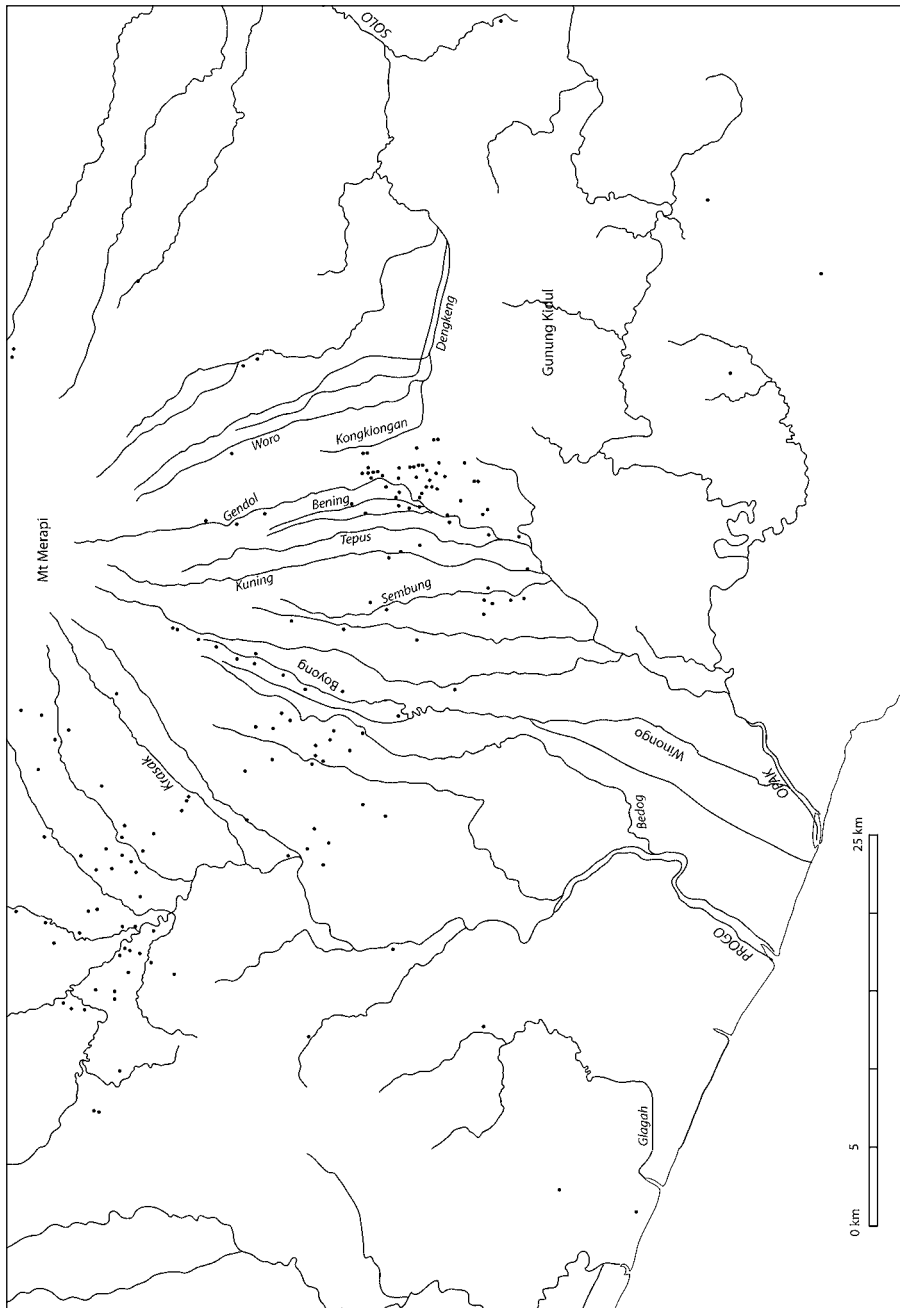


Figure 21: Temples and rivers in southern Central Java

Temples and rivers

Temples are found not only in well-watered areas: they are often built along rivers, thereby explaining the linear distribution patterns sometimes observed in the preceding chapter. In terms of the distance between temple remains and rivers, the present study again confirms for Central Java as a whole the findings made by Mundarjito (2002: 372) for the district of Sleman: ancient religious sites closely follow rivers (Figures 21-23). In southern Central Java (Table 16), as well as in the rest of the area under enquiry (Table 17), the large majority of temple remains is indeed located less than 600m from a river.

There does not seem to have been any preference for the east or west bank,²⁰¹ but some rivers were undoubtedly favoured. Numerous rivers are indeed bordered by a couple of sites, but nine waterways link at least four temple sites (Table 18).²⁰² In southern Central Java, those rivers are the Gendol/Opak, Kladuan, Bening and Winongo. In the Progo valley, temples are mainly located along the beds of the two main rivers of the area, the Progo and Elo, and along their more important tributaries, the Pabelan, Pucang and Blongkeng (Table 18). Finally, a series of remains are scattered quite high on the northeastern slope of Mount Sumbing, among the dozens of streamlets from which the Progo River emerges.

Distance temple-river	Number of sites	%
0-599m	80	72.7
600-899m	7	6.4
>900	23	20.9 ^a

Table 16: Distance between temple and river in South Central Java. a - These sites correspond to the temple remains located outside the plain, in the Menoreh hills and Gunung Kidul. They are mainly gathered on the northern tip of the Gunung Kidul hill, close to Prambanan. To these "hill temples" must be added the temple ruins of the Sorogeduk-Gawe plain, south of Prambanan.

201 39 sites are located along the western bank of a river, 24 along the eastern one, 9 are at roughly equal distance between two rivers, one is on the northern bank and we have no specific information for the remaining 5 sites (they are no longer visible and their exact locations are not known to a sufficient degree of precision).

202 The data might be biased for the *kali* Woro, Kuning and Krasak. These three rivers are subject to frequent *labar* and it is indeed possible that more archaeological sites in their neighbourhood are now buried under a thick layer of volcanic mud. Traces of mudflows are visible at quite low altitudes in all three cases. Moreover, a few sites have already been discovered in the riverbeds, completely covered by volcanic deposits; namely Lengkong (along the *kali* Krasak), Kaliworo (along the Woro River) and Kadisoka and Sambisari (along the *kali* Kuning).

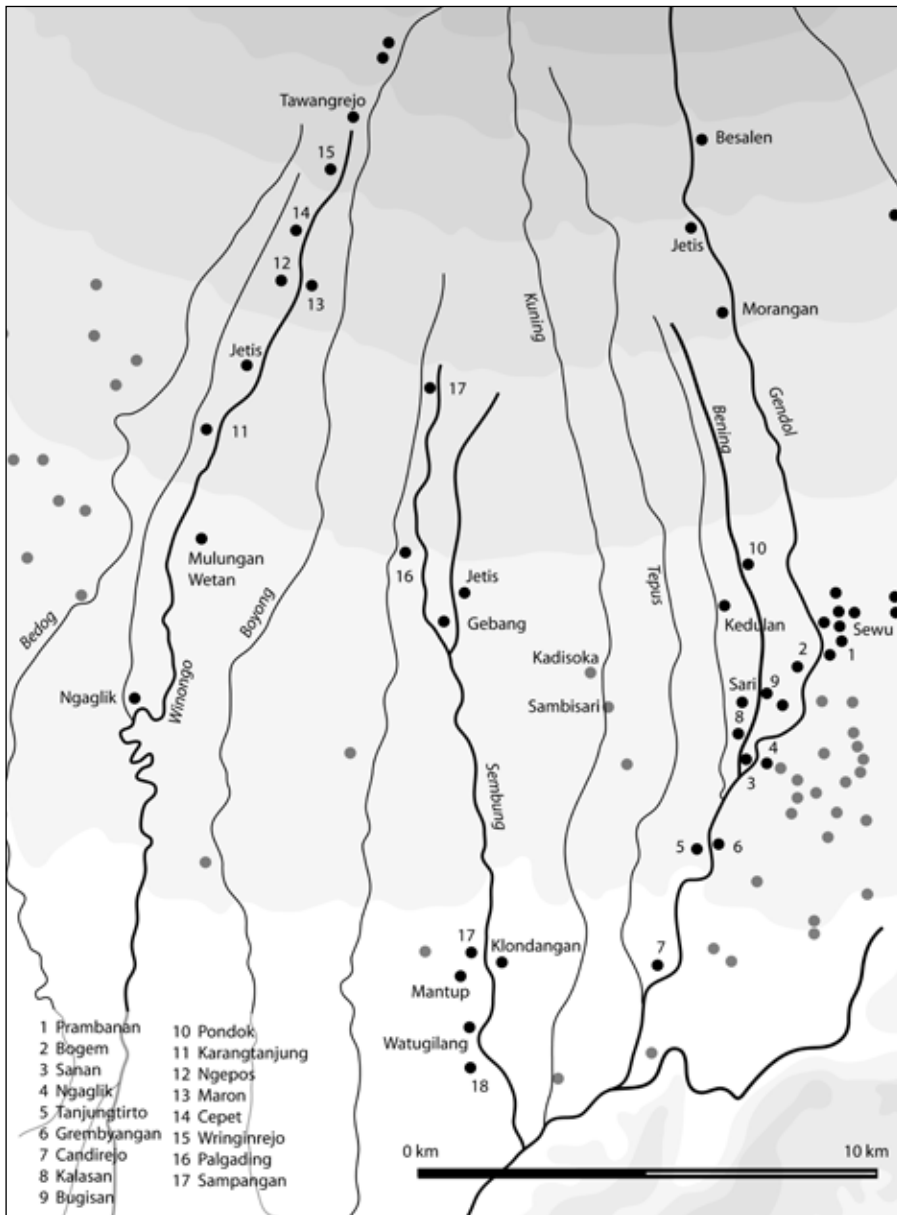


Figure 22: Temples and rivers around Prambanan and Kalasan

Distance temple-river	Number of sites	%
0-599m	116 ^a	92.8
600-899m	4	3.2
>900	5	5

Table 17: Distance between temple and river in Magelang, Temanggung, Semarang and Boyolali. a - Eleven sites are located near seasonal waterways.

River	Number of sites	Site names
Gendol/Opak	15	Besalen, Bogem, Bubrah, Candirejo, Gatak, Grembyangan, Jetis (Cangkringan), Kulon, Loro Jonggrang, Lumbung (Klaten), Morangan, Ngaglik (Prambanan), Sanan, ^a Sewu, Tanjungtirto.
Winongo	9	Cepet, Jetis (Sleman), Karangtanjung, Maron, Mulungan Wetan, Ngaglik (Mlati), Ngepos, Tawangrejo, Wringinrejo.
Kladuan/Blotan	8	Candi (Ngaglik), Condrowangsan, Gebang, ^b Klodangan, Mantup, Palgading, Sampangan, Watugilang.
Bening	6	Bugisan, Kalasan, Kedulan, Pondok, Sanan, Sari.
Elo	11	Bengkung, Candi, Gedongan, Kalimalang, Mendut, Nambangan, Progowati, ^c Rambeanak, Renteng, Tiban, Umbul.
Progo	9	Banon, Brangkal, Dimajar, Gunung, Jamus, Pawon, Plikon, Progowati, Tempurrejo.
Pucang	7	Cetokan, Jeronboto, Pucanggunung, Retno, Setan, Tidar, Tumbu.
Blongkeng	6	Gejagan, Gunung Sari, Ngampel, Nganten Kidul, Ngawen, Wates.
Pabelan	5	Asu, Gunung Lemah, Ketoran, Lumbung, Pendem.

Table 18: Main Central Javanese rivers in terms of the number of temple remains

- At the confluence of the kali Progo and kali Bening.
- On the west bank of the kali Srembung, although close to its confluence with the Blotan River.
- At the confluence of the kali Progo and Elo.

Besides being situated along a river, 17 sites are located in the direct vicinity of a confluence.²⁰³ A well-known example is that of Mendut and Pawon,²⁰⁴ located a few hundred meters to the north of the confluence of the Progo and Elo rivers. This is also the case for the *candi* Asu, Lumbung and Pendem, standing about 250m from the confluence of the Pabelan and Tlising Rivers. Other sites located near confluences are Ngaglik (the Winongo and Degung rivers), Gebang (the Sembung and Krandonan), Sanan (the Opak and Bening), Candi (the Elo and Malang), Samberan (the Merawu and Tangsi), Ngabean (the Tingal and Kedungsidi), Plikon (the Progo and Tingal), Pikatan (the Bendoperi

203 This occurrence is more frequent in the Progo valley than in southern Central Java.

204 Progowati is actually the archaeological site closest to the confluence, but it has now completely disappeared. According to the Balai Arkeologi, temple stones were still found in the hamlet some years ago (Tjahjono 2002: table 1).

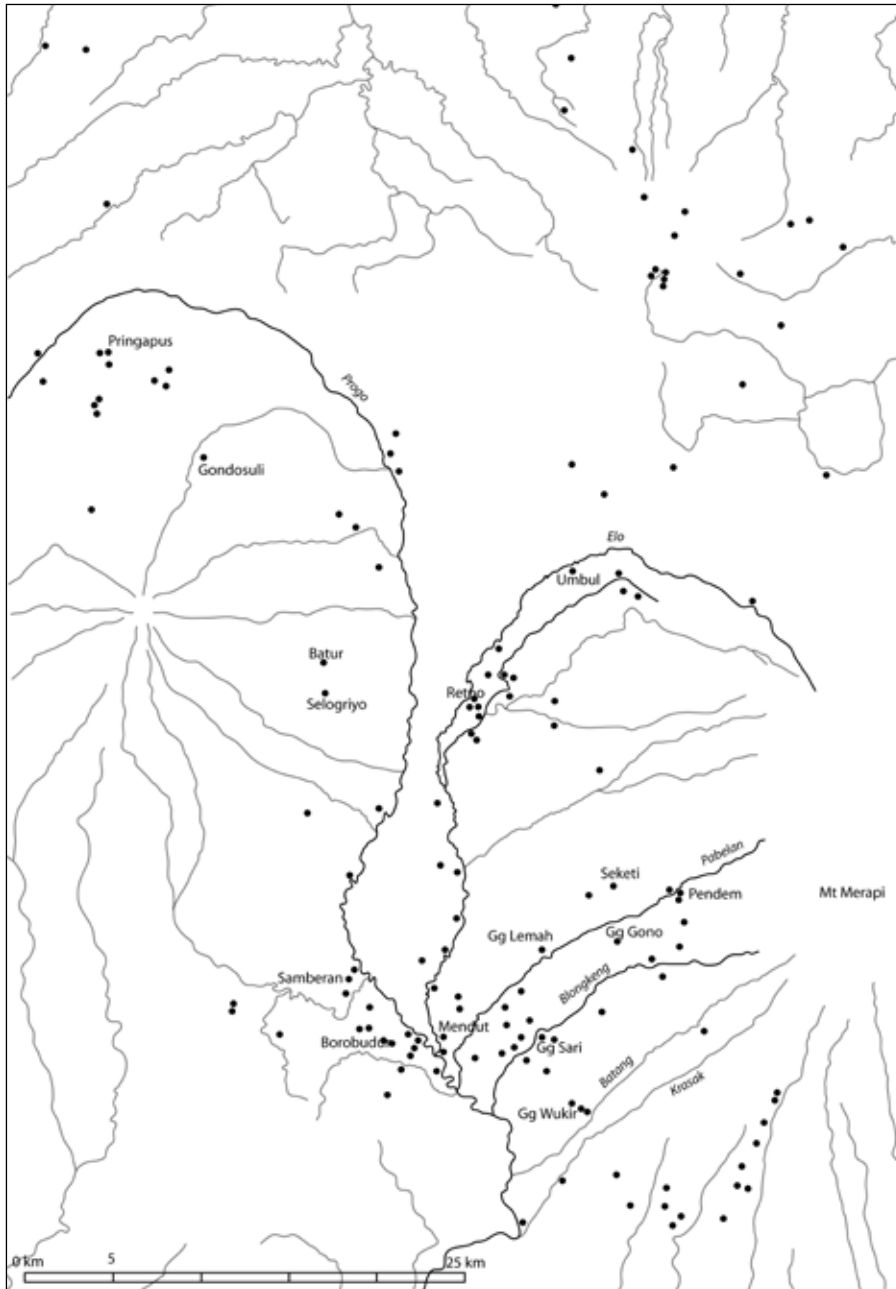


Figure 23: Temples and rivers in the Progo valley

and Jambe), Wonokerso (the Progo and Jambe), Ngempon (the Lulung and Wonoboyo) and Dimajar (the Progo and Merawu).

The temple-river association can be explained by two main factors: settlement patterns and religious concepts. After all, it is quite logical for a village to be located near fresh water – and rivers remain the most obvious source. In Central Java, we can see that temples located on the upper slopes of Mount Merapi, where ground water is less readily available, tend to cluster along rivers more closely than the remains in the lower plain – where many shrines are found in areas between rivers. This clearly reflects the expected settlement patterns: where ground water is scarce, villages tend to turn to rivers – rather than wells – for their water supply. Nevertheless, the close proximity between certain temples and the neighbouring river makes us suspect that religious factors were also at work. Temples such as Loro Jonggrang, Lumbung (Magelang), Gebang or Mendut are indeed so close to the river that a village could not possibly have been located between the temple and the watercourse. In other words, even though they might have been associated with a settlement, these temples were voluntarily built as close to the river as possible.

To understand the religious background of this association, I would like to consider briefly the significance of temple building in Central Java, the ritual importance of water, and the prescriptions regarding water made in Indian treatises on religious architecture.

Temple building was certainly one way for kings, *rake* or *pamgat* to add to their status, to increase their political influence and to acquire religious merit (in addition to confirming their legitimacy). The fact that *sima* were sometimes offered as a royal favour to *rake* shows that the creation of a *sima* was considered to be highly rewarding (Barrett Jones 1984: 67). In Buddhist inscriptions, this reward is explicitly stated: temple building was considered an effective way to acquire merit and, finally, to reach Buddhahood. This merit was not limited to the king only, but might be extended to his lineage and his people. The inscription of Kayumwungan gives a fine example:

(...) With the merit that he (the king) acquired by founding the abode of the Jina which is given the name Illustrious Venūvana, may he attain Sugatahood tenfold (?). That stage – invisible, immediate, extremely difficult to attain – is for his sons together with myself (the king's daughter), which I may attain soon. (Wissemann Christie 2002-2004: n° 35)²⁰⁵

205 Kandahjaya, in his recent dissertation, gives a different translation of the same passage, in which the connection between the merit acquired by the king and that of his daughter is not so obvious:

Whatever merit has been obtained by building the temple of Jina, which is similar to the famous Venūvana, by means of this [merit] may one attain Sugatahood which is tenfold.

May I quickly obtain the place of the sons of the Buddha (Buddhists), which is extremely difficult to obtain, unsurpassable, and beyond perception (i.e. *nirvāna*). (Kandahjaya 2004: 127)

Hindu inscriptions found in Java do not mention temple building specifically as a source of religious merit. Indian treatises on Hindu architecture however are clear about this relation and often underline that the doors of Indra's heaven open for the patron of such a construction (*Brhatsambhitā* LVI; *Bhaviṣya-purāna* VIII; *Agni-purāna* XXXVIII). According to the *Agni-purāna*, building a temple, “frees from sins incurred in thousands births (...), destroys sins such as the killing of a brahmin” (*Agni-purāna* XXXVIII).

Nevertheless, beyond religious merit and its implications for the after-life, the building of a temple was also supposed to ensure earthly wealth for the king and for his realm. References to prosperity occur in both Hindu and Buddhist inscriptions. The inscription of Kelurak, for example, states: “this Mañjuśrī image is present here to protect his own region and also to preserve carefully the properties of others, thus increasing the welfare and prosperity of both” (Sarkar 1971-1972: n° 46). In the inscription of Lintakan, one can read that “the owner of the *sīma* shall be happy and long living” (Sarkar 1971-1972: n° 162), while the inscription of Sugih Manek starts with the injunction: “Let there be welfare for all the worlds!” (Sarkar 1971-1972: n° 145, 150). As a physical expression of the economic resources of a king, a *rake* or a *pamgat*, the temple was also a confirmation of political power, a symbol that the king was fulfilling his mission of bringing wealth to his land, as an earthly Indra. The very fact that the king had succeeded in this mission was a sign that he was supported by the gods. In a world greatly dependant on wet-rice cultivation, wealth was indubitably linked to water flow. The building of temples near rivers is an irrefutable sign of this importance.

The relationship between temple and water is an intimate one and goes further than the simple economic dependence on *sawah* land. Water is indeed an essential element of Hindu cult ceremony. Not only is water used for offerings, but priests and pilgrims also need to purify themselves with water before worshipping the divinity and accessing the divine realm.

The most powerful purifying water is that of the Ganga River. References to the Ganga are found in Central Javanese inscriptions and certain local rivers were clearly considered as the sacral equivalent of the great river of India. In the Tuk Mas inscription (mid 7th century?), found near a spring northeast of the modern town of Magelang, one can read that the stream of Tuk Mas was “as purifying as the Ganges” (Chhabra 1965: 44). The inscription of Canggal (732 A.D.), associated with Candi Gunung Wukir, states that “there is a great island called Yava (...) where there is a wonderful place dedicated to Sambhu, a heaven of heavens, surrounded by the Ganges (...)” (Sarkar 1971-1972: n° 20). Although no similar inscription has survived for the area of DIY – Klaten, the number of temples located along the Opak/Gendol River suggests the possibility that this too was associated with the Ganga River.

The relationship between temple and river is two-fold. A temple can benefit from the presence of purifying water, but a river can also acquire religious efficacy through the presence of a shrine along its bank. Such a situation is expressed in the short inscription of Pabaikan (early to mid 9th century?), found near Ungaran, in the *kabupaten* of Semarang. The text reads: “the hermitage of Pabaikan shall bubble forth well-being into the rivers” (Wisseman Christie 2002-2004: n° 29). Through this intimate relationship, natural and built landscapes mutually strengthen their religious power.

Indeed, the general dichotomy between civilization and wilderness is not really present in the epigraphic data. Although temples often have enclosures that firmly separate the inner, sacred space from the outer sphere, it is obvious from the inscriptions that the natural environment remains within the religious realm and follows the rules of the gods. Not only do we find a few traces of the worship of natural elements,²⁰⁶ but nature is also called upon to protect the temples – and make sure that the wishes of the founders of the *sīma* are respected. In the curse formula at the end of numerous *sīma* commemorative inscriptions, it is stated that he who violates the charter will suffer the punishments inflicted by wild animals: if he goes into the river he will be eaten by crocodiles, and if he goes into the forest he will be devoured by tigers or bitten by snakes.²⁰⁷ It is striking that wild animals are invoked to ensure that human beings obey the deity’s will. The natural environment is therefore not a mere setting, but an active supporter of *dharmā* – while men themselves are perceived as possible wrong-doers and disturbers of the world order.

Soil fertility and water availability, both important for Central Javanese temples, are also two main criteria for the selection of a temple site in Indian manuals. For most early Indian treatises on architecture, the only site suitable for a temple is indeed a site where all sorts of cultivated seeds can grow and bear fruit (*Mānasāra* IV; *Bhaviṣya-purāṇa* VIII; *Mayamata* III; *Matsya-purāṇa* CCLIII; *Brhat-saṃhitā* LIII). Soil humidity is also given as a prerequisite by these Indian texts (*Mānasāra* IV; *Mayamata* III; *Matsya-purāṇa* CCLIII; *Brhat-saṃhitā* LIII). According to the *Brhat-saṃhitā* (LVI):

“Gods dwell with pleasure near lakes, where the rays of the sun are warded off by the parasol of lotus (...) Likewise they dwell in places where the rivers have large girdles of curlews (...) They rejoice always in the vicinity of forests, rivers, mountains and waterfalls (...)” (Ramakrishna 1981: 537)

However, if neither natural rivers nor lakes are present, artificial pools are sufficient for the gods to be pleased (*Brhat-saṃhitā* LVI).

206 In the inscription of Mantyasih I (907 A.D.), the allusion to river worship is clear, as its curse formula exhorts the powers of “(...) you deities *taṅdang*-s of the rivers, you deities snakes, you deities (over) the axes!” (Sarkar 1971-1972: II, n° 70). For mountain worship, see above, p. 82 n. 25.

207 Curse formulae including wild animals occur in the inscriptions of Tru i Tpusan II (842 A.D.), Kañcana (860 A.D.), Wuatan Tija (880 A.D.), Mantyasih I (907 A.D.), Sangsang (907 A.D.) and Sanggaran (928 A.D.). See Sarkar 1971-1972: nr 14, 46, 70, 72, 96; Wisseman Christie 2002-2004: n° 64.

Temples and springs

Alongside volcanoes, hills and rivers, springs are a characteristic element of the Central Javanese landscape, especially in the northern regions where they are more numerous. The Dieng plateau and Mount Ungaran are dotted with sulphurous springs and the temples are set in a landscape of both mountains and (hot) water. The relationship between temple remains and sulphurous water is particularly strong at Gedong Songo, where the temple complex is literally cut by a small canyon sheltering a hot spring. On the northern and eastern slopes of Gunung Ungaran too, small hot springs are numerous and emerge in the rice fields, tainting the vegetation with the characteristic yellow colour of sulphur.²⁰⁸ Cold springs are also found in or near temple grounds, as at Gunung Gono, Kuwarigan, Pengilon, Sanjaya, Seketi, Sidomukti, Umbul and Wujil.²⁰⁹

Candi Ngempon, although by no means a grandiose sanctuary, is nevertheless a stunning example of the care given to the choice of a temple site. This small temple complex, composed of 8 shrines and a rough enclosure wall, is located in a small, relatively steep valley. The temples were built on flattened ground, overlooking the *kali* Lulong. The choice of the site, however, was not one-dimensional. It is also situated only about 150m to the northeast of the confluence of the *kali* Lulong and Wonoboyo, and is placed just in front of a hot spring, exuding from the opposite bank.²¹⁰ To the north of the enclosure wall there is a small, square structure, probably the remains of a well.²¹¹

Usually, the temple and the spring or river are simply juxtaposed: The original setting of the spring is barely touched and is left un-built. Sometimes, however, the natural environment is actively re-shaped. The spring or the river is then built upon and re-organized by architecture. The latter development is well-known in East Java, where bathing pools are numerous, but it must be underlined that bathing places were also part of the architectural landscape of Central Java. Unfortunately, the state of preservation of many of these supposed bathing places is so poor that one can no longer tell whether it was just a shrine

208 Reco is just such a spring. In the water, one can still see a couple of ornamented pediments; all that is left of the site of Kaliklotok, described by Verbeek and Krom (Verbeek 1891: 93; Krom 1914a: 173; 1923, I: 223). Dutch inventories further mention a temple complex near a hot spring on the northern flank of Mount Ungaran, namely Candi Argakusuma (Friederich 1870: 512; Verbeek 1891: 88; Krom 1914a: 189).

209 The *candi* of Dukuh, Gunung Gono, Sidomukti and Wujil are not only situated near springs; they are also located on top of small hills.

210 The spring has been transformed into a sort of bathtub with the help of river stones. It is still used by local villagers who say it cures skin diseases.

211 It would not be the only case of a well excavated right next to a river. A similar placement is also to be seen at Sumur Songo (Boyolali). A series of wells was dug along a river running through a small canyon. Some of the wells are several meters above the level of the watercourse. Under the additional pressure, water from the river surges up into the well, to a much higher level than in the river itself. The villagers say that these wells never dry. Most of them are made of re-used temple stones, but one is still in its original state.

near a spring or whether there was also a built water tank.²¹² Only four sites can definitely be identified as bathing pools, namely Sidomukti (Semarang), Umbul (Magelang), Cabean Kunti (Boyolali) and Payak (DIY), and only the two latter examples are in a fair state of preservation.

According to historical inventories, Sidomukti possessed a bathing place at the foot of the hill and a temple on its summit (Friederich 1870: 505; 1876: 75). As for the bathing place itself, it comprised two pools, water flowing from the smaller into the larger (Krom 1923: I, 224). A twin-pool bathing place is still visible today at Candi Umbul. Here, water flows from the large pool into the smaller one.²¹³

Cabean Kunti and Payak, however, present a different layout. Cabean Kunti is a bathing complex composed of five rectangular pools. Each pool is closed on three sides by a wall. One of them also has a niche carved in the middle of the inner face of the rear wall. Architecturally speaking, Payak is quite similar, except that it is a single pool rather than a bathing complex.

The difference between Sidomukti and Umbul on the one hand, and Cabean Kunti and Payak on the other, is not limited to architecture. Indeed, while the first two are built around springs, the water at Cabean Kunti and Payak comes from a nearby river.²¹⁴ That both Sidomukti and Umbul were places of worship is beyond doubt. The sites have yielded enough religious sculptures and ornamented stones to show that a temple once stood in their neighbourhood. For Payak and Cabean Kunti, however, this is less obvious, although the discovery of a *peripih* casket at Payak and a *lingga* boundary stone at Cabean Kunti seems to suggest a religious function. Nevertheless, so far, no sign of a shrine has yet been discovered near Payak or Cabean Kunti.

The close association of a certain number of Central Javanese temples with springs and the existence of built bathing places confirm the hypothesis that water symbolism, so important in East Java (Patt 1979: 48), was already an important feature of Javanese religious thought during the Central Javanese period.

As mentioned earlier, a couple of inscriptions clearly associate rivers in Central Java with the great Ganga River. It is however more difficult to assess whether the theme of *amṛta*, the life-giving elixir, is also expressed here as was commonly the case in East Java. At Belahan and Jolotundo, for example, a rich-

212 This is the case at several sites that associate a temple atop a hill with a spring at its foot, such as Argakusuma (Kendal), Pengilon (Kendal) or Wujil (Semarang). There is no doubt that there was an architectural connection between these two elements (bathing place and shrine), but there are not enough architectural features surviving to prove the existence of an ancient tank.

213 The two pools are still in use and are part of a modern bathing place and pleasure ground. They have obviously been partly rebuilt and it is difficult to say how they may have looked in their original state. The small pool especially shows signs of recent rebuilding.

214 Payak is now dry, but the nearby *kali* Petir probably functioned as its water supply. It is perhaps due to a change in the course of this river course that the water supply ceased.

er iconography helps us to reach a more precise understanding of the symbolism attached to bathing places (Patt 1979).

The uppermost bathing place of Belahan was referred to in the inscription of Suci as related to *Mountt Pāwitra* (or *Penanggungan*), which, in later legend, is nothing less than the summit of Mount Meru, transported to Java. Within this context, the presence, in the same pool, of a statue of Wiṣṇu on *Garuḍa*²¹⁵ inevitably leads us to suspect an allusion to the myth of the churning of *amṛta*, when, under the supervision of Wiṣṇu, the mountain was used as a churning stick (Patt 1979: 164-165).

The *Garuḍa* and the *nāga* from the side basins of Jolotundo would similarly refer to the theme of *amṛta*. They probably allude to a story told in the *Ādiparwa*, according to which *Garuḍa* stole the *amṛta* from the gods in order to give it as ransom to the *nāga* who had abducted his mother (Patt 1979: 234-236).

Unfortunately, none of the bathing places of Central Java have such a rich iconography, let alone a panel depicting *amṛta*. Strangely enough, however, small *nāga* are visible in a few places, almost hidden among the usual ornamentation. At Pringapus, a coiled *nāga* lies behind the *makara* on the entrance door, between the latter and the temple wall. At Gedong Songo I, two tiny snakes emerge from the *kāla* head above the northern niche, while at Umbul, the upper border of a *kāla* pediment is transformed on one side into a *nāga*.

Since the *nāga* are often related, in Hindu mythology, with *amṛta*,²¹⁶ it is possible that the snakes of Pringapus, Gedong Songo and Umbul are all attempts to equate local springs with the source of *amṛta*. However, they might equally be more general references to water or relate to Indonesian myths about magic water sources that are thought to pre-date Indian influence.²¹⁷

Note on the natural environment of Borobudur and Prambanan

Before concluding the present chapter, a brief note must be added concerning the natural environment around the most famous sites of Central Java, i.e. Borobudur and Prambanan. The area of Muntilan, where Borobudur is situated, forms a transitional zone between the closed geography of the Progo valley and the more open scenery of the Yogyakarta plain. In the Progo valley, in whatever direction one may look, the view is obstructed by a mountain: Merbabu-Merapi to the east, Ungaran to the north, Sundoro-Sumbing to the west and Menoreh to the south. In contrast, in the Yogyakarta area, the plain stretches without any obstruction to the sea. Within this landscape, Borobudur occupies

215 In a recent communication, P. Lusingh Scheurleer has cast some doubt on the origin of this Wiṣṇu sculpture, suggesting it could actually have come from Candi Kidal rather than from Belahan.

216 Apart from the above-mentioned episode including *nāga* and *Garuḍa*, a snake play also a role in the churning of the Sea of Milk, since a *nāga* was then used as churning rope.

217 See for example Bosch 1961b.

a singular position. It is located in the southwestern part of the Progo valley, almost at the foot of the Menoreh hills, not far from the confluence of the two main rivers of Central Java, the Progo and the Elo. To the observer standing at its summit, Borobudur appears to be surrounded by mountains. The Menoreh hills run along the southern and western sides of the monument, continuing to the north in the form of the Sumbing-Sundoro massif. The Menoreh hills, with their steep slopes and cliffs, are particularly impressive; they look impregnable, which compensates for their relatively low elevation in comparison to Mounts Sumbing and Merapi. Borobudur thereby appears surrounded by the mythical circular mountain ridge which, according to Hindu-Buddhist representations of the universe, encloses the world.²¹⁸ The landscape in which Borobudur is located therefore appears to reaffirm the cosmological aspects of Buddhism, placing the Buddha as Mount Meru at the centre of the universe. This aspect of Buddhism is also a major concern of the *Gaṇḍavyūha* – one of the texts illustrated on the monument – and a key-feature for understanding Borobudur (Klokke 1996: 206-207).

The location of Prambanan is perhaps even more striking. From a topographic point of view, the Prambanan area is distinguished by its contrasting landscape. It includes a fertile plain on the one hand, and dry steep hills on the other. It is also at the point where the plain is at its narrowest, delimited by the presence of Mount Merapi to the north and the northern tip of the Gunung Kidul hills to the south. A person travelling from the plain of Yogyakarta to the plain of Solo would have to pass by Prambanan. But Prambanan is not only a crossroads for the Yogyakarta-Solo route; it is also a gateway to the northern coast, as well as to East Java. However, Prambanan is above all a significant place in terms of hydrography. Being at the northwest tip of the Gunung Kidul hills, Prambanan lies on the border between the Yogyakarta plain and the Solo plain or, in other words, between the Opak/Progo river system and the basin of the Bengawan Solo. A few hundred meters west of Prambanan, the rivers are all tributaries of the *kali* Opak and their waters drain into the Indian Ocean. But directly to the east of Prambanan, the rivers join up with the Solo River, crossing the eastern part of the island and reaching the Java Sea near Gresik. Prambanan therefore appears to have been a strategic point, and not only from a symbolic point of view. Its proximity to the Solo basin would have been of the highest commercial importance: the Solo River could easily be used to ship goods from the east to the Prambanan area (and the other way round) and constituted a prominent alternative to road travel. In ancient times, the river seems to have been navigable even for large ships. In the 18th century, the Solo River was indeed the main trade route between Mataram and the coast. It was due to

218 Ancient riverbeds that are possibly contemporaneous with the monument have been identified. They would have almost entirely surrounded the *candi*, reminding the visitor of the circular seas described in Indian texts.

its location at the mouth of that river that Gresik developed into an important trading post (Jonge 1878: X, 90)

Conclusion

In this chapter, we have shown that there are a certain number of correlations between temple distribution and environmental features, both regional and local. The areas characterized by dense though dispersed distribution patterns correspond to the terrains that are most suitable for wet-rice cultivation and thus probably indicate, more or less directly, underlying settlement patterns. We have further come to the conclusion that small clusters of temples located in the vicinity of the modern towns of Secang, Parakan and Boyolali were key centres along an ancient road network linking the agricultural plains to the northern coast.

We have then abandoned a regional approach by focusing more specifically on correlations between individual temples and local landscape markers. By doing so, we have demonstrated that temples tended to be located either on isolated hilltops, along rivers, at confluences or close to springs.

In the next chapter, I will continue to examine individual features, as I will be presenting data on temple orientation and will try to determine if and how orientation created a link between the built landscape and its natural environment.

Chapter 6

TEMPLE ORIENTATION

The aim of the present book is to address a particular theme – that of space – and to use temple remains as a means to determine how the dignitaries and architects who erected the temples of Central Java structured the space around them, from a practical as well as from a conceptual point of view. In the previous chapters, I have mainly been looking at the location of temples. I have, to some extent, managed to link temple distribution patterns with settlement, nodes of communication and to more remote sacred places, drawing conclusions regarding the extent of the territory and its economic structure.

In the present chapter, though the correlation with distribution patterns is still a concern, the introduction of data concerning temple orientation will lead us to address more specifically the question of the relationship between temple orientation, landscape markers, religious architectural traditions and the conceptualized perception of space. We will therefore focus on how orientation is used to strengthen the relation between individual temples and specific landscape markers (rivers, springs, hilltops and mountains), on the canons for temple orientation expressed in Hindu-Buddhist architectural and textual traditions, and on the perception of space at work behind temple orientation.

For the sake of clarity, I will first discuss the general orientation of the temple remains, while their exact deviation from geographical north will be approached at the end of the chapter. I will present the data, consider possible correlations with distribution patterns and try to determine whether temple orientation was influenced by the relative position of rivers and mountains. Afterwards, I will briefly discuss the Javanese situation in the light of other Hindu-Buddhist traditions and try to understand to what extent the specificities of Central Javanese architecture convey a local perception of space.

General orientation of Central Javanese temple remains

Data regarding temple orientation

To begin with, I would like to underline the difficulty of carrying out a study on temple orientation. To analyze distribution patterns we can rely on a temple corpus of more than 200 shrines, but information concerning their orientation is much more scarce: given the poor state of preservation of many remains, the orientation of only 59 sites is known for certain. One of the consequences of

Orientation	Number	Names of the sites
East	25	Argapura, Batur, Bima, Borobudur, Bubrah, Bumen, Butak Wetan, Cebongan, Dipan, Dukuh, Gebang, Gunung Wukir, Kalasan, Kedulan, Loro Jonggrang, Lumbung (Klaten), Merak, Ngawen, Ngempon, Perot, Retno, Samberan, Sari, Selogriyo, Sewu.
West	35	Asu, Banon, Banyunibo, Barong, Dieng, ^a Gajah, Gana, Gampingan, Gedong Songo, ^b Gunung Sari, Ijo, Jetis (Cangkringan), Kadisoka, Kaliworo, Kalongan, Karangnongko, Lawang, Lumbung (Magelang), Mantup, Miri, Morangan, Ngampin, Palgading, Pendem, Plaosan Kidul, Plaosan Lor, Pringapus, Ratu Boko, Risan, Sambisari, Sentono, Singo, Sojiwan, Sumur Songo, Tinjon.

Table 19: General orientation of Central Javanese temples

a. The Arjuna group, Candi Dwarawati and Gatotkaca.

b. The main temples.

the limited extent of the data is that drawing definitive conclusions is difficult – and can even be hazardous. A few useful observations and hypotheses can nevertheless be made.

As a general rule, temples are oriented in relation to the cardinal points.²¹⁹ Furthermore, they are directed either to the east or to the west, and almost never face north or south (Table 19).²²⁰ Contrary to what happens in most other Hindu-Buddhist architectural traditions, Central Javanese temples do not especially favour the east: out of the 60 remains of which the orientation is known, 25 face east, while 35 face west. In the Yogyakarta-Klaten region, west-facing temples are almost twice as numerous as east-facing ones.²²¹

Temple orientation and distribution patterns

The distribution of east and west-facing temples does not seem to follow any distinctive pattern. Both orientations are found all over Java; although west-facing temples predominate in southern Central Java (Figure 24, Table 20). Nevertheless, there appears to be some – though limited – correlation between orientation and the different clusters of temples identified in the previous chapters. We have seen earlier that, among Central Javanese temples, two main groups emerge: the first is composed of shrines dispersed through the rich agricultural plains of southern Central Java – and probably directly linked to settlements, while the second group consists of a more limited number of temples, clustered in high, remote places. If we cross-reference these distribution patterns with data on temple orientation, it appears that the first group includes al-

219 The only exceptions are Candi Mendut and Pawon, which face northwest.

220 There is one possible exception, namely Candi Argakusuma. This temple complex was located on the northern slope of Mt Ungaran, in the district of Kendal. Verbeek mentions that at least one shrine faced north (Verbeek 1891: 88). Unfortunately, there is no information concerning the orientation of the other buildings. As the site was backed by Mount Ungaran, its northern orientation was most probably an adaptation to local topography. It is nevertheless unique in Central Java. At Gedong Songo, although located in a similar location on the southern slopes of Mount Ungaran, none of the shrines faces south.

221 The numbers are 12 and 22 respectively.

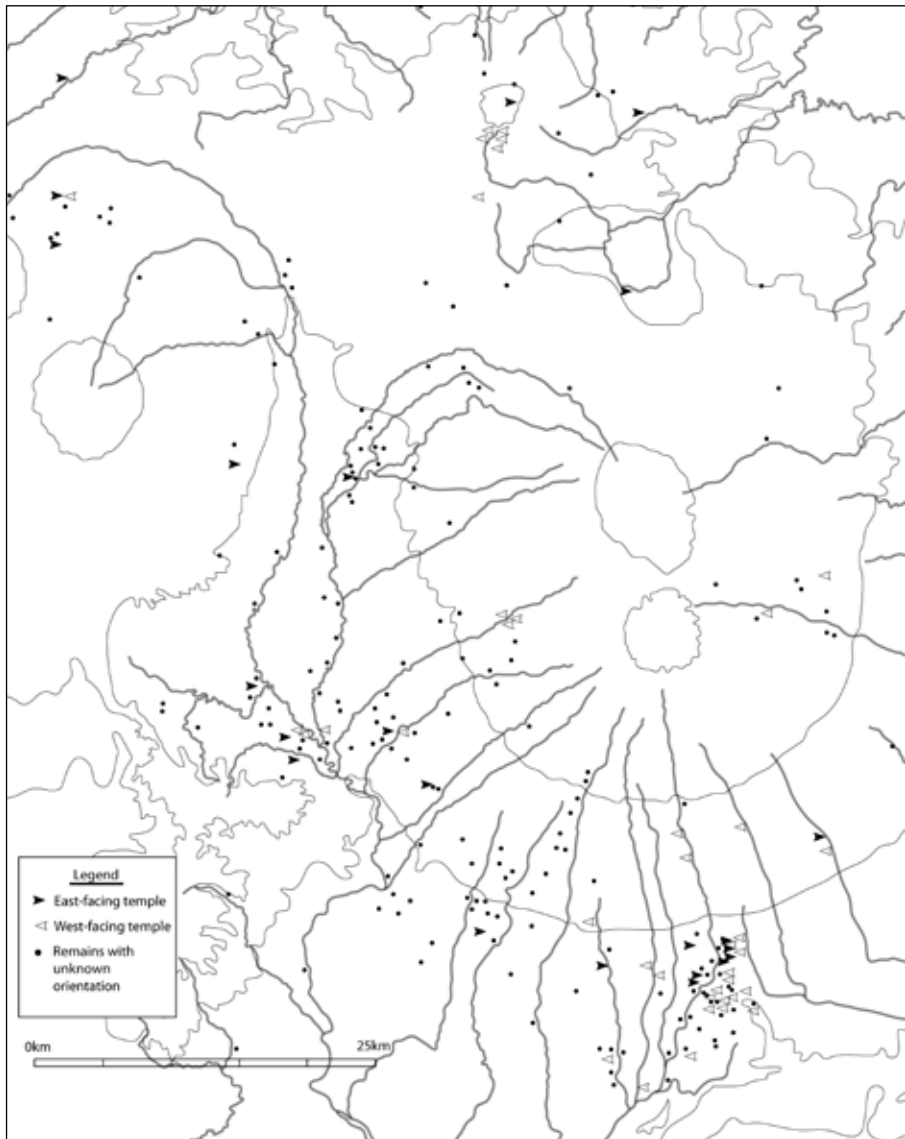


Figure 24: Temple remains, general orientation

most as many west-facing temples as east-facing ones, but in the second group, westward orientation clearly prevails. It is noteworthy that while topography may explain the orientation of temples located on the Pegat-Ijo hills and that of Candi Asu, Lumbung, Pendem and Selogriyo, it cannot however account for the westward orientation of Dieng or Gedong Songo. At these sites, temple orientation is not clearly related to any landscape marker. The Dieng plateau is literally encircled by mountains and the orientation of the temples can only very loosely relate to the position of the volcanoes. At Gedong Songo, the lo-

Orientation	Region	Number	Sites
East	North	9	Argapura, Batur, Bima, Bumen, Butak Wetan, Dukuh, Ngempon, Perot, Retno.
	Centre	6	Borobudur, Dipan, Gunung Wukir, Ngawen, Samberan, Selogriyo.
	South	10	Bubrah, Cebongan, Gebang, Kalasan, Kedulan, Loro Jonggrang, Lumbung, Merak, Sari, Sewu.
West	North	4	Dieng, Gedong Songo, Ngampin, Pringapus.
	Centre	4	Asu, Banon, Lumbung, Pendem.
	South	23	Banyunibo, Barong, Gajah, Gampingan, Gana, Ijo, Jetis (Cangkringan), Kadisoka, Kaliworo, Kalongan, Karangnongko, Mantup, Miri, Morangan, Palgading, Plaosan Kidul, Plaosan Lor, Ratu Boko, Risan, Sambisari, Sentono, Sojiwan, Tinjon.

Table 20: General orientation by region

cation of Mount Ungaran to the north of the temple group does not seem to have had any influence on the orientation of the various shrines – all the main temples face west although no single mountain is visible to the east. This could suggest that the west was actually the favoured orientation for temples located in high or remote areas, the direction of preference unless topography did not allow it (as in the case of Selogriyo). This observation adds to the singularity of these shrines which, as we have seen, are already distinguished by being unrelated to settlement.

The influence of natural environment upon temple orientation

Let us now try to discern if there is any correlation between temple orientation and natural surroundings. In East Java and Bali, it has long been acknowledged that many temples were oriented towards a distant mountain peak (Patt 1979: 60).²²² It is therefore possible that natural features, and especially topography, may have played an important role in the choice of orientation in Central Java as well.

It is clear, as noted above, that topography influenced the orientation of several temples located in high or remote areas. This is evident in the Prambanan area, where almost all the temples located on the northern tip of Gunung Kidul – and a great part of those dotting the Sorogeduk plain – face west.²²³ In this area, the hills form a sort of crescent encircling the eastern half of the Sorogeduk plain. Furthermore, the eastern façade of Gunung

222 Unfortunately, she does not list buildings that are mountain-oriented. The only example she gives is Candi Sanggariti, the main axis of which is more or less in line with the peak of Mount Arjuna (Patt 1979: 59).

223 The west-facing temples in the area of Mount Pegat-Ijo and in the Sorogeduk plain are Arca Ganesa, Banyunibo, Barong, Gajah, Ijo, Miri, Ratu Boko, Sentono, Singo and Tinjon. The orientation is unknown in the case of the following remains: Abang, Grembyangan, Keblak, Kranyak, Ngaglik (prambanan), Polangan, Polengan, Sawo and Watugudig. No east-facing temple has ever been reported in this area.

Kidul appears as a steep cliff that offers no natural passage, while the hills naturally slope down to the west. On the east-west axis, the only viable access to the hills dominated by Mount Pegat-Ijo is *via* the west, following the natural slope of the hills.²²⁴ For topographical reasons, temple compounds in this area could only be approached from the west and it is therefore no surprise that they face in this direction.

Whatever the practical role of the natural features, this does not mean that such an orientation was without symbolic value. Firstly, despite knowing that the temples built there would have to face west, Javanese architects still considered the site suitable. This could mean that in their perspective east and west were both equally auspicious. It may also be the case that the physical setting had more importance than other prescriptions; temples were deliberately oriented so as to have their backs against the mountain. As a matter of fact, the temples are not built on the summit but due west of it, so that the devotee praying in front of the temple is actually facing the mountain. Similarly, Selogriyo, Asu, Lumbung, Pendem and Perot are built quite high up and in the vicinity of volcanic peaks, opening toward the valley and turning their backs on the mountain – though not exactly on its peak.

Outside the area of the Sorogeduk plain, Mount Pegat-Ijo and the few shrines mentioned above, temple orientation is not as homogeneous and does not show any clear influence from topographical features. Could the orientation of temples situated in the plains be influenced by other elements? Although no absolute rule transpires, it appears that rivers could well have influenced temple orientation. If one excludes the temples of the Sorogeduk valley and those built on the Mount Pegat-Ijo hills, and then compares temple orientation with the relative position of the rivers, it seems that, at least in southern Central Java, temples and rivers entertain some kind of relationship. In this region, whatever the temple orientation (east or west), in the case of 18 out of 23 remains, the nearest river is located at the rear of the building. In only 5 cases does the temple face the river²²⁵ (Table 21). It is of course quite logical that temples built directly on a river would not face the water, since they are more easily approached on dry land than via a bridge. Nevertheless, one has to wonder whether the location of the river at the rear of the temple did not have another significance, going beyond its pragmatic origin. As a temple backed by a mountain could indicate a certain form of mountain worship, the placing of a religious building in front of a river could suggest that the river played a more significant role than that of a mere ablution tank. However, we have to note

224 Small paths climbing the hills also exist to the north and south of the Ratu Boko plateau, perpendicular to the general slope of the terrain. However, as a north or southward orientation was apparently not considered suitable for a temple, the choice was limited to east or west.

225 Among these five temples, Gebang is a peculiar case: although the nearest river is located east of the temple (and thus in front of it), the site is close to a confluence, so that there is also a river to the west (at its back).

Orientation	River position	Back	Sites	Amount
East	East		Gebang, Kalasan, Merak, Sari.	4
East	West	X	Bubrah, Gampingan, Jetis (Cangkringan), Kedulan, Loro Jonggrang, Lumbung, Sewu.	7
West	West		Sambisari.	1
West	East	X	Jetis (Ngemplak), Kadisoka, Kaliworo, Kalongan, Karangnongko, Mantup, Morangan, Palgading, Plaosan Kidul, Plaosan Lor, Sojiwan.	11

Table 21: Temple orientation and rivers in southern Central Java

Orientation	River position	Back	Sites	Amount
East	East		Ngawen, Samberan.	2
East	West	X	Gunung Wukir, Retno.	3
East	Other		Ngempon (S), Selogriyo (NW).	2
West	West		Mendut, Ngampin.	2
West	East	X	Banon, Gunung Sari, Lumbung, Pawon, Sumur Songo.	5
West	Other		Asu (N), Lawang (N), Pendem (N).	3

Table 22: Temple orientation and rivers in the Progo valley and peripheral areas

that in areas where rivers do not flow from north to south, the temples do not turn their backs to the rivers.

In other parts of Central Java, data is scarcer and the temple-river relationship appears less obvious. The 17 temple remains for which we know the orientation are all located near rivers. Among these, 5 are located along rivers flowing east to west (or the reverse) and hence neither face nor turn away from the water. At the remaining 12 sites, the river is located at the rear of the temple in 8 cases and at the front in 5 cases (Table 22).

We can tentatively conclude from these observations that, although the location of rivers probably played a role in the orientation of certain temples, it was generally less essential than the east-west orientation. In that part of the landscape where rivers flow in an east-west direction, the temple orientation was never adapted to allow the building to turn its back to the river. Only in areas where waterways follow a north-south course do they influence temple orientation.

The influence of other factors on temple orientation is striking at Gedong Songo. Although the site was obviously chosen for its impressive natural setting, neither the peak of Mount Ungaran to the north nor the sulphurous springs that flow in the small canyon in the very middle of the temple complex seem to have had any impact on temple orientation. The main buildings all face west; that is to say, half of them overlook the canyon while the other half turn their backs to the spring.

General temple orientation in Hindu-Buddhist building traditions

Neither regional trends nor landscape features can satisfactorily explain the orientation in its entirety, but what then could be the significance of a west or eastward orientation and is the situation in Central Java comparable to what we know from other Hindu-Buddhist countries?

In fact, variance in temple orientation is not unique to Java. In India, although east-facing temples are predominant, some buildings do face west,²²⁶ and others even north.²²⁷ Early Khmer and Cham buildings do not systematically face east either. The most ancient temple at My-Son (My-Son E1), for example, faces west. Similarly, several pre-Angkorian buildings face west (such as Prasat Ta Nien Kang Leach at Phnom Bayang, or Prasat Punriy in Kompong Chnang) and others north (such as Phnom Da and Ashram Maha Rosei). In Khmer architecture, however, it seems that from the Sambor Prei Kuk style onwards, temple orientation was standardized and east became the favoured direction, with almost all the main temples facing the rising sun.²²⁸

In India, as well as in mainland Southeast Asia, west-facing buildings were thus less numerous than east-facing ones.²²⁹ In contrast, Central Javanese architectural tradition shows no particular preference for east over west at any point of its history, since both east and west facing temples are found in its early as well as late period.²³⁰ In other words, even though west-facing temples occur in other regions of the Hindu-Buddhist world, the high proportion of such buildings is probably specific to Java.

This disposition, however, does not contradict the written tradition inherited from India: Indian treatises on architecture do not state that a sanctuary should face east. According to these treatises, numerous factors may influence the orientation of a temple: among others, the relative position of the building

226 West-facing temples are found in both the North and South Indian architectural traditions. Some examples of west-facing Indian temples from the 5th to the 8th centuries include: the Pārvati temple (Nacnā), Śiva temple (Sākōr), Rudra-Narasimha temple (Rāmtēk), Khimēśvara Mahādeva temple (Khimēśvara), Vindhyaśinī temple (Śrinagar), Indal temple (Kharōd), Pāraśurāmēśvara, Śatrughnēśvara and Uttarēśvara temples (Bhuvanēśvara), Paśabhadrā and Huccimalli temples (Aihole), Kailāsa temple (Ēllōrā), Pinākapāni temple (Mahākūṭa), Mahānandīśvara temple (Mahānandi), Draupadī ratha, Arjuna ratha, Dharmarāja ratha and Olakkannēśvara temple (Mahābalipuram), Vāliśvara temple and Vaikuṅṭha-perumāl (Kāñcīpuram) and the Vetuvankōvil temple (Kaḷugumalai). For references see Dhaky & Meister 1983-1998.

227 For example, the Maniyār Math temple at Rājgir (c. 500 A.D.), the temple n° 1 at Mākangañj (625-650 A.D.), the temple n° 6 at Khimēśvara and the Śiva temple at Dhōbinī, all face north (see Dhaky & Meister 1983-1998).

228 Well-known exceptions are Angkor Wat, which faces west, and Phimai, facing south.

229 There is, to my knowledge, no specific study on the orientation of Indian temples. To arrive at this conclusion, I have compiled data from published plans and temple descriptions, using the Encyclopaedia of Indian Temple Architecture as a base.

230 For the early period, Candi Arjuna, on the Dieng plateau, faces west, while Borobudur is oriented to the east. Among more recent buildings, Loro Jonggrang faces east while Plaosan faces west. As Borobudur and Plaosan are both Buddhist and Dieng and Loro Jonggrang Hindu, it is also unlikely that this preference for east or west could be linked to religious affiliation.

within a settlement, or the god to whom the temple is dedicated. The Indian texts offer a wide variety of options, and no standard orientation emerges from them.

The *Bhaviṣya-purāṇa* (chapter VIII), for example, recommends that a temple face east, but if this is not possible, then west is also acceptable (Arora 1972: 192). The *Brhat-samhitā* (LVI, 10) is even more straightforward, stating that “the central or main gate would be auspicious if situated in one of the four cardinal directions” (Ramakrishna 1981: 538).

According to the *Mānasāra*, a temple of Viṣṇu should face the village, while that of Narasiṃha should have its back to the village. A temple of Śiva should face outward, except if it is built in the east or west, in which case it should face the village. As for the temples of other gods, they may face in any direction (*Mānasāra* IX).

For the *Mayamata*, a temple of Īśa may face either east or west, as long as it is turned outwards. A temple of Viṣṇu may face in any direction but that of Śiva should face west (*Mayamata* IX: 84-85a).

In the *Agni-purāṇa* (XLI: 36), one reads that, “the door of the temple at the centre of the village or on the eastern part should face west (...). In the southern, northern and western parts (the door) should face the east” (Gangadharan 1984: 113).

Indian treatises on architecture, or at least a prominent number of them, thus give considerable freedom to the architect in the choice of orientation. However, Central Javanese temples face only east or west, never north or south. The reason for this may be sought in the fact that only part of the Indian tradition reached Java: the principles established in the *Agni-purāṇa* would have been known, while the traditions expressed in the *Mānasāra* or in the *Mayamata*, for example, would not. The first text indeed shows a marked preference for the east and west, while the two later texts also consider the possibility of north and south facing buildings. This does not however explain why Central Javanese architects did not interpret the texts in the same way as their Indian colleagues, i.e. in giving preference to the east, the direction of the rising sun.

The sun and the axes: space in Central Javanese inscriptions

Whatever tradition was received, Javanese temples most certainly reflect the way in which the Javanese people themselves structured the space around them. In the case of temple orientation, inscriptions may enlighten our understanding of the architecture and provide us with a good starting point from which to explore the concept of space in ancient Java. The Indian conception of space relies on a ritual movement, that of the *pradakṣiṇapatha* (clockwise circumambulation), which is an essential element of Hindu-Buddhist worship. In India, devotees must turn clockwise around temples and idols, leaving them to their right. The *pradakṣiṇapatha* is the path of the sun and therefore the movement of

life. It is best started in the east, to replicate the course of the sun from sunrise to sunset. Hence the numerous east-facing temples found in India. However, the essence of the *pradakṣiṇapatha* is the movement itself rather than its starting point. The opposite of *pradakṣiṇa* is *prasavya*, the counter clockwise circumambulation, which is associated with destruction and funerary rituals.

The *pradakṣiṇapatha* was also part of Hindu and Buddhist rituals in Central Java, as testified both by reliefs²³¹ and epigraphic data. The earliest inscription referring to the *pradakṣiṇapatha* is the inscription of Gaṇḍasuli II (810?), which states that “throughout all the kingdom, hither and yon, to the east, south, west and north, all about, everyone praises the good works of the *dang karayan* Partapan” (Wissemann Christie 2002-2004: n° 15). The cardinal points are here enumerated in a clockwise order, suggesting the movement of the *pradakṣiṇapatha*.

From the mid 9th century onwards, numerous inscriptions end with a curse formula, in which the gods are invoked to protect the new *sīma*. The directions are similarly listed clockwise in the following inscriptions (Table 23): Kañcana (860 A.D.), Poh Dulur (890 A.D.), Kubukubu (905 A.D.), Mantyāsiḥ I (907 A.D.), Wukajana (908-910 A.D.), Kuṭi (898-910 A.D.), Sangguran (928 A.D.), Kampak (928 A.D.) and Air Kali (928-929 A.D.).²³² In all these inscriptions, the enumeration starts from the east, and the terms used for the various directions are of Sanskrit origin (Klokke 1995: 82): *pūrwā* (east), *dakṣiṇa* (south), *pāścīma* (west) and *uttara* (north). In the inscriptions of Kañcana, Wuatan Tija (880 A.D.), Poh Dulur, Rukam (907 A.D.), Sugih Manek (915 A.D.), Gilikan (923 A.D.), Sangguran and Kampak,²³³ the *pradakṣiṇa* is also suggested by the names of the gods of the four directions: *Yama* (south), *Waruṇa* (west), *Kuwera* (north) and *Waśawa* (east).²³⁴

Furthermore, when the boundaries of the *sīma* are mentioned in inscriptions, they are usually described in *pradakṣiṇa* order, from east to north (the inscriptions of Waharu I, 873 A.D.; Haliwangbang, 877 A.D.; Taji, 901 A.D.; Kuṭi, 898-910 A.D.; Pupus, 910-915 A.D.), or from northeast to northwest (inscription of Kañcana, 860 A.D.).²³⁵ The circumambulation of the territory to be transferred was part of the *sīma* ritual, as stated in the inscription of Air Kali: “(...) and they circumambulated the boundary, marking out the *sīma*” (Wissemann Christie 2002-2004: n° 206).

However, boundaries are not always mentioned in *pradakṣiṇa* order (Table 23). In the inscriptions of Mamali (878 A.D.) and Taragal (881 A.D.),²³⁶ they are even listed in *prasavya* order (from east to south for Mamali and from

231 The narrative reliefs of Borobudur and Prambanan must be read clockwise.

232 See Sarkar 1971-1972: n° 12, 70, 72, 96; Wissemann Christie 2002-2004: n° 64, 126, 147, 206, 211.

233 See Sarkar 1971-1972: n° 46, 84, 96, 104; Wissemann Christie 2002-2004: n° 64, 126, 158, 211.

234 Waśawa is one of the names of Indra (Krom 1925b: 205).

235 See Sarkar 1971-1972: n° 12, 31, 61; Wissemann Christie 2002-2004: n° 64, 90, 180.

236 See Wissemann Christie 2002-2004: n° 96, 109.

north to east for Taragal). In the inscriptions of Śrī Manggala II (874 A.D.) and Jurungan (876 A.D.),²³⁷ the lengths of only two boundaries are given; the southern and eastern boundaries for Śrī Manggala II and the eastern and northern ones for Jurungan.

From the last four inscriptions it can be deduced that although the *pradakṣiṇa* order was well-known and important, regulating various activities, it was not automatically applied in every circumstance: directions could be listed in other ways, even in *prasavya* order. It is clear that counter clockwise circumambulation was not necessarily related to funerary rituals, nor to death and destruction, for establishing a *sīma* is certainly not connected with funeral rites. The inscriptions of Haliwangbang, Mamali and Taragal,²³⁸ for example, belong to the same series of charters. The three inscriptions commemorate *sīma* made for the benefit of the same temple (Gunung Hyang). However, in Haliwangbang, the *sīma* boundaries are given in *pradakṣiṇa*, while in the other inscriptions, they are given in *prasavya* order. It is therefore impossible to argue that *pradakṣiṇa* and *prasavya* were simply two methods of circumambulation relating to different types of temple.

The explanation might be that the Indian idea of *pradakṣiṇapatha* was challenged by a local concept of space and direction. The clockwise circumambulation, though part of numerous rituals, was perhaps not entirely integrated into Javanese culture and was therefore somewhat inconsistently applied (hence the use of the *prasavya* order in two inscriptions, as noted above). In fact, there are already traces in Central Javanese inscriptions of the dualistic vision of the world that marks East Javanese art and society. These traces can be found in the inscriptions of Wuatan Tija, Wanua Tengah III (908 A.D.), Sugih Manek, Lintakan (919 A.D.), Gilikan, Sangguran and Kampak. In the inscription of Wanua Tengah III, one reads that “the extent of the *sawah* was: going eastwards along the north side, 182 *dpa*; going eastwards along the south side, 162 *dpa*;

List	Order	Inscriptions
E, S, W, N	Clockwise	Gaṅdasuli, Kañcana, Waharu, Haliwangbang, Poh Dulur, Taji, Kubukubu, Mantyaśih I, Wukajana, Kuṭi, Pupus, Sangguran, Kampak and Air Kali.
S, W, N, E ^a	Clockwise	Kañcana, Wuatan Tija, Poh Dulur, Rukam, Sugih Manek, Gilikan, Sangguran and Kampak.
E, N, W, S	Counter-clockwise	Mamali.
N, W, S, E	Counter-clockwise	Taragal.
N-S, W-E	In pairs	Wuatan Tija, Wanua Tengah III, Sugih Manek, Lintakan, Gilikan, Sangguran and Kampak.

Table 23: Lists of cardinal points in Central Javanese inscriptions. a - Yama, Waruṇa, Kuwera, Waśawa.

237 See Sarkar 1971-1972: n° 32; Wisseman Christie 2002-2004: n° 89.

238 See Wisseman Christie 2002-2004: n° 90, 96, 109.

going northwards along the east side, 160 *dpa*; and going southwards along the west side, 162 *dpa sihwā*” (Wissemann Christie 2002-2004: nr 161). Boundaries are here listed in opposing pairs; north-south on the one hand, east-west on the other.

A similar formulation is found in the curse formulae of the other inscriptions mentioned above, where the spirits of the directions are listed in pairs: north and south, west and east.²³⁹ The terms used are not of Sanskrit origin, as is otherwise the case when the directions are listed in *pradakṣiṇa* order; but are clearly Javanese: *lor* (north), *kidul* (south), *kuluan* (west), *wetan* (east) (Klokke 1995:82).

Conceptions of space as defined in pairs of complementary elements are well known in present day Indonesia, and are found all over the archipelago. They can be composed of separate pairs, or of one main axis crossed by a secondary axis. In East Sumba and among the Ngaju Dayak (Table 24), for example, the first pair is composed of the opposition “downstream-upstream”, while the second is defined either according to the sun (“sunrise-sunset”, in the case of Borneo) or according to the shape of the island (“head-tail”, in the case of Sumba; see Schärer 1963:66; Forth 1981:52). In contrast, in Roti and Ende (Flores), the main axis (“east-west” in Roti, “sea-land” in Flores) determines the secondary axis, the latter being expressed in terms of left and right (Waterson 1990: 93). A system of orientation based on pairs has survived in Bali, showing that it is rooted deeply enough in the Austronesian way of thinking to coexist with Hinduism. Balinese determine the directions in terms of the oppositions “mountain-sea” and “east-west” (Hupré 1993: 174-175).

Linguistic studies have further concluded that the Javanese directional system evolved from a geography-related binary (inland *versus* sea) to a fixed system of cardinal points. “Lor”, the Javanese word for “north”, comes indeed from the Proto-Austronesian *laSud, meaning “toward the sea” (Adelaar 1997: 64).

We may conclude that as early as the second half of the 9th century, two perceptions of space were challenging one another among the elite of Central Javanese society. One was the imported *pradakṣiṇa* concept, which related space

	Main axis	Secondary axis
East Sumba	Upstream – Downstream	Head – Tail
Ngaju Dayak	Upstream – Downstream	Sunrise – Sunset
Roti	Sunrise – Sunset	Left – Right
Flores	Sea – Land	Left – Right
Bali	Mountain – Sea	East – West

Table 24: Examples of systems of orientation by pairs in the Indonesian archipelago

²³⁹ The inscriptions of Sangguran, Kampak, Sugih Manek, Gilikan and Wuatan Tija also give them (but earlier in the text) in *pradakṣiṇa* (east, south, west, north and/or Yama, Waruna, Kuwera, Waśawa).

to time and the sun. The other was of Javanese origin, probably ancient, and was conceived as part of a dualistic world. The reticence about *pradaksinapatha* might come, as suggested elsewhere by Klokke, from the fact that the path of the sun is not as straightforward in Java as it is in India (Klokke 1995: 76). Java is located in the southern hemisphere but near the equator. This means that for two thirds of the year the sun is travelling from east to west *via* the north (and not *via* the south as in the *pradaksinapatha*). Hence, the association between the *pradaksina* movement and the path of the sun loses its foundation and becomes meaningless for most of the year (Klokke 1995: 76).

Given its changing character, it is thus probable that the path of the sun did not play such a prominent role in Java as it did in India. Furthermore, as inscriptions suggest the existence of a local concept of space, it is not surprising that Javanese architects interpreted the Hindu-Buddhist tradition differently from their Indian colleagues. As a result, Javanese architects favoured an axis (east-west) rather than a single direction (west).

Besides, the practical implementation of these spatial principles might have been quite different in India and in Java. In Indian texts, temples should face an auspicious direction and, although the treatises on architecture do not agree with one another, in practice, it has often been understood that temples should face east. It is generally thought that if the rising sun shines upon the image in the *cella* it will bring benefit to the temple (Klokke 1995: 75; Kramrisch 1946: 235, 304).

However, in traditional Indonesian societies, although east is an auspicious direction, this is not necessarily translated into east-facing buildings. For example, in most Balinese housing compounds, the family temple is located to the northeast (the most auspicious direction in southern Bali). The altar itself faces west or even southwest, but people praying in front of it thereby face the auspicious direction (see Hurpré 1993: 179).

The difference between the Indian interpretation that the temple itself should face east, and that of the Balinese, where it is actually the devotee who should face in an auspicious direction, might partly explain why west-facing temples are so numerous in Java (far more numerous in fact than in India or mainland Southeast Asia). The co-existence of two ways of conceptualising space allowed Javanese architects to choose an orientation more freely and to adapt it to topography, hydrography or the position of human settlement.

That a local interpretation may indeed lead to an inversion of Indian principles of spatial organization is illustrated by the repartition of *buddha* sculptures at Borobudur and Candi Sewu. According to the Indian tradition, each *buddha* is associated with a precise direction:

- Buddha in *bhūmisparśa-mudrā* East
- Buddha in *varada-mudrā* South
- Buddha in *dhyāna-mudrā* West
- Buddha in *abhaya-mudrā* North

The locations of the Buddha sculptures of Candi Borobudur fit well with the above scheme. At Candi Sewu, however, only the sculptures from the first, second and fourth rows of shrines follow a similar pattern. Sculptures found in the third row (the only row where the shrines are turned inward) show an inverted picture: Buddhas in *bhūmisparśa-mudrā* are to the west, those in *varadamudrā* to the north, *dhyāna-mudrā* to the east and *abhaya-mudrā* to the south (IJzerman 1891: fig.153). As regents of the directions, the *jina* rule over the cardinal points, i.e. they face their corresponding direction.

To summarize, the orientation of Central Javanese temples is distinguished from the building traditions of India and mainland Southeast Asia by the absence of the preponderance of east over west. This peculiarity, which does not however contradict the Indian treatises on architecture, apparently resulted from the coexistence of two different perceptions of space – the first dualistic, the second solar based – and possibly from a different approach to sacred space, according to which both direction and location could be determinant factors in the planning of a temple. Central Javanese architects were therefore more inclined to build west-facing temples than their Indian counterparts and thus to adapt temple orientation in relation to external parameters. Nevertheless, the fact that it was apparently an obligation for a shrine to have its door located along the east-west axis shows that this adaptation to external criteria had its limits and that there was a rather strict concept of space underlying the construction. No parameter was strong enough to make the architect depart from this rule and adopt a northward or southward orientation.

Temple orientation and religious affiliation

In the Javanese perception of space, as shown above, temples had to be orientated either to the east or to the west, both directions apparently being equally acceptable. But what further parameters could have influenced the choice of the one or the other? We have seen that regional trends, topography and rivers may all have had an impact – though limited – on temple orientation. The Indian treatises on architecture have already suggested that two other elements might have had an influence on orientation: religious affiliation and the position of the temple in relation to settlement.

The religious history of Central Java is not well known and, as far as religious affiliation is concerned, we can only very generally distinguish Buddhism from Hinduism. With the exception of only a few cases, the precise name of the deity worshipped in each surviving temple remains unknown – although the vast majority of Hindu temples were clearly dedicated to some aspect of Śiwa, as suggested by the numerous *lingga*.

In an article published in 1995, M.J. Klokke has suggested that a temple's orientation might be linked to its affiliation to either Buddhism or Hinduism:

While most Buddhist candi such as Kalasan, Sari, Sewu, Ngawen and Borobudur face east according to the Indian model, most Hindu temples, including the Arjuna group at Dieng, Pringapus, the Gedong Songo group, Ijo, Morangan and Asu, Pendem and Lumbung near Muntilan, are oriented towards the west. [...] It is striking, however, that in Central Java the west has been favoured systematically as the side for the entrance of Hindu temples. The only exception is the Loro Jonggrang complex, which faces east. (Klokke 1995: 77)

Direction	Religion	Number	Names of the sites
East	Buddhist	8	Borobudur, Bubrah, Gampingan, Kalasan, Lumbung (Prambanan), Ngawen, Sari, Sewu.
	Hindu	15	Argapura, Batur, Bima, Cebongan, Dukuh, Gebang, Gunung Wukir, Kedulan, Loro Jonggrang, Merak, Ngempon, Perot, Retno, Samberan, Selogriyo.
West	Buddhist	10	Banyunibo, Gana, Kalongan, Mendut, Palgading, Pawon, Plaosan Kidul, Plaosan Lor, Risan, ^a Sojiwan.
	Hindu	21	Asu, Banon, Barong, Dieng, ^b Gajah, Gedong Songo, ^c Gunung Sari, Ijo, Jetis (Cangkringan), Kaliworo, Lawang, Lumbung (Magelang), Mantup, Miri, Morangan, Pendem, Pringapus, ^d Sambisari, Sentono, Singo, Sumur Songo.

Table 25: Orientation and religious affiliation

- The religious affiliation of Candi Risan is uncertain, since its association with Buddhism is based on the discovery of a single statue, identified as the bodhisattwa Awalokiteśwara (Verbeek 1891: 168; Hoepermans 1913: 218; Bosch 1915: 25; Laporan Peninjauan situs Semin, Playen dan Karangmojo 1981; Daftar peninggalan benda DIY 1985: 37-39).*
- The Arjuna group, Gatotkaca and Dwarawati.*
- The main temples.*
- Candi Pringapus might actually be the secondary shrine of Candi Perot.*

However, now that we have gathered more data and can take into consideration a larger number of remains, we have to recognize that these observations were based on insufficient data. The orientation is now known for 18 Buddhist temples and, out of these, 10 face west. There is thus no specific tendency to orientate Buddhist shrines towards the east. Furthermore, even though it is true that the majority of Hindu remains face west (21 out of 35), Loro Jonggrang is not the only east-facing Hindu sanctuary (Table 25). The choice of orientation must have been based on other criteria than a Hindu or Buddhist affiliation.

It can be argued, as was done in earlier times for Angkor Wat (Cœdès 1933; Przulski 1933),²⁴⁰ that west-facing temples had a funerary function, while east-facing shrines were dedicated to the gods. It is indeed commonly accepted that the west, being the direction of the setting sun, is related to death. Nevertheless,

240 The opinion that Angkor Wat had a funerary character was based on three main arguments: 1) the relief panels that are not composed around a central motif must be read from left to right; 2) the order of the reliefs seemed to follow an *apasavya* rather than a *pradakṣiṇa* movement; 3) the temple faces west (Cœdès 1933; Przulski 1933). Cœdès already raised some objections to the reading of the reliefs in an *apasavya* direction (Cœdès 1933), and this has been contested more recently by E. Mannikka (1996).

in ancient Indian Hindu-Buddhist thought, it seems that the west was not automatically associated either with death or with funerary rites. Furthermore, as will be shown later, the epigraphic and archaeological records do not suggest that such an association was common in Central Java.

Moreover, it is clear from Indian treatises on architecture that, in India itself, west-facing temples not only existed but also maintained no special connection whatsoever with funerary practices.²⁴¹ I do not want to re-open here the age-old debate regarding the function of the Javanese *candi*: It has I think been satisfactorily closed by R. Soekmono in his thesis (Soekmono 1995). Central Javanese shrines were not tombs, but temples, and the supposed funerary urns found within the temple pits were not the remains of dead kings. They were in fact ritual deposits, as described in detail in the Indian treatises, and were similar to the *peripih*, or receptacles for the god's essence, that are still found buried under Balinese shrines and altars (Soekmono 1995; Ślęczka 2007).

What is specific about Javanese shrines is that at least some of them were related to the worship of former kings. This practice is well known in East Java where texts tell us, for example, that king Anūṣapati was enshrined at Candi Kidal and king Wiṣṇuwardhana at Candi Jago.²⁴² After their deaths, East Javanese kings were united with their favoured god and a statue of the god was placed within a *candi*. The temple would then become a place for the worship of the deceased king. Similarly, some inscriptions²⁴³ suggest that certain Central Javanese *candi* were linked to deceased kings.

Can we then postulate that temples linked to ancestor worship were oriented towards the west and that other kinds of temple were oriented towards the east: or indeed the other way round? Unfortunately, the Central Javanese inscriptions that refer to known temples are too scarce to give a definitive answer to that question. However, on the one hand, the inscription of Gunung Wukir, associated with Candi Gunung Wukir (an east-facing temple), does not refer to ancestor worship, but commemorates the erection of *lingga* by (the then living) king Sañjaya in a “wonderful place dedicated to Śambhu” (Sarkar 1971-1972: I,

241 See above, p.132.

242 According to the Pararaton and the Nāgarakṛtāgama. See Brandes 1897: 16, 18; Robson 1995: 54. For the association between names mentioned in the texts and the actual *candi* Kidal and Jago, see for example Krom 1923, II: 55, 95.

243 The inscription of Lanḍa (879 A.D.), for example, mentions a “*sang dewata ing pacanddyan i Kwak*”, which Wisseman Christie translates as a “deified ancestor buried in the candi at Kwak”. Similarly, in the inscription of Tělang I (904 A.D.), she reads “*haji dewata lumāh ing śataśngga*” as “the deified ruler who is buried at Śataśngga”. In the inscription of Poh (905 A.D.), “*sang hyang caitya mahaywa silunglung sang dewata sang lumāh i pastika*” is “the holy funerary monument of the ancestor-spirit who is buried at Pastika” (Wisseman Christie 2002-2004: n° 100, 141 and 146). While many of these translations are tentative, it is nevertheless clear that some sort of ancestor worship occurred; it is indeed the only way to understand the inscription of Mantyaśih I (907 A.D.), which, after invoking various kinds of spirits, invokes the “holy spirits who have gone before” followed by the names of eight kings of Matarām (Wisseman Christie 2002-2004: n° 152).

n° 3). On the other hand, the Śiwagrha inscription,²⁴⁴ which is usually linked to the east-facing *candi* Loro Jonggrang (Casparis 1956: 280-330), is said to refer to the memorial temple of the *rake* Pikatan.²⁴⁵ We thus have two temples with the same orientation (east), one of which is possibly linked to ancestor worship, while the other is probably not. It seems unlikely therefore that the dedication of a temple to ancestor worship automatically required a specific orientation.

Exact orientation: deviation from geographical north

Until now, I have used the terms “east” and “west” generally, without greater precision, but a problem arises here: Central Javanese temples rarely face due east or due west. Usually, their axes deviate from geographical north. This observation raises an important question: is this deviation a mistake resulting from the techniques used in judging orientation or was it intended?

Data accuracy

First of all, a word must be said about data accuracy. The exact orientation of a temple building or foundation is not easy to measure and, often, mistakes cannot be avoided; the very nature of most archaeological sites lowers the accuracy. Most temples were discovered in a poor state of preservation: the region being subject to earthquakes, landslides and floods. Ancient stone walls are often found in a fallen condition at a slight remove from their original locations. This process is amplified by the lack of deep foundations in ancient Javanese architecture. Indeed, foundations are rarely more than two or three stone layers deep, so they too can be disturbed by natural events.

The situation is not always easier when temples are found that are still partly standing. The movement of stones from their primary positions is frequently noted, so that it is very difficult to determine which stone is the least disturbed. Therefore, results may vary according to the stones chosen as points of reference, and mistakes in the measurement of orientation often occur as a result.

Another problem arises from the fact that many structures have undergone thorough restoration. They were often dismantled to ground level before being completely rebuilt. This is the case, for example, with the *candi* Banyunibo, Barong, Borobudur, Gebang, Ijo, Pawon, Plaosan, Pringapus, Ratu Boko, Sewu and Sojiwan. In such circumstances, there is no guarantee that the rebuilding preserved the exact orientation of the original structure (especially when this original orientation was already difficult to estimate).

244 For a transcription and translation of the Śiwagrha inscription, see Casparis 1956: 280-330 and Wisseman Christie 2002-2004: n° 53.

245 The inscription describes the funerary temple of the previous king. The title of the reigning king is *dyah Lokapāla*, who, given the date of the inscription (856 A.D.), is without much doubt *Rake Kayuwangi dyah Lokapāla*. His predecessor on the throne was *Rake Pikatan dyah Salaḍū*, as we know from the *Wanua Tengah III* inscription (Wisseman Christie 2001).

The conclusion from all the above is that we should keep in mind that the numbers given, although presented with apparent precision, cannot be regarded as an exact picture of the past reality and that any study requiring a too high measurement of orientation should be treated not only with caution but suspicion.

To illustrate the problem posed by data accuracy, I would like to compare the orientation of two important temples, namely Candi Mendut and Candi Gunung Wukir, as measured by E.L. Hapsoro and B. Siswoyo (Hapsoro 1986: 60-61; Siswoyo 1996: 5):²⁴⁶

- *Mendut:Hapsoro: 303° 06'22.51"*
- *Siswoyo: 287° 59'*
- *Gunung Wukir:Hapsoro: 109° 24'03.77"*
- *Siswoyo: 101° 25'*

We can see here that the differences may be considerable. Although I would have liked to do so, I have not had the occasion to make my own measurements.²⁴⁷ Nevertheless, it is probable that in many cases they would simply have given a third result, not necessarily more faithful to the original orientation than those of E.L. Hapsoro and B. Siswoyo.

If one accepts an error margin of approximately five degrees (5°), it is still possible to roughly divide the temples into three groups, according to the extent of their deviation from geographical north.²⁴⁸ In total, 15 temples have an orientation very close to the true cardinal points (Table 25, Group Ia), 4 are clearly oriented far away from the main points of the compass (Table 26, Group III), while the remainder - i.e. 16 sanctuaries - fall between these two extremes (Table 26, Groups Ib and II).

These variations in orientation raise many questions: are they related to religious affiliation, regional traditions or chronology? Do they have an inherent meaning or are they merely the result of imperfect orientation methods? Unfortunately, the scope of this study has not allowed me to resolve these variations, and I hope that high quality astronomical methods will in the future be applied to the resolution of this question.

246 Although both archaeologists worked with a theodolite, their methods differed. E.L. Hapsoro based his readings on the measurement of the relative position of two corners of the same wall (Hapsoro 1986: 49), while B. Siswoyo used an average, taking into account the position of two parallel walls (Siswoyo 1996: 3).

247 I used a simple water compass to determine whether temples face due east or west, but the method is not precise enough to determine exact orientation. The use of a theodolite would have required me to hire instruments and topographers from the Suaka Purbakala, which was not possible given my limited budget.

248 Mendut and Pawon are actually the only temples for which my compass-made estimates differed strikingly from the measurements of B. Siswoyo.

	Deviation	Sites	Number
Group Ia	0° - 3°	Asu, Banyunibo, Barong, Borobudur, Bubrah, Gedong Songo I, Ijo, Loro Jonggrang, Lumbung (Magelang), Ngempon, Plaosan Kidul, Sambisari, Sari, Sewu, Sojiwan.	15
Group Ib	4° - 8°	Arjuna, Dwarawati, Gatotkaca, Gedong Songo II, Kalasan, Lumbung, Plaosan Lor, Selogriyo.	8
Group II	11° - 16°	Bima, Gebang, Gedong Songo III, Gedong Songo IV, Gedong Songo VI, Gunung Wukir, Merak, Retno. ^a	8
Group III	17° - 30°	Mendut, ^b Ngawen, Pawon, ^c Pendem.	4

Table 26: Temple orientation - deviation from true north (On the basis of the measurements given by B. Siswoyo (1996), unless stated otherwise)

- a. Nitihaminoto & Soeroso 1977: fig.14.
- b. My own estimates, taken with a water compass and using the western and eastern walls as references. These estimates (300°) correspond roughly with the measurements of E.L. Hapsoro (303° 06' 22.51") and D. Chihara (301°), but vary considerably from those of B. Siswoyo (287° 59'). See Hapsoro 1986; Siswoyo 1996; Chihara 1996.
- c. My own estimates.

It is nevertheless possible to shatter at least one pre-conceived idea: that Central Javanese temples were perfectly oriented around the cardinal points (in contrast to East Javanese temples). In her thesis, J. Patt has argued that the orientation of Sanggariti (45° to the NE) is "strikingly in contrast to the exact east-west, north-south compass alignments of closely contemporary Central Javanese monuments of the eighth and ninth centuries" (Patt 1979: 60). A similar argument has also been put forward by Klokke in a more recent article, where she emphasises that Central Javanese temples are oriented to the four cardinal points, whereas in East Java, "the principle of a holy centre accurately oriented to the cardinal points is lost"; East Javanese temples facing west-north-west rather than true west (Klokke 1995: 76-77). Although it is true that no Central Javanese temple faces NE like Sanggariti, and that both Borobudur and Loro Jonggrang face (almost) due east, it is nevertheless inaccurate to say that Central Javanese temples are always accurately aligned with the cardinal points: the deviation from true north clearly oscillates between 0° 09' (Sari) and 30° (Mendut; see Siswoyo 1996).

We can add that this deviation from true north shows no correlation with religious affiliation or regional trends. Buddhist shrines are not more accurately oriented than Hindu ones (Table 27) and the deviation is no smaller or greater in southern Central Java than in northern Central Java (Table 28).²⁴⁹ Furthermore, the temples that deviate most from due north do not appear to be aligned with any mountain peak, whether close or distant, as seems often to have been the case for East Javanese shrines (Patt 1979: 60).

²⁴⁹ The four temples of group III, however, are found in the same region (Muntilan).

TEMPLE ORIENTATION

	Hindu	Sites	Buddhist	Sites
Group Ia	8	Asu, Barong, Gedong Songo I, Ijo, Loro Jonggrang, Lumbung, Ngempon, Sambisari.	7	Banyunibo, Borobudur, Bubrah, Plaosan Kidul, Sari, Sewu, Sojiwan.
Group Ib	5	Arjuna, Dwarawati, Gatotkaca, Gedong Songo II, Selogriyo.	3	Kalasan, Lumbung, Plaosan Lor.
Group II	8	Bima, Gebang, Gedong Songo III, IV, VI, Gunung Wukir, Merak, Retno.	0	
Group III	1	Pendem	3	Mendut, Ngawen, Pawon.

Table 27: Deviation from true north and religious affiliation

	N	Sites	C	Sites	S	Sites
Group Ia	2	Gedong Songo I, Ngempon.	3	Asu, Borobudur, Lumbung.	10	Banyunibo, Barong, Bubrah, Ijo, Loro Jonggrang, Plaosan Kidul, Sambisari, Sari, Sewu, Sojiwan. [10?]
Group Ib	4	Arjuna, Dwarawati, Gatotkaca, Gedong Songo II.	1	Selogriyo.	3	Kalasan, Lumbung, Plaosan Lor.
Group II	5	Bima, Gedong Songo III, IV and VI, Retno.	1	Gunung Wukir.	2	Gebang, Merak.
Group III	0		4	Mendut, Ngawen, Pawon, Pendem.	0	

Table 28: Deviation from true north and region. N: northern zone; C: central zone; S: southern zone

So far therefore, we can only formulate negative conclusions. However, a better understanding of the relative chronology of Central Javanese monuments might lead to a different result. The list of the temples facing (almost) due east or west appears to include a majority of later sanctuaries (such as Loro Jonggrang or Ijo), with the noticeable exception of Borobudur.²⁵⁰ In contrast, among the four temples that deviate most from the cardinal points, at least two (Mendut and Pawon)²⁵¹ are usually ascribed to an early date.²⁵²

250 Asu, Barong, Loro Jonggrang, Lumbung (Magelang) and Plaosan Kidul are all dated after 830 A.D. Borobudur, Bubrah and Sewu are usually ascribed to a period before 830 (Vogler 1949; Soekmono 1979; Williams 1981; Dumarçay 1993; Chihara 1996), while the construction dates of Candi Banyunibo, Gedong Songo I, Ngempon, Sambisari and Sari remain subject to controversy. As far as my own opinion is concerned, however, I would consider Gedong Songo I to belong to the late period of Central Javanese architecture.

251 One can probably add Pendem, which is probably closer in date to Borobudur than to Loro Jonggrang (Klokke & Degroot 2006).

252 Mendut and Pawon are generally dated before 830 A.D., and often even before 800 A.D. (Vogler 1949; Williams 1981; Dumarçay 1993; Chihara 1996). The same scholars do not agree however concerning the dating of Ngawen, with dates varying between 770 and 850. Although Dumarçay suggests a date around 850 A.D. for Candi Pendem (Dumarçay 1993), I would follow M.J. Klokke and ascribe it to an earlier period (i.e. before 830 A.D.; see Klokke & Degroot 2006).

Determining east and west: the Indian method

Even if it is true that over time there was an increasing general tendency to orientate buildings more accurately towards the cardinal points, we still do not know what this means. Was this due to improvements in orientation techniques? We should further ask ourselves, which specific techniques were used by Javanese architects, and what methods of orientation were known at what time? Unfortunately, Central Javanese inscriptions do not seem to contain any details referring to practical orientation matters.

We do have, however, a rather complete description of the method potentially used by Indian architects.²⁵³ The method is described in the *Mānasāra* and the *Mayamata* (Chapter VI). First of all, the ground should be levelled. Then a stick should be planted at its centre. With a cord, a circle should then be drawn around the stick, its diameter measuring twice (Dagens 1970: 68) or four times (Acharya 1934: 24) the height of the stick. Then the architect, in the morning and in the afternoon, should mark the points where the shadow of the stick or gnomon touches the circle. These points give the east-west direction. Finally, the east-west axis should be “reported” to the centre.

From an astronomical point of view, this method is quite precise and the expected error in determining east and west should be around one degree (Cuypers 2002). However, a possible source of error is the fact that the text, as interpreted by Dagens, would suggest that the east-west line should be “reported” to the centre of the circle (Dagens 1970: 70), i.e. that it is not the original east-west axis that is used to draw the temple plan, but a line parallel to it and passing through the centre of the circle. Although a potential source of error, it is unlikely that this method would have introduced an overall distortion of more than 10°. Therefore, it must be concluded that the temples in groups II and III, at least, were not built using this method.

Sunrise orientation

It is quite possible that Central Javanese architects used another method to determine the orientation of their temples, based on the sun or on specific stars, even though this method is not described in Indian texts.

The use of the sunrise as a reference for east is both common and simple. It can be done using either a pair of crossed-sticks or the early shadow of a gnomon. Because it is based on the position of the rising sun, the accuracy of this method in determining the cardinal points varies during the year, according to

253 Although the method is described in Indian treatises on architecture – and therefore was certainly known in India – there is no evidence to show that its use was widespread in India.

the sun declination. In Java, the sun's apparent azimuth at sunrise is roughly estimated as lying between 66° (at the summer solstice) and 114° (at the winter solstice). This means that in June the sun rises 24° north of true east, while in December it rises 24° south of it. It is only around the two equinoxes, in September and March, that the sun rises due east. With the exception of Candi Mendut and Pawon, the orientation of all Central Javanese temples falls within this range. This means that, theoretically, they could have been oriented according to the position of the sunrise on a specific day.

It is tempting to follow B. Hapsoro and try to date a temple on the basis of its orientation alone (Hapsoro 1986). However, there is no such easy solution. Apart from the above-mentioned problems of estimating the original orientation of a temple, there are many unknown variables. For example, we do not know for sure which method was used. If crossed-sticks are used at sunrise, to the extent that the local landscape allows it, the shadow method requires the sun to be a bit higher in the sky; and the sun declination is not the same at sunrise as it is at 10 o'clock. The precision of sunrise orientation also depends on the elevation of the horizon, and the mountainous landscape of the Progo Valley would inevitably have led to additional errors, probably in the order of seconds (Gomperts 2004).

As the sun reaches a given azimuth two times a year (with the exception of the extreme azimuths, which are reached only at their respective solstices), it might eventually be possible to roughly determine two possible building periods (of a few days) within each year. Nevertheless, as the sun follows the same path annually, it would be impossible to determine the year without additional information.

It is to be expected that the Javanese architects would have planned the building on an auspicious day. If we possessed a list of the auspicious days of the Javanese calendar and could cross-reference this information with temple orientation, we would most probably be able to ascribe each temple to a specific day of a specific year.

Unfortunately, we do not know much about Central Javanese astrology. No specific month of the year or day of the week seems to have been considered auspicious in its own right: inscriptions were indeed written at all times of the

year and on every day of the week.²⁵⁴ It seems probable that the system was a complex one and that it was actually a conjunction of several factors that made a day auspicious.

In his study, Hapsoro suggests that the full moon was the main determinant factor and that it was on full-moon days that the orientation of the temples was calculated (Hapsoro 1986: 64). Although I do not deny the importance of the moon in Hindu-Buddhist thought, nor its impact on the Javanese calendar, I think Hapsoro's statement cannot be accepted without qualification: there is indeed no clear mention of the full moon as an overly auspicious phenomenon in any Central Javanese source. In fact, only a handful of inscriptions were written on a full-moon day,²⁵⁵ which suggests that other days could be considered equally auspicious. Nobody, I think, would have consciously built a temple or inaugurated a *sīma* on an inauspicious day. The conjunction of a full-moon day with a given sun declination and a temple azimuth cannot therefore be held as

254 There are about a hundred inscriptions from the Central Javanese period that contain complete information of the date on which they were written. All the months of the year are represented, even though fewer inscriptions were made during the months of Āsāḍha, Caitra and Māgha than during the other months. Similarly, all the days of the three weeks are present in a large variety of combinations. In the 6-day week, the days most frequently found in the inscriptions are Mawulu, Tunglai and Wurukung; in the 5-day week, they are Pahing and Wagai; and in the 7-day week Soma/Candra. See below for details.

Months in Central Javanese inscriptions:

Month	(a)	Month	(a)	Month	(a)
Caitra	2	Śrāwāṇa	12	Mārgaśīra	10
Waiśākha	9	Bhadrawāda	7	Poṣya	11
Jyēṣṭha	6	Asuji	8	Māgha	4
Āsāḍha	2	Kārttika	15	Phālguna	9

(a) Number of dated inscriptions written during that month

Days in Central Javanese inscriptions:

6-day week	(b)	5-day week	(b)	7-day week	(b)
Tunglai	23	Pahing	22	Āditya	8
Hariyang	12	Pon	17	Soma	28
Wurukung	21	Wagai	26	Anggāra	10
Paniruan	12	Kaliwuan	18	Budha	14
Was	11	Umanis	17	Wṛhaspati	18
Mawulu	21	Śukra	19	Śanaīścara	4

(b) Number of dated inscriptions written on that day of the week

255 Only the inscriptions of Mandang (843 A.D.), Pendem (881 A.D.), Watukura (902 A.D.), Wintang Mas B (919 A.D.) and Harinjing B (921 A.D.) mention in their date of writing "the 15th day of the waxing moon", which should correspond to a full moon. The inscription of Upit (866 A.D.) was written on the "15th day of the waning moon". In general, inscriptions could apparently be written on any day of the waning or waxing moon.

a valid criteria for dating a temple, at least until a deeper study of the Central Javanese astrological system has been made.

I would like to add that comparison of the orientations of Gunung Wukir, Sewu and Loro Jonggrang with the sun declination on the dates given in the corresponding inscriptions of Canggal,²⁵⁶ Kĕlurak²⁵⁷ and Śiwagrha have not given positive results. These three sanctuaries are the only ones associated with precisely dated inscriptions (i.e. inscriptions that mention a year, a month and a day). I entered the longitude and latitude of the temples, together with the data from the inscriptions, into the online sunset/sunrise calculation software of the American National Oceanic and Atmospheric Administration,²⁵⁸ but the calculations were not in line with the orientation of the temples (Table 29). These variations may have multiple causes: the inaccuracy of the archaeological data, a mistaken association between a temple and an inscription, the misinterpretation of an inscription²⁵⁹ and so on. Furthermore, three sets of data are clearly insufficient to determine whether temple buildings in general were oriented towards the rising sun or not.

Orientation towards the sunrise is far from being the sole possible option. Ancient societies have used many other points of reference to orientate both themselves and their buildings. As suggested to me by Amrit Gomperts, the heliacal rising of important stars, such as Canopus (Agastya), may have served as a reference to determine the orientation of Central Javanese temples (Gomperts 2004). The problems of data accuracy mentioned above, the uncertainties concerning recognised associations between temples and inscriptions (which would provide a good verifying tool), and my own limited knowledge of astronomy (in particular Indian astronomy) have prevented me from exploring these possibilities further. However, I leave these questions open.

256 Although the location at which the inscription was found leaves few doubts concerning its association with Gunung Wukir (Soekmono 1979: 462), the temple most probably underwent a phase of major rebuilding at a later period (Dumarçay 1993: 80). Whether this restoration preserved the original plan and orientation is unknown.

257 The association of the Kĕlurak inscription with Candi Sewu has been questioned by M. J. Klokke (2006: 57). The inscription, which was actually found close to *candi* Lumbung and Bubrah, was associated with Sewu because the Kĕlurak inscription refers to Mañjuśrī, to whom Sewu was also thought to be dedicated. However, the only evidence for a cult of Mañjuśrī at Sewu, the Mañjuśrīgrha inscription, was found near a secondary shrine and not in the direct vicinity of the main temple. Furthermore, the throne within the main cella suggests the presence of a seated buddha rather than a Mañjuśrī statue (Klokke 2006: 57). The entire association of Sewu with Mañjuśrī might therefore be wrong. As far as solar declination and orientation are concerned, however, an association with Lumbung or Bubrah does not give any more convincing results. The orientation of the two latter temples deviates respectively by 5.58° and 2.1° from due east.

258 Access date: 25-07-2008.

259 None of the inscriptions relate directly to the laying out of the ground plan. The inscription of Gunung Wukir commemorates the erection of a *lingga* and Kĕlurak the installation of a statue of Mañjuśrī. The Śiwagrha inscription mentions the inauguration of a Śiwa image or *lingga* and the construction of a large temple complex.

Although rivers and hilltops played a role in the general orientation of temple remains, the meaning of their exact orientation is still unknown. Perhaps Central Javanese architects oriented their buildings toward the rising sun at a time considered auspicious, or perhaps temples were directed towards certain stars. However, it might also be the case that they did not give great importance to a temple's precise orientation and that, in early times at least, precise methods of orientation were only used in the planning of larger constructions, such as Borobudur. In present-day Yogyakarta, for example, it is not unusual to hear people speak about Malioboro Street as a south-north axis linking the sultan's palace to the summit of Mount Merapi. However, although Malioboro Street does indeed head north from the palace, it never reaches Mount Merapi, as the volcano lies not to the north, but rather to the north-northeast of the town. When one is aspiring to divine order, however, the crudities of everyday reality may sometimes need to be excluded from undue consideration.

Temple	Coordinates	Date	Solar declination ^a	Temple deviation ^b
Gunung Wukir	07° 38' 03.5" 110° 17' 48.7"	6.10.732 ^c	-4.77°	-11.42°
Sewu	07° 44' 38.1" 110° 29' 35.1"	26.09.782 ^d	-0.7 °	1.58°
Loro Jonggrang	07° 45' 07.4" 110° 29' 29.2"	12.11.856 ^e	-17.9 °	1.15 °

Table 29: Temple orientation and solar declination

- a. Calculated with the online software of the American NOAA (2008). *Positive values denote a northern declination, negative numbers a southern one.*
- b. Based on the measurements of Siswoyo (1996).
- c. The inscription of Canggal; see Sarkar 1971-1972: nr 3.
- d. The inscription of Kêlurak; see Sarkar 1971-1972: nr 6.
- e. The inscription of Śiwagaha; see Casparis 1956: 280-330.

Conclusion

While correlations between distribution patterns and natural environment have helped us to gain greater insight into the physical structure of Central Javanese territory and the complex relationship between temples, mountains and rivers, this chapter has extended the discussion to conceptualized space. We have noticed that Javanese temples are always built around an east-west axis, but that, contrary to what we see in other Hindu-Buddhist traditions, there is no specific preference for the east. We have further shown that this disposition may well result from the existence of two distinct conceptions of space: one miming the path of the sun, the other built around the transversal of two axes. In such a context, the west was apparently as auspicious as the east.

The choice between one direction and the other was influenced, at least in the rich agricultural plains, by the relative location of temples and rivers; temples having a tendency to face away from rivers (and, possibly, towards settlements). Although, in the lower areas, there is no evidence that temple orientation was determined by religious affiliation (Buddhism or Hinduism) or by reference to ancestor worship, temples built in high, remote places (and not directly linked to settlement or economic activities) tended to favour west. It is thus possible, that in these cases temple orientation reflects a difference in religious practice and/or purpose, since some of these sites (in particular Dieng and Ratu Boko) seem to have been related to ascetic practices.

In the following chapters, we will further explore the use of space at the temple level and show that there is indeed a link between the space conceived and implemented via the ground plan of a temple and its religious background.

Chapter 7

THE RELIGIOUS COMPOUND: SPATIAL ARRANGEMENT OF CENTRAL JAVANESE RELIGIOUS COMPLEXES

In the previous chapters, we have discussed two aspects of Central Javanese architectural space, i.e. temple location and orientation. In the following chapters, we will pursue our exploration of the structure of space during the Central Javanese period by focusing on architectural space. In chapter 7, we will assess the question of how buildings are actually arranged within temple compounds. After presenting the different types of architectural arrangement found in Central Java, I will discuss their distribution, possible correlations with the results of our study of location and orientation, and underline some factors that might account for the existence of these various types. Finally, on the basis of a detailed observation of several complexes, I will show how certain elements of the architectural space might relate to conceptual space, embodying different spatial concepts – some of them already discussed in the previous chapter: the centre, the axis, the rear, and the boundaries of the sacred ground.

Typology of Central Javanese temple compounds according to their spatial arrangement

The majority of Central Javanese religious sites count only one building. It is nevertheless not unusual to see Hindu-Buddhist shrines combined with one another to form religious compounds. In Central Java, 49 such complexes have been identified, ranging in size from 2 (e.g. Cebongan) to 249 buildings (Candi Plaosan Lor). Nevertheless, due to the poor state of preservation of most temple remains, the total number of buildings on a given site is frequently impossible to determine. It is therefore likely that some of the shrines that are nowadays standing alone were once part of a larger temple group and that some religious complexes included more buildings than we think. Furthermore, it is sometimes difficult to determine which structures belong to a single group and which do not. As I shall show below, Central Javanese religious complexes are not always exemplars of formal organization and symmetry, as Loro Jonggrang and Plaosan Lor might lead us to suppose. Moreover, some temples, although located only a few hundred meters from one another, may not show any physical resemblance that would allow archaeologists to be certain that they originally belonged to a single religious site.

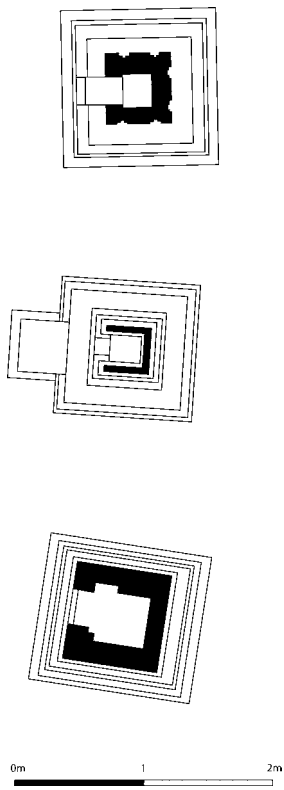


Figure 25: Mantup

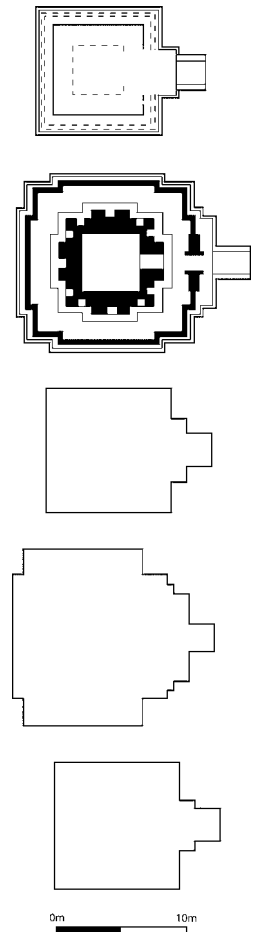


Figure 26: Ngawen
(adapted from Perquin
1927: Pl. I)

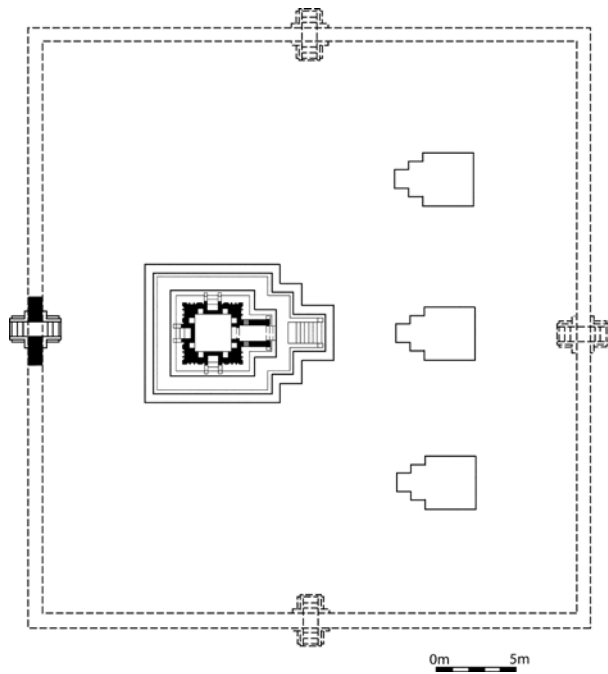


Figure 27: Merak

Central Javanese religious compounds are usually organized around one or two main temples.²⁶⁰ Beside the main shrine or shrines, temple complexes may include various additional structures: secondary shrines, *stūpa*, *pendopo* terraces or enclosure walls. None of these structures are mandatory; their number and arrangement vary considerably, creating both large-scale concentric compounds, and small-scale sanctuaries comprising only a couple of buildings.

Small scale sanctuaries: alignment and opposition

Small-scale religious complexes are organised along the principles of alignment and opposition, i.e. that structures are built in a row and/or facing one another.

In some religious complexes the buildings form a single a row. Their number may vary from 2 (e.g. Dawangsari) to 7 (Setan). Sometimes the buildings are approximately of the same size (Dawangsari, Gedong Songo V, Gedong Songo VII, Jetis, Mantup, Ngaglik (Prambanan), Risan, and probably Banon), but a sense of hierarchy may also be introduced (Figures 25 and 26). In the latter case, the group is built around one (Cebongan, Gampingan, Gedong Songo VI, Palgading and Setan) or two main structures (Ngawen and Mendut).²⁶¹

In other small-scale religious complexes the accent is on the notion of opposition, with the main temple(s) facing secondary shrine(s). At Arjuna, Gedong Songo II, Jetis, Puntadewa and Srikandi,²⁶² each temple faces a smaller, oblong shrine. At Candi Gunung Wukir, Ijo, Merak, Morangan²⁶³ and Sambisari, the main temple faces a row of three secondary shrines (Figure 27).²⁶⁴

Large-scale complexes: centrality, axiality and organic growth

Besides these small-scale sanctuaries, Central Java also has some very fine large-scale architectural compounds. Their organization may: 1) focus on a centre, 2) follow an axis, or 3) seem to have evolved at random. To the first type of large-scale compound belong the *candi* Kalasan, Kalongan, Loro Jonggrang,

260 The “main shrine” is here either the shrine at the centre of the compound – in the case of concentric temple complexes – or, more simply, the largest building of a given group.

261 This is a reference to the original state of Candi Mendut, at a time when the complex consisted of two brick buildings of similar dimensions: the temple discovered within the present Candi Mendut, and a temple located in the northern part of the compound, the remains of which were identified at the beginning of the 20th century (Brandes 1903c: 76-77).

262 To this group must be added Gedong Songo III, which is also composed of one main temple facing an oblong shrine – but in this case a secondary shrine has been added to the north of the main temple.

263 Only two structures are visible today at Candi Morangan: the main temple, facing west, and a secondary shrine, located northwest of the main structure and facing east. Due to the position of this one remaining secondary shrine, however, it is highly probable that the compound was once composed of four structures (a main temple facing three secondary buildings). Unfortunately, it has not been possible to carry out further excavations to the south and east, due to the presence of modern roads and houses.

264 At Sambisari and Ijo, the central shrine is oblong.

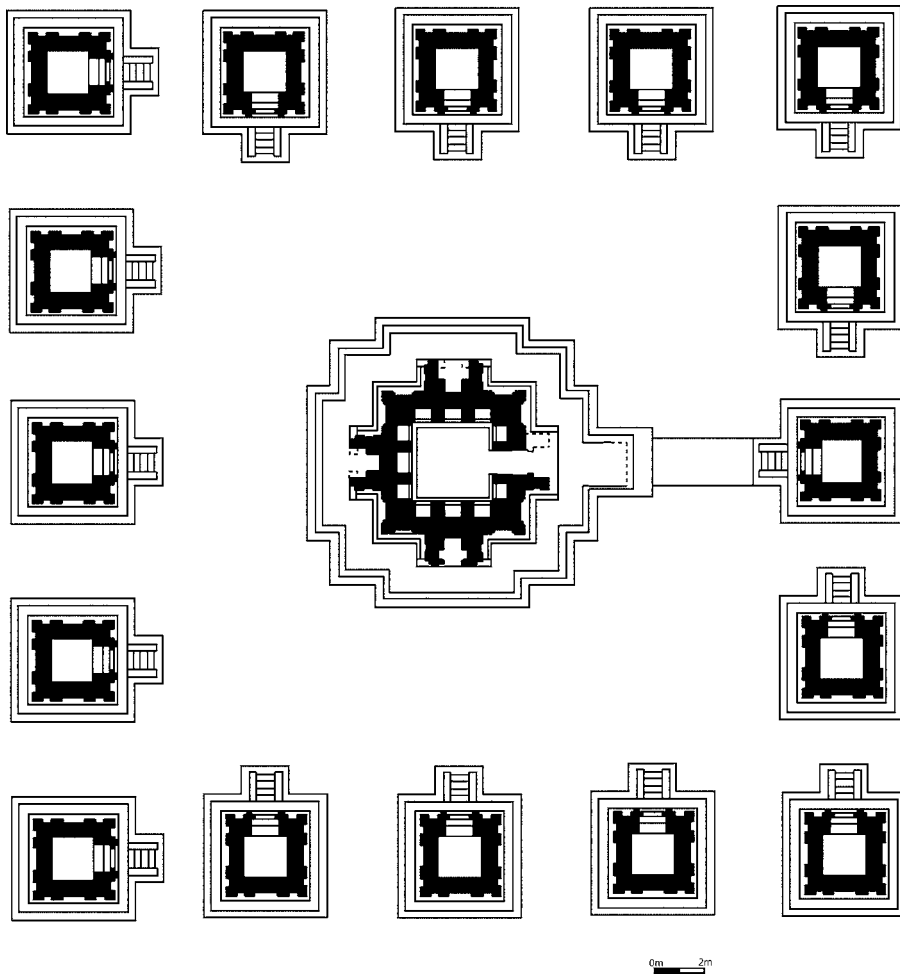


Figure 28: Lumbung (Klaten)

Lumbung, Plaosan Kidul, Plaosan Lor and Sewu. All these temple complexes are organized around a concentric pattern: the main temple(s) are surrounded by one or more rows of secondary structures. Kalasan is the simplest version of this type of spatial arrangement: the main temple is enclosed by a single row of 52 *stūpa*.²⁶⁵ The complex was once delimited by an enclosure wall, the remains of which have been found to the west, northwest and east; although its entrance

265 Although ashes and fragments of clothes were found within some of these *stūpa* (Bernet Kempers 1954: 29), they should not be compared to *stūpa* housing the ashes of deceased monks and kings as commonly found in mainland Southeast Asia. The *stūpa* of Candi Kalasan were all conceived at the same time. The 52 structures were clearly planned as a group and do not correspond to a progressive addition of reliquaries for the ashes of the dead. If they once contained human remains, this is probably a secondary use and not an essential part of their initial symbolism. In my opinion, the stone caskets and other remains found within the *stūpa* should more correctly be compared to *peripih*. On *peripih*, see Ślaczka: 2007.

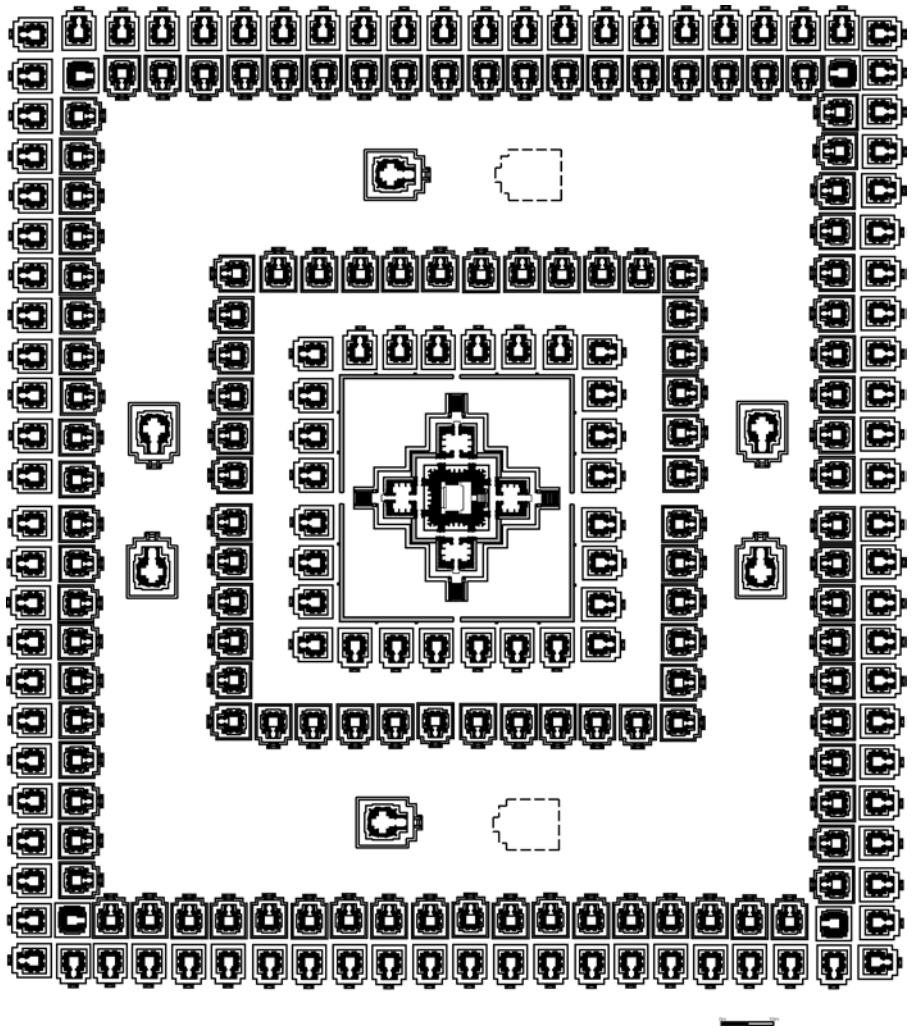


Figure 29: Sewu

has not been identified (Stein Callenfels 1929b: 8, 137-138). According to Van Stein Callenfels, the wall was probably similar to the low fence around the main temple of Candi Sewu.

Candi Lumbung, though modest in dimensions, is a slightly more complex compound. It consists of a central temple surrounded by 16 secondary shrines (Figure 28). In most concentric compounds there is a balance between east, south, west and north facing shrines, but this is not the case at Candi Lumbung, where only one structure faces west.

Candi Sewu (Figure 29), like Kalasan and Lumbung, also makes use of concentric rows of smaller buildings, but on a very extensive scale. The compound includes a main temple surrounded by a first enclosure, four rows of secondary

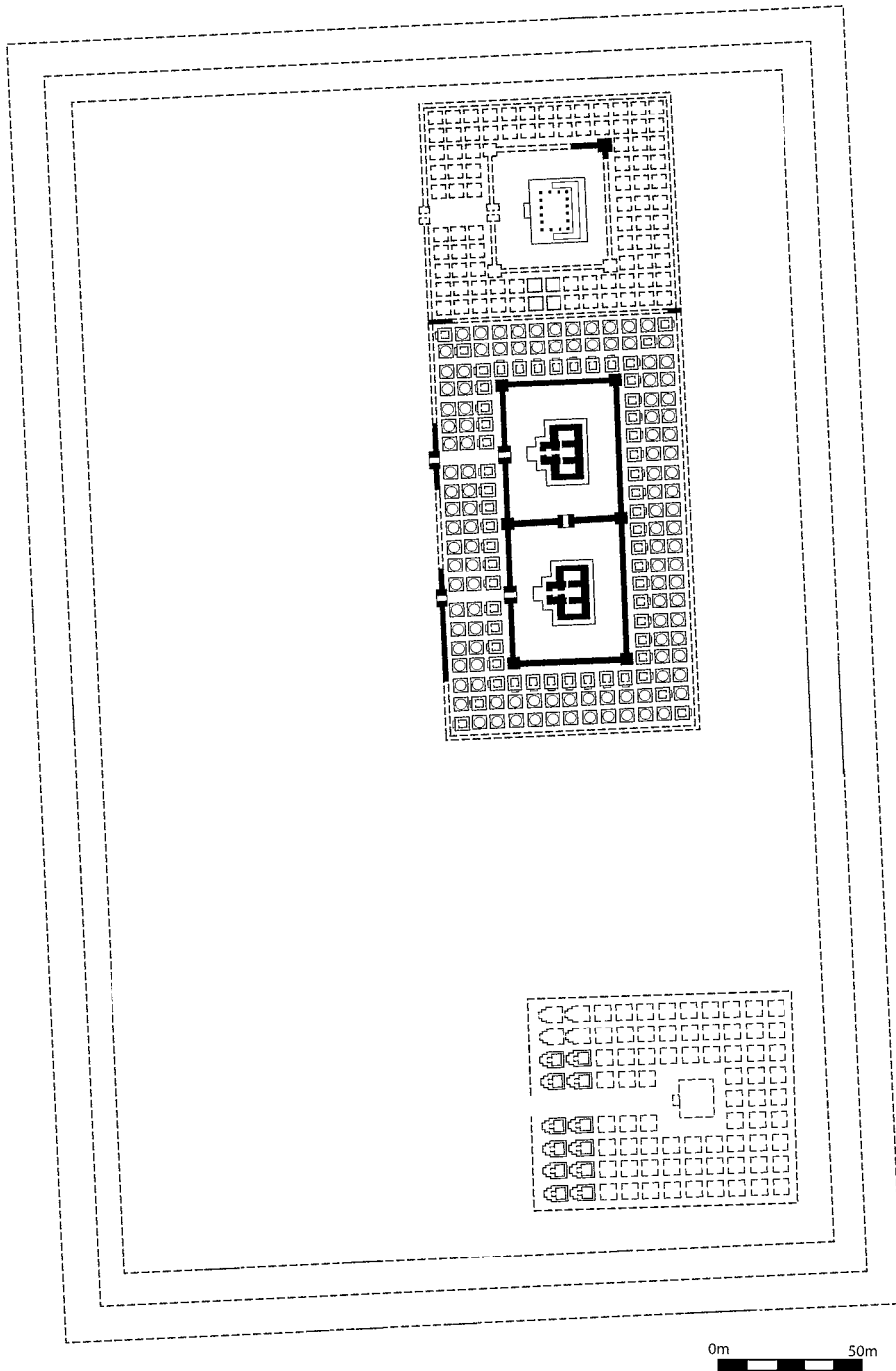


Figure 30: Plaosan Lor and Plaosan Kidul

shrines and one or two further enclosure walls. The low, inner enclosure wall has four entrances, the largest being on the eastern and western sides. The first, second and fourth rows of secondary shrines comprise 28, 44 and 88 outward-looking structures respectively (8, 12 and 22 on each side). The third row is composed of 80 inward-looking shrines. The main temple and the four rows of secondary structures were once surrounded by a second enclosure wall. In the space between the second and third rows of secondary shrines, along both axis of the compound, four pairs of shrines have been built, each pair placed with both shrines facing each other.²⁶⁶ In 1983, the remains of another wall, per-

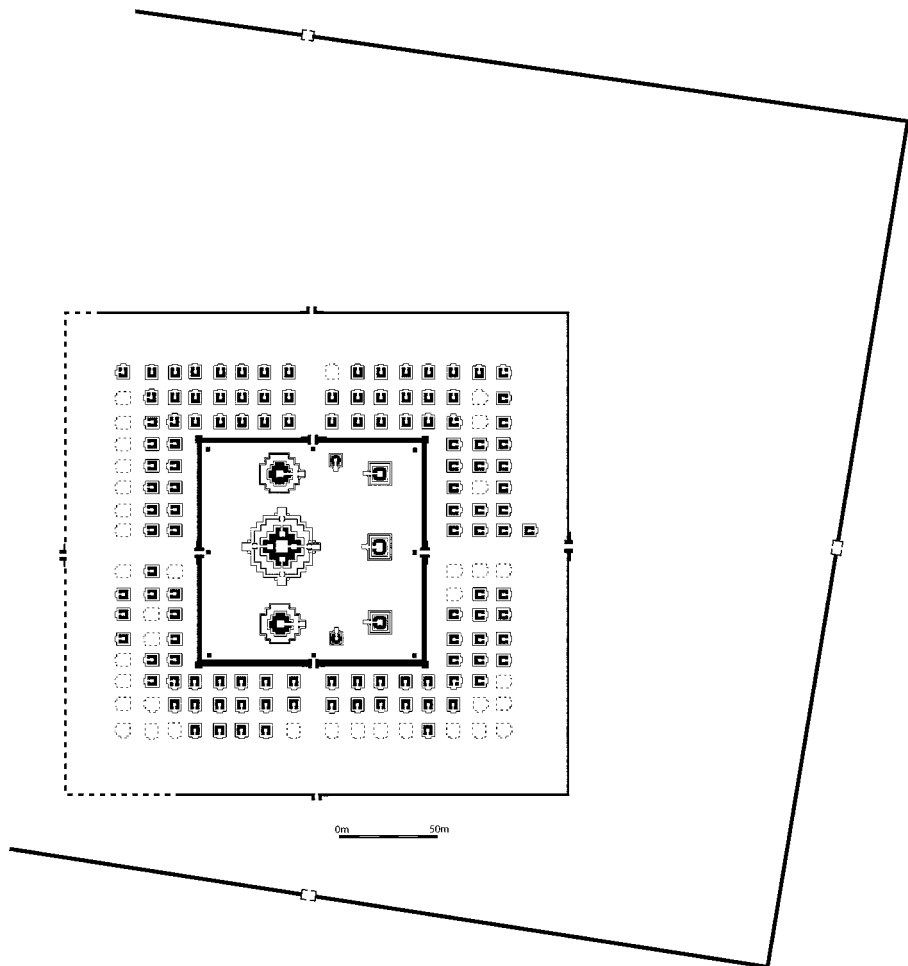


Figure 31: Loro Jonggrang

²⁶⁶ In fact, to the south and to the north, no trace of the eastern shrines has been found. This absence of any remains is hardly imputable to the state of preservation, and it is more probable that these shrines were planned but never built.

haps part of a third enclosure, were discovered 103 metres to the east (Anon & Hatmadi 1992: 61).

The *candi* of Plaosan Kidul, Plaosan Lor and Loro Jonggrang are all built according to the same principle (a centre surrounded by several rows of secondary buildings), but with a few differences. At Plaosan Lor (Figure 30), the concentric rows have been adapted to a rectangular plan. At Loro Jonggrang (Figure 31) they surround a group of main shrines, the organization of which is similar to that of smaller-scale sanctuaries.

The second type of temple compound, which includes only Candi Barong and Ijo,²⁶⁷ presents a completely different spatial arrangement. There is absolutely no trace of a centred organization; instead, they are stretched along an east-west axis. This is not the only characteristic that these temples share: both are built in the same area (on the dry hills of Mount Pegat-Ijo), on a hill slope, and are terraced sanctuaries.

Candi Barong (Figure 32) stands on a high terrace, topped by an enclosure wall and divided into two courtyards. The only access to the compound is via a *gopura* pierced into the western wall. The western courtyard is marked by the foundations of various buildings, the organization of which does not follow any obvious geometrical pattern. Directly in front of the *gopura*, a paved path leads to the remains of a stone terrace, situated at the back of the western courtyard. The visitor would have had to walk across this terrace before entering the second, eastern courtyard.

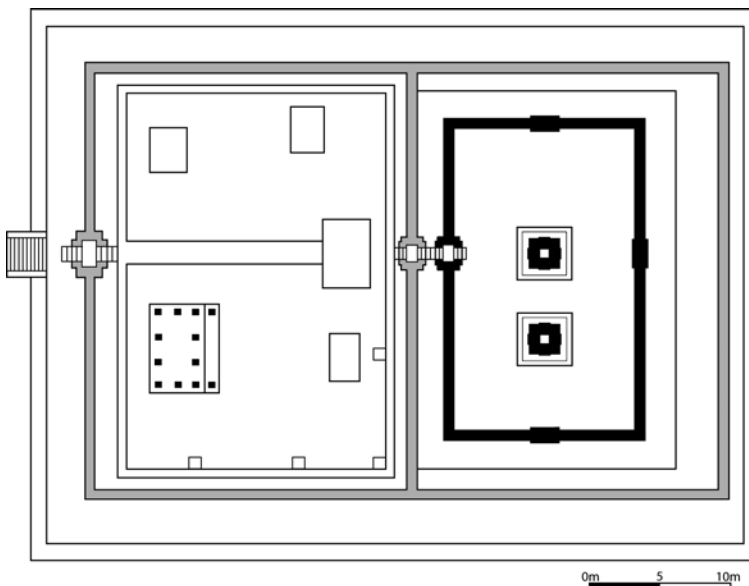


Figure 32: Barong

267 See also below, p. 170.

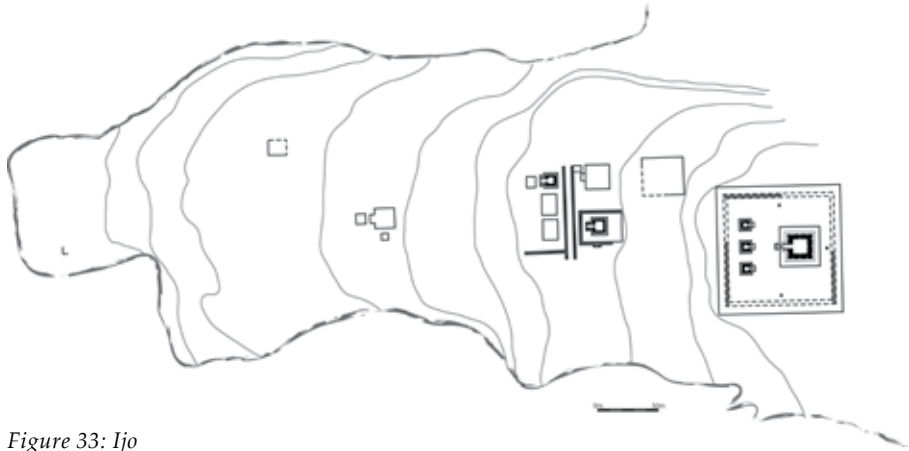


Figure 33: Ijo

The eastern courtyard is almost entirely occupied by a high, rectangular terrace, edged by an enclosure wall and accessed *via* a double *gopura*. On the northern, eastern and southern sides of the enclosure, there are false doors instead of true gates. These suggest that, even though it actually faces west, the sanctuary was symbolically opened towards the four directions. Within the enclosure stand two small square structures without any entrance.²⁶⁸

Like Candi Barong, Candi Ijo is organized along an east-west axis (Figure 33). It is composed of a series of terraces set onto the hill slope and housing several secondary shrines and *pendopo* terraces. The main temple is located on the topmost terrace. The spatial organization of the lower terraces does not seem to follow a pre-established pattern: the buildings are neither evenly distributed nor in line with the main sanctuary. The lowermost part of the compound to be preserved is organized like a small-scale Hindu sanctuary, with a larger building facing a smaller one. The uppermost terrace shelters four structures: a main temple turned to the west, and a row of three secondary shrines facing it.²⁶⁹

The third type of large-scale temple compound is represented by Ratu Boko, Dieng (Figure 34) and Gedong Songo. All formal organization appears to be absent. It is certain that taken separately, all of the smaller units comprising these religious complexes are organized in themselves (at Dieng and Gedong Songo, following the usual pattern for small-scale sanctuaries), but the relationship between the different units seem loose or, at best, unplanned. At these three sites, one searches in vain for the perfect centred plan of Sewu or the succession of

268 Candi Barong shows obvious signs of later transformation. The terrace was originally smaller: the remains of an older sustaining wall are visible a couple of meters north of the present edge of the terrace, partly buried under the stones. Modifications have most probably altered the appearance of the whole compound. It is likely that the *gopura* of the lower enclosures, which are today to the north of the true axis, were originally at the centre of the western façades. It is however impossible to determine whether these changes are due to rebuilding or to changes of plan during construction.

269 As noted earlier, the central secondary shrine is elongated, while the others are square.



Figure 34: Dieng

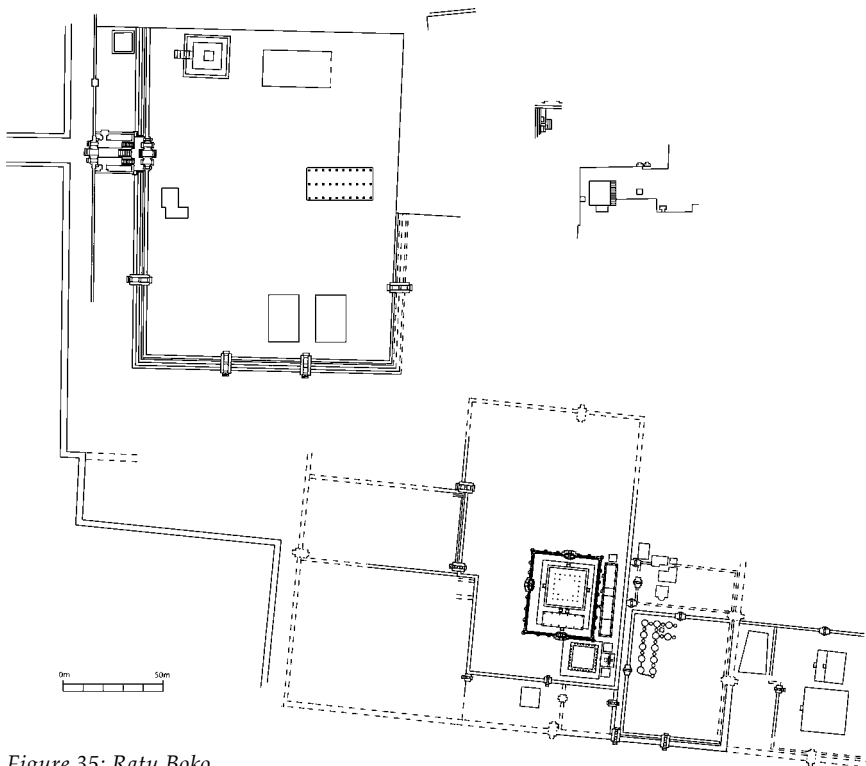


Figure 35: Ratu Boko

terraces and courtyards that gives Barong and Ijo a clear framework in which to develop.

The site of Ratu Boko (Figure 35) consists of three compounds: the western, the eastern and the southeastern. The western compound is composed of three terraces sustained by a huge retaining wall and accessed *via* a monumental gate located on the western façade. On these terraces, various remains are scattered, the majority being stone bases for open pavilions. In contrast, the eastern compound consists of two man-made caves – probably meditation caves – and some unidentified walls. The southeastern compound is certainly the widest and the most complex. It is composed of at least nine courtyards, scattered on various levels and housing numerous remains of *pendopo*, enclosure walls, gates, pools, bases and water tanks.

It is obvious that the present appearance of Ratu Boko is a result of the site's long architectural history. The site was already in use during the second half of the 8th century²⁷⁰ and continued to be inhabited up to the 14th-15th centuries A.D. (Asmar, Bronson 1973; Miksic 1993-1994; Degroot 2006). An inscription testifies to the original Buddhist character of the compound,²⁷¹ but another – dated on palaeographic grounds to the mid 9th century²⁷² – tells us that at least a part of the site was later devoted to the cult of Śiwa. Furthermore, traces of modification of the terrace south of the *pendopo*, and the moving of the miniature *candi*, provide evidence that the site underwent further transformation during the 9th century (Asmar, Bronson 1973). It is therefore beyond doubt that Ratu Boko was of particular importance and, whatever its role, that it was crucial enough for both Hindu and Buddhist dignitaries to want to establish themselves on this dry plateau. In fact, since it is the only site in this area that shows such a continuity of occupation and seems to have clearly been a place of worship for both Buddhists and Hindus, it might have been around this site that the settlement of the entire area developed. The attraction of a place of particular religious importance would have brought other religious communities into the district, their practical needs stimulating trade and lay settlements in the surrounding fertile plains.

A rather disorganised spatial arrangement, probably resulting from a similarly long occupation, is visible at Dieng (Figure 34). This high plateau, located at 2,000m above sea level and surrounded by impressive volcanoes, is dotted with the remains of terraces and temples. Many more ruins were once visible, but today only 8 temples and half a dozen foundations remain. At the centre of the plateau stands the Arjuna group, while at the foot of the mountains can be found Candi Dwarawati (to the east-northeast of Arjuna), Candi Gatotkaca (to the south-southwest) and Candi Bima (to the south-southeast). The shrines gathered around Candi Arjuna form a heterogeneous group. Not only are they

270 The Abhayagiriwihāra inscription (792-793 A.D.). See Sarkar 1971-1972: n° 6a.

271 The Abhayagiriwihāra inscription. As above.

272 The Rudra inscription. See Wissemann Christie 2002-2004: no 54; Setianingsih 2002: nr BG1410a.

different in plan, but also in orientation; Arjuna and Srikandi being turned slightly to the northwest, while the axis of Sembadra and Puntadewa deviate a little to the southwest. Moreover, the latter shrine is certainly not in line with the others. In the case of Dieng, inscriptions,²⁷³ archaeology²⁷⁴ and stylistic analysis of the ornamentation on the various shrines²⁷⁵ suggest that the irregular organisation of the site is linked to a long period of occupation.

A similar hypothesis is valid for Gedong Songo, where – as shown above – the orientation, plan and dimensions of the shrines lead us to suppose that the main temples of Gedong Songo III, IV and VI are the earliest, while Gedong Songo I is a later structure.²⁷⁶

Distribution of the various types of temple complex: chronology, region, function and religious affiliation.

We have shown on the basis of spatial arrangement that one can classify Central Javanese temple compounds into five types. However, why is there such a variance? In the following paragraphs, we will examine a series of factors that may have had a decisive influence on the choice of spatial arrangement, namely chronology, possible regional trends, differences in function and religious affiliation. I will show that the chronological and regional factors played a minor role, while function and religious affiliation were probably the main factors that led the architects to opt for one or the other type of spatial arrangement.

Although the chronological framework for Central Javanese architecture is limited, there is nothing to sustain the hypothesis of an evolution going from the simple, single temple to the concentric complex: the *candi* Lumbung and Sewu, both concentric compounds, are also considered to be early temples (Table 30). The only possible correlation between spatial arrangement and chronology would associate sanctuaries built along an axis (Barong, Ijo), with a later date – but two temples are of course insufficient for satisfactory correlation statistics.

273 An inscription (Dieng IV) dated to 1210, is reported to have been found on the Dieng plateau. See Nakada 1982: 116-117, n° 194.

274 The remains of an earlier building have been found under the pavement of Candi Puntadewa and traces of rebuilding have also been noticed during excavations at Candi Arjuna and Puntadewa. See Dumarçay 1993: 59.

275 E.B. Vogler (1949, 1952, 1953) and R. Soekmono (1979), among others, have proposed the existence of several successive phases in the architectural history of Dieng. For Vogler, there was a first building phase, comprising the old Dieng style (c. 650-760 A.D.), of which no structures remain. It was succeeded by a new Dieng style (c. 760-812 A.D.), represented by the *candi* Arjuna, Semar and Gatokaca. Candi Puntadewa would therefore belong to the period c.838-c.898 A.D, while Sembadra and Srikandi would have been built after 928 A.D. Soekmono offers a different chronology, but also differentiates between an Old Dieng style (c. 650-730 A.D.) and a new Dieng style (c. 730-800 A.D.). He attributes Candi Arjuna, Semar, Srikandi and Gatokaca to the Old Dieng style, while Candi Puntadewa, Sembadra and Bima would date from the second building phase.

276 The place of Gedong Songo II within this schema is uncertain. It is clearly different in plan and dimensions from Gedong Songo I, but is no similar to Gedong Songo III, IV or VI.

Spatial arrangement	Early period (up to c. 830 A.D.)	Late period (after c. 830 A.D.)
Small-scale complexes		
In a row	Mendut	Ngawen
Facing one another	Dieng*, Gedong Songo*, Merak.	Ijo*, Kedulan, Morangan, Sambisari
Large-scale complexes		
Concentric	Kalasan, Lumbung, Sewu.	Loro Jonggrang, Plaosan Lor, Plaosan Kidul
Along an axis	-	Barong, Ijo
Organic	Dieng, Gedong Songo II-VI, Ratu Boko (early phase)	Gedong Songo I, Ratu Boko (late phase)

Table 30: Complex types and chronology. - no temple in this category; * parts of a large-scale complex

If the different types of spatial arrangement were a matter of regional trends, we would have more or less clear geographical clusters. Is this the case? Small-scale temple compounds are found in the north as well as in the south. Their greater number in the south simply reflects the general distribution patterns observed in chapter four: as the south is also the richest in the total number of remains. Organic compounds are found only in three places; two in the north (Dieng and Gedong Songo), and one in the south (Ratu Boko). Concentric compounds and complexes organized along an axis are however found exclusively in the south.

If we compare these results with our conclusions about general distribution, natural environment and orientation, we notice that large-scale temple compounds are found not merely in the south or in the north, but in zones that have already been pointed out as areas that demarcate themselves from the others. Gedong Songo, Ratu Boko and Dieng share a mountain location, one that is not really suitable for wet-rice cultivation and has a westward orientation. The three sites also have a particularly long period of occupation and have known several building phases, which would certainly explain the lack of a clear pattern in their planning. It is highly probable that these places developed more or less organically from an original (small) core of buildings, contrary to concentric sanctuaries, which were obviously planned in their entirety from the beginning. Similar features are shared by Barong and Ijo - the only two terraced sanctuaries of Central Java. As for concentric complexes, they are not distributed all over southern Central Java, but are clearly clustered in the Prambanan area, an area that was most probably an important religious centre at the eastern border of the Central Javanese kingdom. The correlation between specific types of temple complex and specific places – rather than with a whole region – would back the hypothesis that the variation in spatial arrangement matches a religious function and not a regional architectural school. The natural environment around Ratu Boko, Dieng and Gedong Songo could designate them as meditation places for

ascetics and/or as pilgrimage sites.²⁷⁷ This hypothesis can actually be confirmed in the case of Ratu Boko, given the existence of meditation caves on the plateau and the association of the *pendopo* terrace with the meditation monasteries of Sri Lanka.²⁷⁸ Unfortunately, the data is too limited to speculate further about the relationship between spatial arrangement and function.

The fact that religious background influenced spatial arrangement is confirmed by a comparison between different types of temple complex and religious affiliation. The type of compound where one main building faces one or several secondary buildings is apparently exclusive to Hindu architecture (Table 31). Moreover, even though both Hindu and Buddhist religious compounds make use of alignment, Buddhist buildings are slightly over-represented in the survey: among the 16 compounds with such an arrangement, 7 are Buddhist. Given that, in Central Java, there are far more Hindu remains than Buddhist ones, we may conclude that the organization of temples in a single row was more common in the case of Buddhist sites than in Hindu compounds. As for the large-scale complexes, the organic ones,²⁷⁹ or those organized along an axis, are mainly Hindu; while concentric compounds are predominantly Buddhist.

Spatial arrangement	Buddhist compounds	Hindu compounds
Small-scale complexes		
In a row	Dawangsari, Gampingan, Mendut, Ngaglik, Ngawen, Palgading, Risan.	Banon, Barong*, Cebongan, Gedong Songo V-VII*, Jetis (Cangkringan), Mantup, Setan,
Facing one another	-	Arjuna*, Gedong Songo II-IV*, Gunung Sari, Gunung Wukir, Ijo*, Jetis (Ngemplak), Kedulan, Lawang, Merak, Morangan, Ngempon, Puntadewa*, Sambisari, Singo, Srikandi*
Large-scale complexes		
Concentric	Kalasan, Lumbung, Plaosan Lor, Plaosan Kidul, Sewu.	Loro Jonggrang
Along an axis	-	Barong, Ijo
Organic	Ratu Boko ¹	Dieng, Gedong Songo, Ratu Boko

Table 31: Complex types and religious affiliation. - no temple in this category; * parts of a large-scale complex; a: Both Buddhist and Hindu structures are found at this site. It seems that the site was originally Buddhist, but Hindu elements were introduced later on.

²⁷⁷ The possibility that the Dieng plateau acted as an important place of pilgrimage could explain the existence of the numerous *pendopo* built in the neighbourhood of the temples of the Arjuna group. Given that this plateau is not suitable for rice cultivation and could not support a large permanent population, the *pendopo* could have been built to accommodate pilgrims visiting the site on a short-term basis. In addition, a long building history, with numerous additions and transformations, is quite a common feature of pilgrimage sites. Unlike village shrines, which are usually of small dimensions and are used almost exclusively by the local people, pilgrimage sites have a significance that goes beyond the village parameters and tend to attract more devotees coming from more distant places; the wealthiest visitors financing renovation and new constructions, with others making smaller donations or leaving *ex voto* offerings.

²⁷⁸ See Miksic 1993-1994.

²⁷⁹ With the exception of Ratu Boko. However, we have already mentioned that this site shows both Buddhist and Hindu elements.

Architectural space and conceptual space

Another way to address the issue of the meaning behind the various types of temple complex is to question the perceptions of space they convey. Concentric compounds, shrines facing one another and terraced sanctuaries in particular show contrasting spatial arrangements, which induce a different perception of the architectural space and a different approach to the temple compound.

The centre and the axis in concentric temple complexes

It is perhaps redundant to say that concentric compounds place the emphasis on the centre. The conception of a space centred on a focal point and extending outwards from it is in line with Indian cosmogony, as expressed through the image of Mount Meru standing as an *axis mundi* and through numerous Buddhist *maṇḍala*. Numerous publications have already explored this symbolism, in Javanese and Southeast Asian temple architecture.²⁸⁰ I would like to take a slightly different approach and try to understand how the spatial organization of the temple compound may have guided the sight and the movement of a devotee entering the sacred ground.

When shrines stand alone or in a single row, the devotee is free to approach them from the front, and the temples are often visible from far away. This is also true of most of the large Buddhist concentric sanctuaries: the access to the main temple is direct, *via* east or west, which is the favoured axis. Therefore, even the centred compounds present elements of axuality. At Sewu (Figure 29), a preference for the east-west axis is transcribed into the architecture through the slight asymmetry of the temple plan. The northern and southern entrances to the inner courtyard are in fact narrower than their eastern and western counterparts. In addition, between the first and the second enclosure, only the eastern and western pathways are clearly identifiable. The ambiguity of the (almost) centred plan of Candi Sewu is apparent in the number of E/W facing shrines in relation to the number of N/S facing structures. In the outer row, there are 24 shrines turned to the east and west, while only 20 face north or south. This difference can be explained not only by the fact that the corner shrines are east and west facing, but also because the complex is not actually square: it is strictly a rectangle, the long sides of which face east and west. The passage from the square plan of the main *cella* to the rectangular plan of the second courtyard is gradual, each element of the ground plan (the inner courtyard and the four rows of shrines) being slightly more elongated as one goes from centre to periphery.

At Plaosan Lor, the rectangular plan dominates the whole compound (Figure 33). The spatial impulse is derived from the main temples themselves – two rectangular structures built on a north-south axis. The general organization of the temple complex is similar to that of Candi Sewu, although adapted to an obvi-

280 See for example Filliozat 1954; Chihara 1996: 25-47.

ously rectangular plan, but is without the presence of a true courtyard between the rows formed by the secondary structures. The twin temples are surrounded by an enclosure wall. Outside this first enclosure there are rows of secondary structures (outward-facing shrines and *stūpa*). The corner shrines open to the east and west, and not to the south or north. The rectangular shape of the compound emphasizes a north-south axis, but its entrance, on the west, underlines the importance of the east-west axis. While Sewu's plan is obviously centred, Plaosan's is not. Although the rows of secondary structures bring an element of centrality, the inner courtyard – and the twin temples themselves, with their entrances only on the west – provides clear evidence of axuality. Furthermore, Plaosan Lor is located, together with Plaosan Kidul, in the rear section of a wider enclosure.

The approach to Hindu temple complexes

In Buddhist compounds, the approach to the *cella* is always straightforward. As we have seen, in concentric temple complexes, the apparent centrality of the groundplan is counter-balanced by a slight emphasis on the east-west axis. In most Hindu complexes, however, the devotee cannot approach the central shrines directly from the east or the west, as the secondary shrine facing the main temple obstructs the passage. This arrangement is of course reminiscent of the bull shrines of Indian temples.²⁸¹ However, the impression one gets here is quite different. In the Hindu temples of India, Śiva's bull is housed in an open *mandapa*. The presence of this open pavilion supported by pillars does not totally obstruct the view of the main temple, but it forces the visitor to turn away from the *cella*, and initiates the movement of *pradakṣiṇa* around the shrine. In Central Java, the visitor approaching the front entrance does not face an open pavilion: he is literally stopped by a wall. He must turn away from the east-west axis to be able to get even a glimpse of the central shrine. At Loro Jonggrang (Figure 31), for example, the blind rear wall of Candi Nandi prevents the visitor from even getting a glimpse of Candi Siwa.

This particular spatial arrangement could be viewed as a Central Javanese variation on a Hindu tradition. I would nevertheless like to express two further possible explanations that do not necessarily exclude one another – or the Indian influence. Firstly, the fact that the visitor is impeded by a blind wall makes one think of Balinese domestic architecture. Immediately behind the entrance to the courtyard containing the pavilions of a traditional Balinese house, there usually stands a high, blind wall. Its function is said to prevent evil spirits

281 This arrangement can also be compared to the dance hall found in front of certain Hindu temples, such as the Sun temple at Konarak. However, in the latter case, the pavilion is open to the four directions and there is thus a possible passage along the main axis, leading through the hall to the main temple.

from entering the family compound – as evil spirits are reputed to be unable to turn.²⁸²

Two temple compounds suggest another possibility; namely that the east-west axis was not always the main access to the temple compound. In Central Java, very few enclosure walls are preserved, and even fewer gates. Although traces of such walls have been discovered at many sites, they are rarely sufficient to determine the position of the original entrances.²⁸³ Furthermore, very few have been found in association with temple compounds that present the arrangement described above (with shrines facing one another). We are left with just four workable examples, namely Candi Ngempon, Sambisari, Loro Jonggrang and Arjuna. Sadly, Ngempon does not tell us much about the use of the temple ground, since the poor state of preservation of the enclosure does not allow us to determine whether one gate was favoured above the others. At Candi Sambisari, although the four gates were originally similar, it appears that the northern gate of the inner courtyard was closed at some point (*Mengenal candi Sambisari*: 8).²⁸⁴

At Loro Jonggrang (Figure 31), excavations carried out in 1926 brought to light two walls running north from the second to the third enclosure, which were thought to be the remains of a pathway. Similar traces were also found to the south of the second enclosure, while nothing was reported to the east and west. Even though it is true that the western part of the original enclosure was probably destroyed by a change in the course of the Opak river, a north-south pathway nevertheless tallies very well with the organization of other Hindu-Buddhist remains in the neighbourhood. Temple remains are indeed visible to the north²⁸⁵ and south²⁸⁶ of Loro Jonggrang, but not to the east.²⁸⁷ The presence of the pathway suggests that the main access to Loro Jonggrang was probably along its north-south axis rather than through the eastern gate. If this is true, then visitors to the temple compound would not have entered *via* the back of Candi Nandi, but *via* the northern or southern gate, so that their view could

282 A more pragmatic interpretation would be that it prevents anyone from peeping inside the inner courtyard, which is the explanation sometimes given for a similar system found behind the gates of modern Javanese *kraton* (B. Arps, personal communication 2007).

283 Traces of enclosure walls have been discovered at 27 sites: Arjuna (Dieng), Banyunibo, Barong, Dukuh, Gunung Sari, Gunung Wukir, Ijo, Kalasan, Loro Jonggrang, Lumbung (Klaten), Mendut, Merak, Ngempon, Pawon, Plaosan Kidul, Plaosan Lor, Puntadewa (Dieng), Ratu Boko, Sambisari, Sampangan, Sari, Selogriyo, Sewu, Sojiwan, Srikandi (Dieng), Tinjon and Wadas. All the entrance gates are preserved at Arjuna, Loro Jonggrang, Ngempon, Sambisari and Sewu. The latter is Buddhist and has a completely different spatial arrangement. See above, p. 137.

284 One can further note that the gates are not precisely at the centre of the enclosure wall. The western gate is slightly offset to the south, the northern gate to the west, the eastern gate to the north and the southern gate to the east.

285 Candi Bubrah, Lumbung (Klaten) and Sewu.

286 Gatak, Kalongan and Sojiwan.

287 The Opak River has damaged the western part of the compound, so that it is impossible to know whether there were once structures in that area.

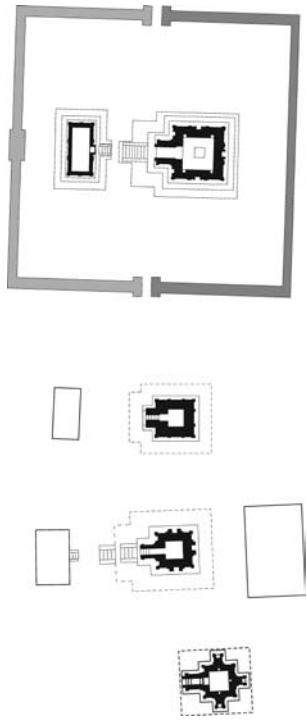


Figure 36: The Arjuna group (Dieng)



Figure 37: Gedong Songo

embrace Candi Siwa and (almost) all the other structures within the central courtyard.²⁸⁸

The only site where this preference for a north-south access to the temple compound is beyond doubt is Candi Arjuna (Figure 36). Its enclosure wall is interrupted by two entrance gates and one false gate. The false gate is located on the west (that is to say in front of the main temple and at the rear of the smaller Candi Semar), while the entrance gates are placed on the north-south axis.

At Gedong Songo, although no enclosure wall is preserved, the natural approach to the temple group is also *via* the south, as the temples are scattered on the southern slope of Mount Ungaran (Figure 37).²⁸⁹

Anthropology may help us to widen our frame of analysis and interpretation. In east Sumba, where the main axis of orientation (of the island, as seen by its inhabitants) is upstream-downstream and the secondary axis is head to tail, villages usually have four gates – the main gates being located on the north-south (upstream-downstream) axis. The houses, however, face either east or

288 The two small *candi* Apit, located near the southern and northern gates, do not close the access to the inner courtyard, since they are built slightly to the east of the entrances – however they do obstruct part of the view. They may perhaps be understood as protecting the north-south axis – and the main entrances – from evil spirits. These structures are unique to Loro Jonggrang.

289 Entrance to the individual temple groups is *via* north or south.

west (head or tail). Indeed, even though benevolent powers are said to enter (and leave) the village through the main gates, harmful forces are also thought to use them as entry points as well. Hence, altars are found near the village gates, and houses face the rising or setting sun rather than the upstream direction (Forth 1981: 52).

This paradox between the orientation of individual buildings and that of the settlement as a whole also transpires in many Central Javanese temple compounds. Dieng, Gedong Songo and, to a lesser degree, Loro Jonggrang, are all for example composed of east-west facing buildings arranged along a north-south axis, so that the compound as a whole appears as a rectangle, the short sides of which face north and south.

These examples demonstrate that we should not be too quick in transposing Indian conceptions of ritual space to Java and that, in this domain at least, small details can mean a world of difference. In the lack of local textual sources on the subject or further comparative material, it is however impossible to determine whether one of our tentative explanations – the simple variation of an Indian tradition, the prevention of evil spirits from entering the shrine or the importance of the north-south axis – is behind the origin of the presence of a closed pavilion in front of most Hindu temple complexes.

A peculiar case: Candi Lumbung (Klaten)

One Buddhist temple compound appears to share a feature with Hindu sanctuaries: Candi Lumbung. This temple complex, though modest in dimensions, is a rather complicated compound, the tendency to centrality of which is toned down by the arrangement of the secondary shrines. The complex consists of a central temple surrounded by 16 secondary shrines (Figure 28). In most concentric compounds there is a balance between east, south, west and north-facing shrines, but this is not the case at Candi Lumbung where only one structure faces west.

The consequence of this plan is a unique dynamic in which the apparent unity inherent to concentric organization gives place to a multiplicity of spatial concepts. The importance of the 'rear' is stressed – through the presence of five rear shrines. So is the concept of centrality – as 14 out of the 16 subsidiary shrines are turned towards the main temple. The orientation of these secondary shrines is also quite peculiar. One would expect them all be turned inward (or outward), but the architect chose a different option. Whereas 14 shrines are turned inward, two shrines in the eastern row face the central secondary shrine of the same row, rather than the main temple. Furthermore, the importance of this central shrine in the eastern row is underlined by the existence of a small stone pathway linking it directly to the main temple. This opposition between the main temple and the central shrine of the eastern row is reminiscent of the spatial arrangement of certain Hindu temples. Judging by this organization, it is

unlikely that Candi Lumbung housed an iconography similar to that of Candi Sewu: the *buddha* figures would have required an equal treatment – as is the case at Sewu. At Lumbung, only one shrine faces west and it seems very unlikely that a Buddhist pantheon would have comprised 5 *buddha* figures in *varada-mudrā*, 5 in *bhūmisparśa-mudrā*, 5 in *abhaya-mudrā* but only one in *dhyāna-mudrā*.²⁹⁰ Rather, the architectural composition suggests that the pantheon of Lumbung involved a relation between one main principle (expressed through the main temple) and an inferior but complementary principle (expressed physically through the shrine facing the main temple).²⁹¹ The whole compound was surrounded by an enclosure wall (or fence), the remains of which were found in 1920 (Bosch 1920: 79).

The sacred and the rear

We have so far examined concentric compounds and sanctuaries composed of a main temple facing one or three secondary shrines. Let us now focus on Candi Barong and Ijo (Figures 32 and 33). As we have seen earlier, these temple compounds present a completely different spatial arrangement.²⁹² In both cases, there is absolutely no trace of a centred organization; rather, they are stretched along an east-west axis. This is not the only characteristic that these temples share: both are built in the same area (on the dry hills of Mount Pegat-Ijo), on a hill slope, and are terraced sanctuaries.

What is especially interesting in the spatial arrangement of both Barong and Ijo, in comparison with what we have seen at Sewu and Loro Jonggrang, is the shift of focus from the centre to the rear. The most sacred part of the temple compound is no longer its geometrical centre, but its rear – and uppermost – section. Barong and Ijo are therefore not geometrical representations of the universe like Loro Jonggrang or Sewu. They do not correspond to the Hindu-Buddhist conception of a central mountain – Mount Meru – surrounded by concentric seas and mountain ridges. From an architectural point of view, the buildings are spread out along an east-west axis, but from the point of view of the visitor, it seems that the stress is here laid on the path to be travelled and the goal to be reached.

This type of spatial organization bears similarities with the terraced sanctuaries of the Austronesian megalithic traditions found in West Java, such as Gunung Padang and Pangguyungan (Bintarti 1981), as well as with East Javanese sanctuaries, such as Candi Sukuh, the temples on Mount Penanggungan and,

290 I pre-suppose here an organization similar to that of the inward facing shrines of Candi Sewu. In an Indian context, the *buddha* in *dhyāna-mudrā* would of course be located in the west.

291 As I am not an expert in early Buddhist philosophy, I do not have any precise proposition for the identification of these complementary principles, nor for that of the divinities housed in the other subsidiary shrines.

292 See above, p.132.

to a lesser extent, Panataran.²⁹³ It is difficult to tell whether this type of plan is indicative of the date or the function of the temples in question. Does the plan of the *candi* Ijo and Barong resemble the spatial organization of certain megalithic complexes and of East Javanese sanctuaries because the temples date from the same period, because they share a similar function or because they represent an older system of orientation? At Ijo, the absence of any geometrical layout of the lower terraces, as well as the variety of buildings, may suggest that the temple was in use for a long time and that its present form is the result of decades of construction. Its location, away from the fertile plain in an area hardly suitable for housing farming villages, distinguishes Candi Ijo from many other Central Javanese temple remains. It is possible that – in common with Ratu Boko, Dieng and Gedong Songo, with which it shares many features – it might have been a pilgrimage place or a site devoted to ascetic practices.

Delimiting the sacred ground: boundary and central stones

In Central Java, the architectural space was structured by the relative position of main and secondary shrines, enclosure walls and *gopura*, but not only by these features: in six cases, the most sacred part of the temple compound was also marked out by boundary stones. These small, *lingga*-shaped stones have been found *in situ* at the *candi* of Gebang, Gunung Sari, Gunung Wukir,²⁹⁴ Ijo, Loro Jonggrang, Sambisari and Selogriyo.²⁹⁵ In all cases, they were placed within the innermost enclosure – if an enclosure was used. It is remarkable that this rule is valid for Loro Jonggrang as well and that the rows of subsidiary shrines are thus outside the sacred ground delimited by the boundary stones.

The general pattern that emerges from the remaining boundary markers is that they were usually nine in number (Table 32). They were located on the cardinal points and intermediary points of the temple ground. Thus, they marked the centre, the corners and the middle of each of the four sides of the inner courtyard, corresponding to the zenith, northeast, east, southeast, south, southwest, west, northwest and north. They therefore divided the sacred space into four squares of identical dimensions.

The case of Candi Gebang is somewhat different (Figure 38). Four boundary stones have been found here, in the northwest, northeast, southeast and southwest respectively. In contrast to other temples, the area within these boundary stones is not square but rectangular. It is also puzzling that although the temple

293 Panataran is also extended along an axis, even though it is not on a slope and is thus not a terraced sanctuary. Nevertheless, there is at Panataran a similar association of sacred/rear (Klokke 1995)

294 I do not know the original position of the sole boundary stone found at Gunung Wukir, as it is not mentioned in the excavation report (Bernet Kempers 1938: fig. 26). However, judging by the photograph, it was located in a corner – probably in the northeast or northwest, as only these areas were still visible in 1938.

295 Loose boundary stones have also been discovered at Duduhan, Gunung Pring, Mulungan Wetan, Nglimut, Pucanggunung and Tampir.

Site	Centre	NE	E	SE	S	SW	W	NW	N
Gebang		x		x		x		x	
Gunung Sari	x	x	x	-	-	-	-	-	-
Ijo	x	-	x	-	x	-	x	-	x
Loro Jonggrang	x	x	x	x	x	x	x	x	x
Sambisari	x	x	x	x	x	x	x	x	x
Selogriyo	-	-	-	-	-	x	-	x	-

Table 32: Position of the preserved boundary stones. *x* preserved; - not preserved

was protected by a thick layer of earth and mud, only four boundary stones have been discovered. However, it is possible that these relatively small and light stones may have been washed away by a flood or *lahar*. More troubling is the rectangular shape and the fact that the distance between the northwestern and northeastern stones is roughly half the distance between the northwestern and the southwestern ones – a similar observation is also valid for the southwestern-southeastern stones in relation to the northeastern-southeastern ones. This leads us to a natural hypothesis: we might be dealing with only half a compound rather than with a complete sanctuary. The second shrine would have had to be located to the east of the actual Candi Gebang and would have faced west. However, there is not the slightest trace of such a building. Loose stones found in front of Gebang and continuing down to the river might belong to another building, but could equally be the remains of an enclosure wall. I do not have any explanation for this, but it is possible that a second shrine was intended but never built.

In the case of the other temples, the boundary stones appear to trace a large square on the ground, stressing its most significant points (the centre, the corners and the centre of each side) and obviously conveying the concept of space revolving around or radiating from a central point. One might expect that the central stone would correspond to the main shrine, just as, in Buddhist compounds, the geometrical centre of the inner enclosure correlates with the main *cella*. However, this is not the case. The most striking element in the position of these boundary stones is indeed, as underlined by previous research (Dumarçay 1986b), that the geometric centre of the sacred ground, as materialised by the central stone, does not correspond with the position of the main shrine (Figure 39). It is systematically located immediately to the south of the entrance staircase of the main temple, which is thus shifted to the northwest or to the northeast of the courtyard (depending on the direction, east or west, that it faces).

For Dumarçay, this displacement was necessary for practical considerations: the architects needed the central stone to remain free of construction so that it could serve as a reference point during the building process (Dumarçay 1993: 52-53). In my opinion however, this explanation is quite unlikely: once the

SPACIAL ARRANGEMENT OF RELIGIOUS COMPOUNDS

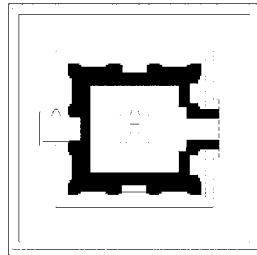


Figure 38: Candi Gebang

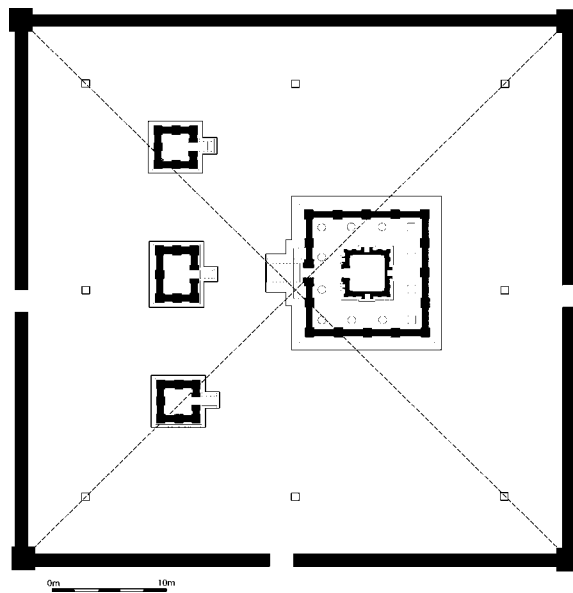


Figure 39: Candi Sambisari

peripheral boundary stones were in place, there would be no technical reason for keeping a central marker. Any two boundary stones could serve for triangulation.

In contrast, I would like to emphasize that the relative position of the main *cella* and the central boundary stone results in part from the spatial arrangement specific to Hindu temples in Central Java. The Hindu religious compounds where such boundary stones have been discovered are composed of two rows of buildings facing one another. In order to create a balanced ensemble, it is logical that the north-south axis of the compound runs through the central space, in between the two rows of buildings. This avoids the need for shrines to be cramped into the eastern or western part of the courtyard. Nevertheless, as we can see at Loro Jonggrang, it was still important that the central temple was located nearer to the centre, so that the north-south axis is actually closer to the shrines of the western row than to the buildings of the eastern row. However, the central boundary stone, which marks the intersection of the north-south and east-west axis, remains outside the main shrine.

The shift of the main temple to the north is more difficult to explain using aesthetic principles or practical motivations. Further, I personally do not know of any Indian temple where the main *cella* is not on the central axis of the temple ground. Although a shift to the rear is common in India,²⁹⁶ the main axis of the temple, as far as I know, usually corresponds to the axis of the surrounding courtyard. This shift of the *cella* to the rear, however, is also known from Khmer architecture of the Angkorean period.²⁹⁷ For example, the main *cella* of the Preah Khan of Angkor (late 12th century) is clearly located to the northwest of the geometric centre of the religious compound. This type of spatial arrangement is thus not specific to Java. Further research in comparative architecture would be required in order to determine if it originally came from India or if it is a purely Southeast Asian tradition; and whether it might be a Javanese influence on Khmer architecture. It is possible that – rather than deriving from Indian temples themselves – the practice of placing the main shrine to the north of the east-west axis may derive from a similar interpretation of the Indian textual tradition.

In the absence of any reference to this problem in Javanese inscriptions or (later) texts, it is impossible to know why the centre of the temple ground has been so carefully avoided and why the main temple is always in the northern

296 The Hindu temples of India usually have an extra room in front of the *cella*, called a *mandapa* in South India, or *mukhasālā* in North India. The result is that their ground plan is elongated rather than square. To create space to house this additional room, the *cella* is shifted to the rear.

297 Unfortunately, information about the spatial arrangement of pre-Angkorian temple compounds is scarce, as are accurate plans. Therefore, I do not know if the shift of the main *cella* to the north was already a trend of pre-Angkorian ensembles such as Sambor Prei Kuk. It is thus difficult to interpret the phenomenon. Was it a typical Javanese custom that was passed on later to Khmer architects? Or was it from the start a common feature of both the Javanese and Khmer building traditions?

half of the sacred enclosure. As this tradition does not seem to result from any technical requirement, its origin may perhaps be derived from religious belief.

As noted above, it might, for example, originate from a specific interpretation of Indian texts. When referring to the *vāstupuruṣa*, Indian treatises on architecture usually describe the position of its head, limbs, trunk, heart, veins etc. The Spirit of the site is considered responsible for good and bad fortune and one must avoid tormenting it during construction (*Mayamata* 7: 50-56). In the description of settlements, the *Mayamata* states that there are six places where there should be no temples or buildings, namely the heart of the Spirit of the site, its bones, the stakes, the lines (of the diagram), their intersections and the empty spaces at the corners (*Mayamata* 9: 86). It was perhaps the desire of Central Javanese priests and architects not to torment the Spirit of the building that made them choose this peculiar spatial organization. It does not, however, explain why temples were systematically shifted to the north but never to the south.

Given that temple plans are all intended as an image of the *vāstupuruṣa* and as a geometrical diagram of the universe, it might be that Indian and/or local conceptions of the world also played a role in the conceptualisation and planning of religious compounds. Mount Meru is certainly the centre of the universe according to the Indian Hindu-Buddhist cosmology. However, if one considers this cosmology from a human perspective, it should be located to the north, because the island on which human beings are believed to live (*jambudvīpa*) is indeed often depicted as lying to the south of the mountain of the gods.

The shift of the central building of Central Javanese temple compounds to the northwest (or northeast) could refer to both beliefs, unless further studies in Indian art or Balinese architecture open the way to new interpretations of the Central Javanese temple.

Conclusion

With this chapter, we have started to address the structure of the architectural space, leaving behind questions relating to the occupation of the territory and the relationship between temple and natural environment, which were the focus of the previous chapters.

Our aim has been to describe the different types of spatial arrangement of the buildings within temple complexes and to try to understand the factors at work behind their variance. We have identified two types of small-scale temple compound (buildings in a row and buildings facing each other) and three types of large-scale ones (concentric, organized along an axis and organic). A study of the relative distribution of these types according to their chronology, location and religion has shown that the choice of one spatial arrangement over another was to a great extent influenced by function and religious affiliation. Thus, organic compounds could be associated with meditation/pilgrimage sites

located away from village settlements. Similarly, complexes composed of one main shrine facing either one or three secondary shrines seem to be characteristic of the Hindu architectural tradition (whatever the date or location). In this type of spatial arrangement, the approach to the main temple is indirect, since the visitor has either to turn around the secondary shrine to see the façade of the main shrine, or to enter the compound via the north-south axis. As for concentric arrangements, they seem to have originally been linked to the Buddhist architectural tradition of the Prambanan area –with the exception of the Loro Jonggrang complex. In the latter case, the concentric rows of subsidiary shrines do not however surround a central, main shrine, but rather a group of buildings arranged in a typically Hindu manner, the main shrine facing a row of three secondary buildings.

This difference in the spatial arrangement of the buildings is not the only feature that distinguishes Buddhist from Hindu architecture, as we will see in the following chapter, dealing with the ground-plan of the shrines.

Chapter 8

GROUND PLANS OF CENTRAL JAVANESE SHRINES: THE SHAPE AND SIGNIFICANCE OF AN ARCHITECTURAL SPACE

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

The form of the temple

Of the hundreds of ancient religious sites that cover the landscape of Central Java, only a small number of shrines are still preserved up to the foot of the temple body, the condition *sine qua non* for recovering their plan. In fact, only 33 temples or temple groups fulfil this requirement. Fortunately, the preserved shrines are distributed widely across Central Java (Table 33) and are thus able to provide a fair indication of regional similarities and differences.²⁹⁸

If we gather spatial information about 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 at the Durgā temple of Aihole (late 7th or early 8th century), are unknown in Java. Moreover, elongated plans resulting from the addition of a *mandapa* to the *cella*, which are again 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 considerably in their detail.

I have developed a general classification for the ground plans of the Hindu-Buddhist shrines of Central Java, dividing them into three main groups, according to the shape of their temple body:²⁹⁹ 1) shrines with a square ground plan, 2) temples with a staggered square ground plan, and 3) buildings with a rectangular ground plan (Table 34).

298 This statement is not entirely true for all regions; in the area of Temanggung, only Pringapus is well preserved. This area, however, was originally left out of the full scope of my study.

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

Region	Number	Sites
South Central Java	20	Banyunibo, Barong, Bubrah, Gebang, Ijo, Kalasan, Kedulan, ^a Loro Jonggrang, Lumbung, Mantup, Merak, Morangan, Plaosan Kidul, ^b Plaosan Lor, Pringtali, Risan, Sambisari, Sari, Sewu, Sojiwan
Progo valley	9	Asu, Borobudur, Lumbung, Mendut, Ngawen, Pawon, Pendem, Pringapus, ^c Selogriyo ^d
Peripheral areas	4	Dieng, ^e Gedong Songo, Lawang, Ngempon

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

- This temple was under process of restoration during both the periods of fieldwork carried out for the present study. Although the main lines of its plan were visible, the details were not yet known.
- Only the temple plan of the secondary shrines is known; the main building has completely disappeared.
- This temple was originally outside the scope of my research, and I do not have a precise ground plan for it.
- The base has now vanished, but according to Krom was in the form of a staggered square (Krom 1923, I: 407).
- Only a few stones now remain for the bases of Bima, Gatotkaca, Puntadewa, Sembadra and Srikandi. The bases of Puntadewa, Sembadra and Srikandi appear to have been square with a projection on the front. 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 bear in mind that the elongated aspect of some of the Dieng temples is partly due to the disappearance of their bases.

Square body		Staggered square body		Rectangular body
Arjuna		Bima		Banyunibo
Asu	Merak	Borobudur	Morangan	Gedong Songo II*
Barong	Ngawen*	Bubrah	Ngawen	Gedong Songo III* ^b
Gebang	Ngempon	Dwarawati	Pawon	Loro Jonggrang* ^c
Gedong Songo	Plaosan Kidul*	Gatotkaca	Pendem	Plaosan Lor
Ijo	Plaosan Lor*	Gedong Songo IV*	Risan	Pringapus
Kedulan	Pringtali	Kalasan	Selogriyo	Puntadewa*
Lawang	Puntadewa	Loro Jonggrang	Sembodro	Sari
Lumbung (Magelang)	Sambisari	Loro Jonggrang*	Sewu ^a	Semar* ^d
Lumbung (Magelang)*	Sewu*	Lumbung (Klaten)	Sojiwan	Srikandi*
Mantup	Srikandi	Mendut		

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

* Secondary shrines

- The main temple and large subsidiary shrines.
- The secondary shrine in front of the main temple.
- The secondary shrine (Nandi temple) in front of the Śiwa temple.
- Candi Semar is the secondary shrine of Candi Arjuna.

Square temples

In Central Java, temples with a square body plan can be identified at 22 locations (Table 34). Besides the symmetry inherent to the square shape, these temples do not present four identical sides: because the square-plan 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 walls, 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.³⁰⁰

The presence of an entrance door, on a single face, introduces an element of axuality into the square plan. It also confronts the architect with a problem: how can one place an emphasis on the entrance side while respecting the square layout? And, if the entrance is protruding, what shape should the base adopt? Central Javanese architects opted for four different solutions (Table 35): 1) the door is (almost) in line with the temple wall, while 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 also has a projection on the front side (Figure 42); 4) the entrance door protrudes and the base becomes slightly rectangular (Figure 43).

1) At the main shrines of Candi Ngempon and Gedong Songo I (Figure 40), as well as at the secondary shrines of Lumbung (Klaten) and the small temples directly facing the main building of Candi Ijo,³⁰¹ the entrance protrudes slightly, but does not go beyond the mouldings of the temple body. The emphasis on the entrance is therefore almost invisible in the ground plan; both the temple body and the base remain square. The main shrines of Candi Barong also have a square body and a square base, but they have the further peculiarity of not having any entrance door.³⁰²

2) At the main shrine of Candi Ijo and at Candi Gebang (Figure 41), although the porch protrudes, 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.

300 It should be noted that, in Central Java, the 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 merely an aspect of the main deity. A false door represents in carved relief the two closed panels of a wooden door, giving to the *cella* the possibility of symbolically opening towards the four directions. I therefore oppose the idea of J. Dumarçay, according to whom Khmer false doors find their origin in the architecture of Central Java (Dumarçay & Royère 2001: 45)

301 This is probably also valid for Candi Kedulan.

302 They do however have an inner space.

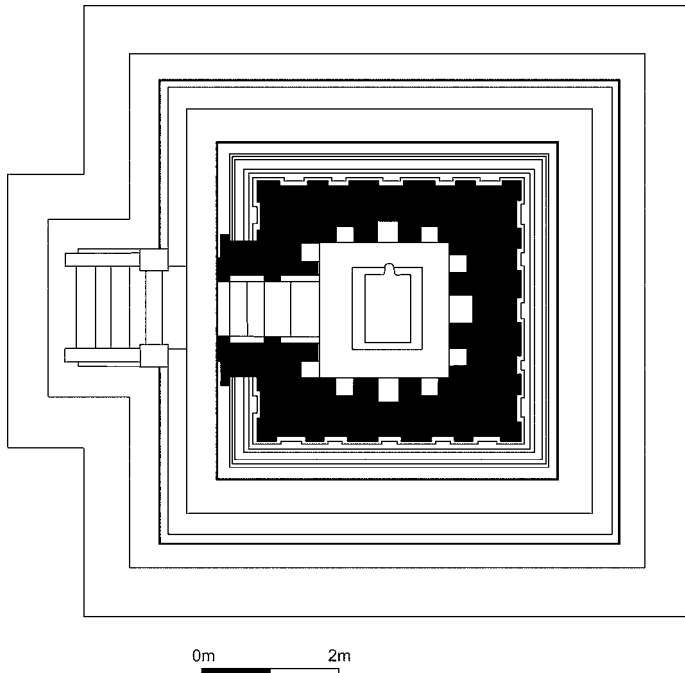


Figure 40: Candi Gedong Songo I: square temple body with very shallow porch, square base

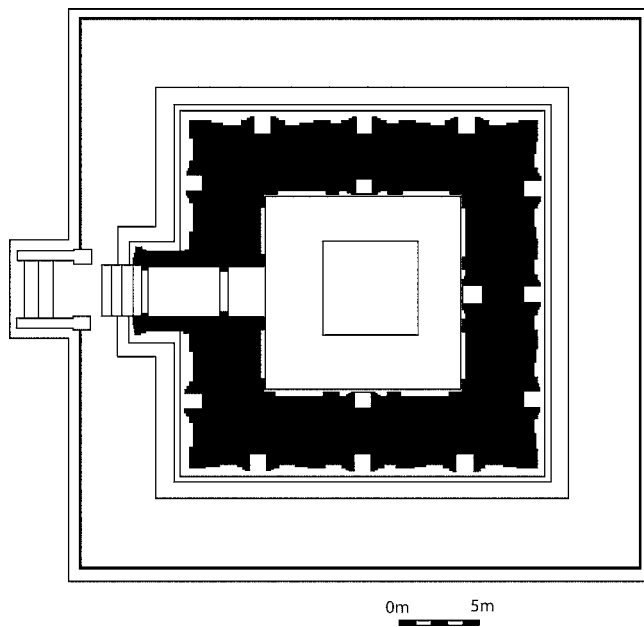


Figure 41: Candi Ijo: square temple body with porch, square base

3) The *candi* Arjuna and Puntadewa (Dieng plateau), Asu, Lawang, Lumbung (Magelang), Merak, Morangan³⁰³ and the small subsidiary shrines of Sewu follow yet another tradition (Figure 42). The temple body has a porch,³⁰⁴ the contours of which are imitated by the base. The shape of the protruding porch corresponds to the projection of the base so that 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,³⁰⁵ III, IV and VI have a square temple body with a projecting porch. However the base is neither a plain square nor a square with a front projection, but 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 shape loses emphasis to the benefit of the façade. Here, more than at other sites, the unity of the temple structure is challenged: the temple body and base do not have the same plan any more and the pilasters that divide the walls of both the body and the base are no longer aligned. As a result, the relationship between body and base becomes looser and more disparate. An attempt to restore this relationship is found on the small, northern temple of Gedong Songo III. In this case, the niches created within

	Simple square temple body	Square temple body with front projection	
Simple square base	Ijo ^a Gedong Songo I Lumbung (Klaten)* Ngempon	Gebang Ijo	
Square base with front projection	Ngawen* Sambisari ^b	Asu Arjuna Lawang Lumbung (Magelang) Merak Morangan	Plaosan Kidul* Puntadewa Sambisari Sewu ^c Srikandi
Rectangular base		Gedong Songo II, III, IV, VI.	

Table 35: Central Javanese temples with a square temple body

* Secondary shrines

a - Candi K, on terrace VIII-b.

b - In fact, the side niches and the entrance door do protrude slightly, but the latter does not project further than the niches. The base, however, has a frontal projection, which sustains a small gopura. A similar feature is also to be found at Ngawen and Sojiwan.

c - The small secondary shrines.

303 Morangan differs slightly from the other temples with a square body as its side niches protrude 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 remains in line with the rest of the temple body.

304 At 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*.

305 At Gedong II, as at Morangan and Sambisari, the side niches slightly project out from the wall of the temple body.

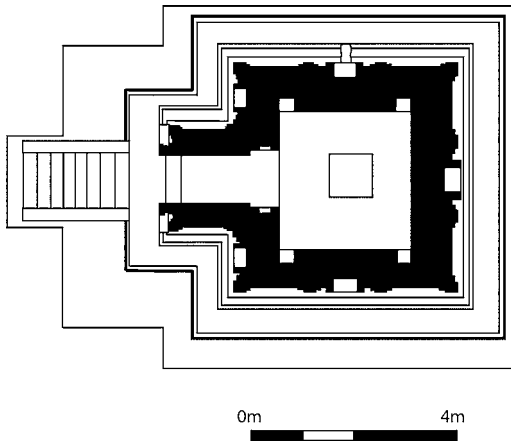


Figure 42: Candi Arjuna (Dieng): square temple body with porch

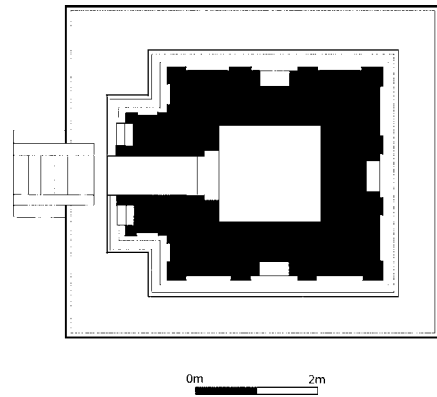


Figure 43: Candi Gedong Songo IV: square temple body with porch, rectangular base

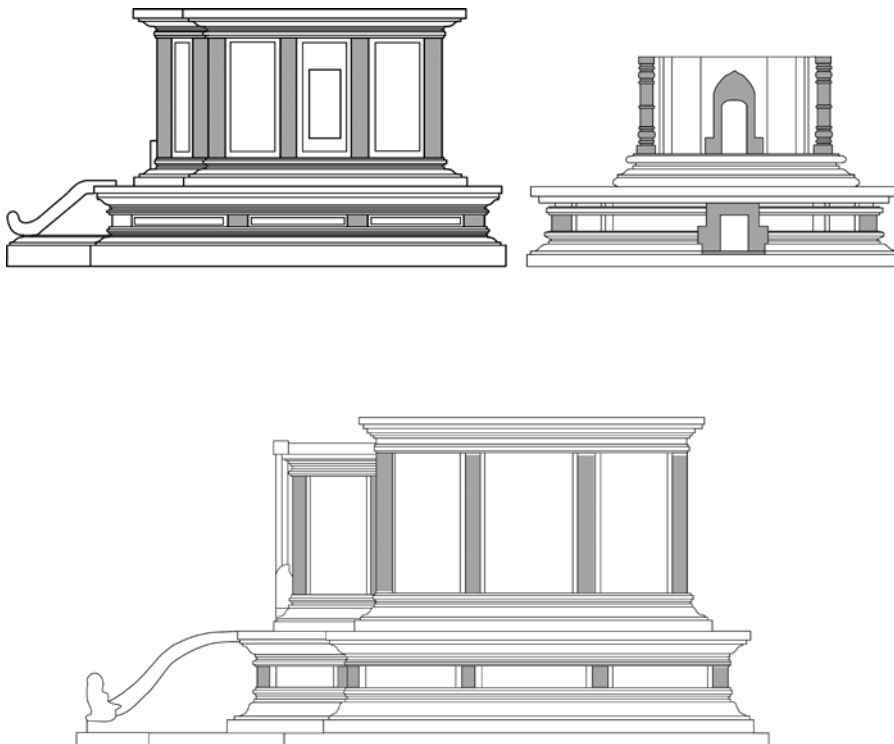


Figure 44: The relationship between the temple body and the base. Usually, the link is established through corresponding pilasters (bottom, Candi Arjuna), or by a niche at Gedong Songo IIIb (top, right), but this is lacking in the other shrines of Gedong Songo (top left)

the base are not placed in the middle of the wall, but roughly at a point of $2/5$, so that they are located directly below the niches in the temple body (Figure 44).

Finally, one should add to the list of square temples, the secondary shrines of Plaosan Kidul.³⁰⁶ 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 thereby abolished.

Staggered square temples

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

In some cases, the entrance protrudes to a greater extent than the side projections (Mendut, Pawon, Sembodro, Sewu)³⁰⁷ and the base may either be square or a staggered square, with or without a frontal projection.

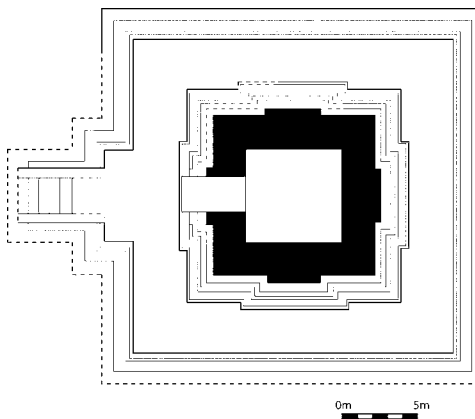


Figure 45: Candi Pendem: staggered square temple body, square base with small projection on the façade

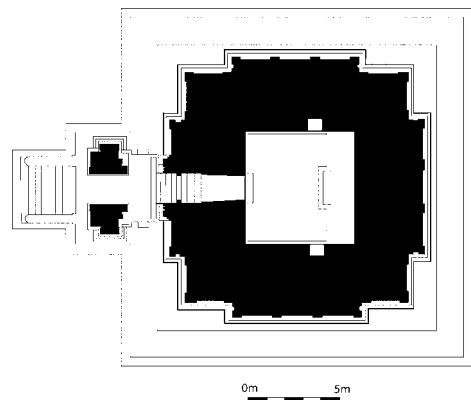


Figure 46: Candi Sojiwan: staggered square temple body, square base with projection

306 A similar organization is visible at Candi K (a secondary shrine of Candi Ijo), which is adapted to a general rectangular shape.

307 The large secondary shrines.

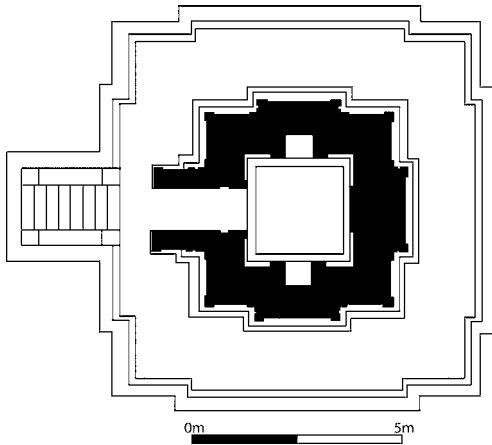


Figure 47: Candi Pawon: staggered square temple body with porch, staggered square base

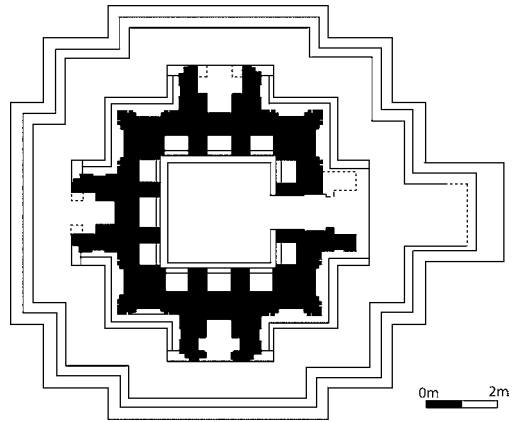


Figure 48: Candi Lumbung (Klaten)

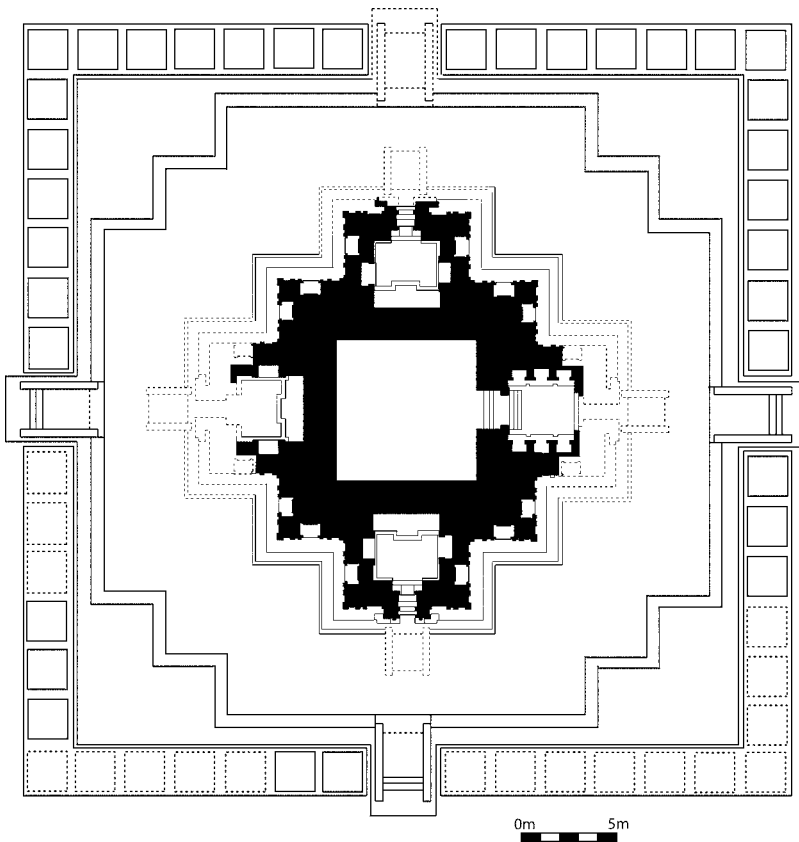


Figure 49: Candi Kalasan: staggered square temple body with four cella, staggered square

The *candi* Bubrah, Gatokaca, Pendem and Sojiwan, as well as the shrines facing the Wisnu and Brahma temples of Loro Jonggrang³⁰⁸ have a staggered square body and a square base (Figures 45, 46). At Bubrah, Sojiwan, and on 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 onto which the foot of the temple is raised (Figure 46).

Although all the sides are treated identically at the level of the temple body, 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).

At the *candi* Bima, Dwarawati, Mendut, Ngawen, Pawon, and Selogriyo, both the temple body and the base are in the form of a staggered square (Figure 47). Bima, Dwarawati, Mendut and Pawon³⁰⁹ 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 a narrow projection on the middle of each wall, as well as a very short porch on the entrance side. The temple base is no longer visible, but was probably a staggered square as well (Krom 1923, I: 407).

Among the temples with a staggered square body, the *candi* Kalasan, Loro Jonggrang, Lumbung (Klaten), Sembodro and Sewu stand out (Figures 48, 49). On these five temples, the projections are indeed so deep that they give to the whole a cruciform aspect.³¹⁰ At Sembodro and Lumbung, the arms of the cross house the usual niches, while at Kalasan, Loro Jonggrang and Sewu, the three niches are replaced by subsidiary *cella* (Figure 49).

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 to these buildings is located on the longer 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 – all have a porch. Their bases show a projection on the entrance side and follow 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).

308 The Nandi temple, located in front of the Siva temple, has a slightly rectangular plan and should therefore be compared with the 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.

309 The only other temples with a vestibule are Candi K at Ijo and the secondary temples of Plaosan Kidul.

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

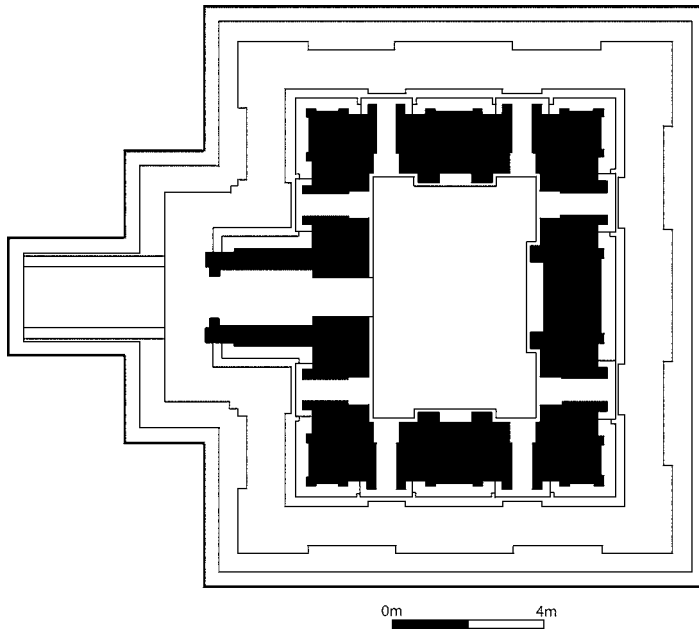


Figure 50: Candi Banyunibo: rectangular ground plan with single cella

Given the unusually large dimensions of the inner rooms and the windows that let the light enter, it is probable that these buildings were intended to receive a larger audience than the relatively small *cella* of other temples and therefore had 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 the living quarters for monks, such as their modern local appellation of *wihāra* would suggest (Krom 1923, I: 268-269). In this respect, 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 nevertheless 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 rooms for the housing of cult objects (Krom 1923, I: 269).³¹¹

311 A similar hypothesis has been formulated for the two-storey chapter houses of old Sri Lankan monasteries. These 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 housed a storage room (Silva 1988: 184-203).

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

Symmetry and asymmetry of the temple plan

Beyond the recognition that Central Javanese shrines are either square, staggered or rectangular in form, it is important to try to know why this is so: what conceptions guided the 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 conceived as radiating out from the cosmic mountain, so the temple must also have a centre. As the universe is four-pointed (*caturbhr̥ṣṭi*), the temple too is primarily defined as a square (Kramrisch 1946: 161-162; Michell 1988: 69-72). This perception of the temple as Mount Meru most probably prevailed in Southeast Asia as well.³¹²

All Central Javanese temples, whether square or staggered square in plan, are variations on the square archetype, at the centre of which a square *cella* is enclosed. As Mount Meru stands at the centre of the universe, the central, vertical axis of the Central Javanese temple is both its most sacred and its highest part.³¹³ However, in Central Java as elsewhere, this vision of the temple as a replica of Mount Meru – and hence perfectly symmetrical and identical on all sides – enters into competition with a more mundane preoccupation: the need for an entrance door. In order to respect the analogy with Mount Meru, Javanese architects could have opted 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 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 these two principles: the symmetry of the square plan on the one hand, and the emphasis on the façade on the other - or between a concentric view of the cosmos, as expressed in Indian traditions, and an axial approach to the material space.³¹⁴

The structural consequence of highlighting the entrance door is that the *cella* is often shifted slightly to the rear, being relatively 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.

312 See for example Chihara 1996:30-46.

313 In Central Java, the *cella* is crowned by a tiered tower. If present at all, the *gopura* are always lower than this central tower.

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

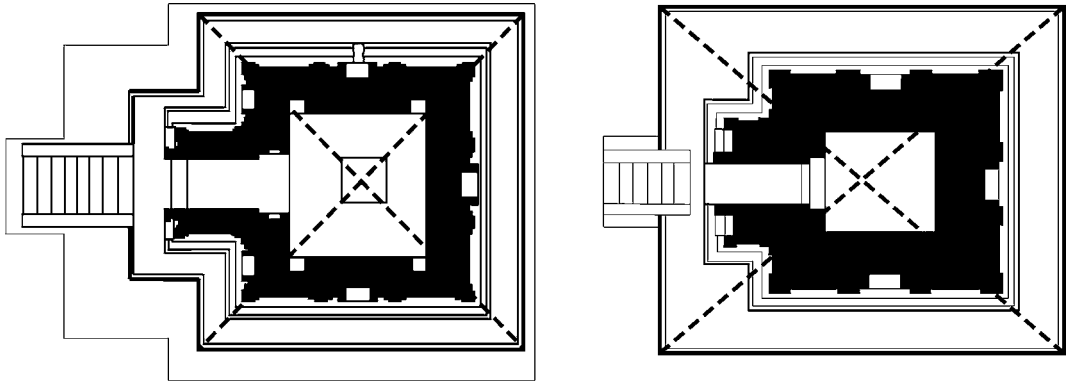


Figure 51: Schema showing the geometrical centre of the base. To the left, Candi Arjuna (Dieng), to the right Gedong Songo IV

As stated above, some buildings have no porch at all, while in a couple of other cases its presence does not have any impact on the ground plan of the base, which remains square (Figure 35 and 36). In all these examples, the square, symmetric shape prevails above all other considerations.

In other temples, the system for creating a balance between centrality and axuality 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.³¹⁵ The geometric centre of the main part of the base still corresponds therefore with the centre of the *cella* itself (Figure 51).

The only place where the geometrical centre of the base does not correspond with the centre of the *cella* is at Gedong Songo. With the exception of Gedong Songo I, all the temples at this site possess a rectangular base (Figures 43, 51). The temple body is clearly 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 at the centre of the universe.

Hindu and Buddhist building traditions

As we have seen, the square form 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 the basis for the plan of a given temple. As the drawing of a ground plan is an essential step within the building

315 At Candi Ngawen, this minor importance of the projection is underlined in the profile of the building: the main, square part of the base has a different moulding system to that on the protruding part.

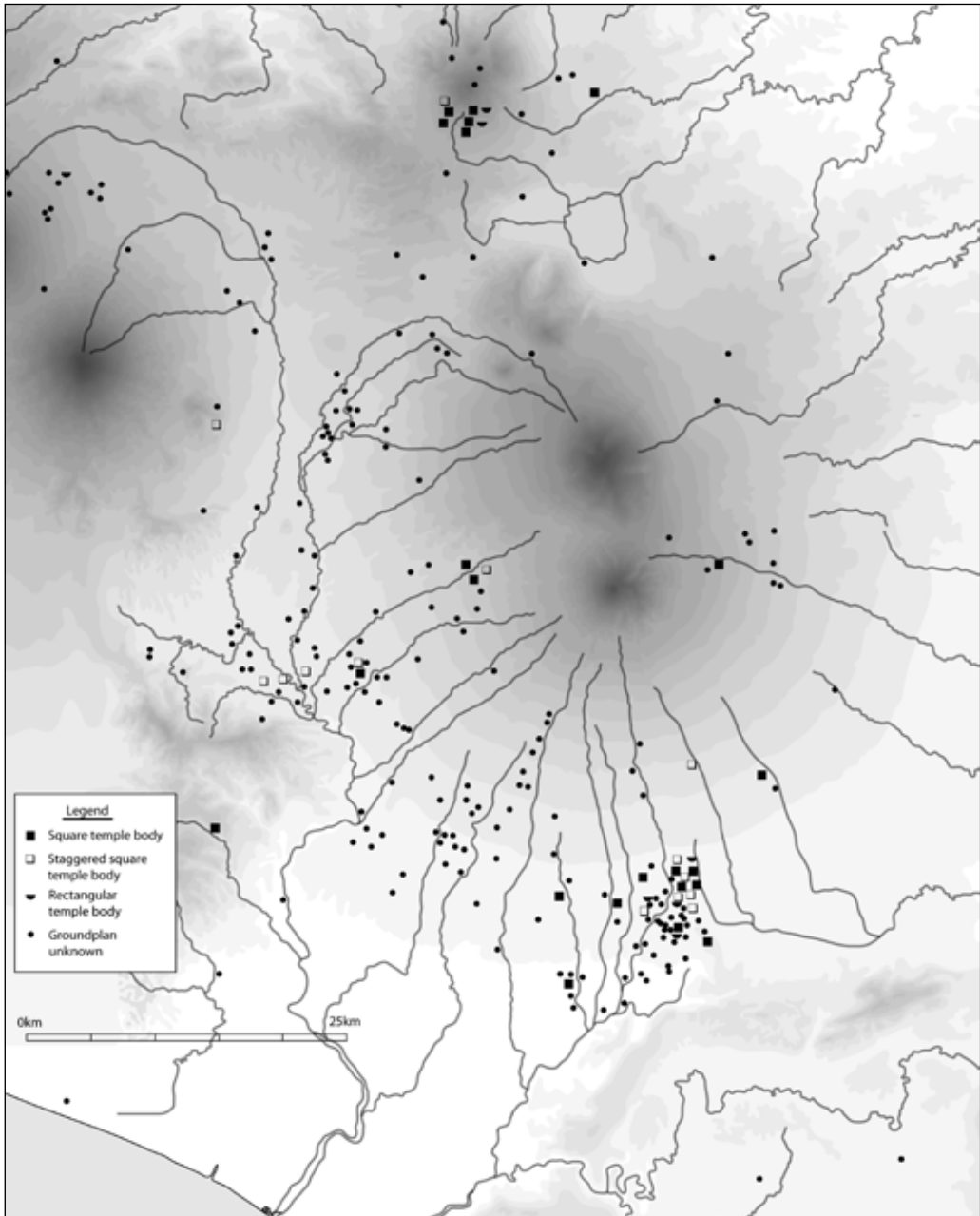


Figure 52: Distribution of temple ground plans

process, it is unlikely that it was done at random. The initial form, the form that determines the primary shape of the building, is inevitably the materialisation of a mental construct: consciously or not, it conveys the ideas of its architects and commissioners. However, which ideas, which cultural references, played

the determinant role in the choice of a ground plan is difficult to establish, especially since we have so few textual data directly associated with 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 distinct, regional traditions. A quick look at the map (Figure 52) is sufficient to realize that the three forms 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 allows us to consider – though in a somewhat limited way³¹⁶ – is the relation between plan and chronology (Table 36). I do not mean to assume that the ground plan of Central Javanese shrines evolved over time; this idea seems rather inadequate for explaining the variations of such simple forms as the square and the staggered square. It is not really probable that there was ever something like an Aristotelian evolution of the temple plan. Central Javanese architecture probably did not start with a simple square and culminate with complex plans, as a too rapid juxtaposition of Candi Arjuna with Candi Loro Jonggrang might suggest. Firstly, Lawang - a temple that is usually considered to be late³¹⁷ - has a square ground plan, testifying that the square shape cannot be exclusively associated with early architecture. Secondly, Borobudur, which no scholar considers to be a late monument, is a perfect, amply staggered square. Thirdly, both squares and staggered squares are simple geometric figures. Building a staggered square temple does not require any more skill and experience than the construction of a square shrine.

Furthermore, both the square and the staggered square are part of the general iconography of Buddhism as well as Hinduism; their use is not limited to the ground plans of temples and their symbolism is wide. Squares and staggered squares, for example, often form the structure of *mandala* and *yantra* designs. Given their importance and popularity within Buddhism and Hinduism, such sacred diagrams were most probably known in Java from a very early time,³¹⁸ so that the architects who built the Central Javanese monuments could, from the beginning, rely on a large repertoire of geometric figures with symbolic associations. It is therefore impossible to imagine a purely local evolution that would

316 On the problems regarding the chronology of Central Javanese shrines, see above p.15.

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

318 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).

GROUND PLANS OF CENTRAL JAVANESE SHRINES

Shape	Early period		Late period	
Square	Arjuna Gedong Songo II-VI Lumbung (Klaten)* Merak	Puntadewa Sewu * Srikandi	Asu Barong Gedong Songo I Ijo Kedulan Lawang Lumbung (Magelang)	Ngawen* Ngempon Plaosan Kidul* Plaosan Lor* Sambisari
Staggered square	Bima Borobudur Bubrah Dwarawati Gatotkaca Gedong Songo IV* Kalasan Lumbung (Klaten)	Mendut Pawon Pendem Selogriyo Sembodro Sewu	Loro Jonggrang Morangan Ngawen Sojiwan	
Rectangular	Banyunibo Gedong Songo II* Gedong Songo III* Puntadewa*	Sari Semar* ^a Srikandi*	Loro Jonggrang* ^b Plaosan Lor Pringapus* ^c	

Table 36: Ground plan and chronology. * Secondary shrines; Pr. = Prambanan

- a. The secondary shrine in front of Candi Arjuna.
- b. The secondary shrine in front of the Siwa temple.
- c. Although it is not absolutely certain, I consider Candi Pringapus to be 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 Śaiva temples (either alone, under a canopy or in a small shrine); 2) it faces Candi Perot, the side walls of which, in contrast to those of Pringapus, were adorned with the standard Javanese Śaiva triad of Gaṇeśa-Durgā-Agastya; 3) it has the rectangular plan of Śaiva subsidiary shrines when placed in front of the main temple.

have led from the simple square (of 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 one reason or another, certain shapes were more popular at certain periods. I have thus classified the remaining temples according to their shape and to the general period they belong to – early or late – in the hope of being able to trace a relationship between form and chronology (Table 36). No clear schema 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 religious affiliation on the other gives more satisfying results. If one is content with glancing quickly at Table 37, one might conclude that the various ground plans were equally popular within both Hinduism and Buddhism. However, although the various shapes of the ground plans (square, staggered square and rectangular) are found in both religions, their distribution and importance are by no means identical among the 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 in the Yogyakarta area (the subsidiary shrines of Sewu, Lumbung, Plaosan Kidul and Plaosan Lor). At first sight, staggered square plans seem more equally shared between Buddhism and Hinduism. It is nevertheless striking that in all the Buddhist temples the central shrine is either rectangular or a staggered square.³¹⁹

If one now tries to combine shape, religious affiliation and chronology and to approach the data in terms of building traditions, two main hypotheses can be suggested. According to the first hypothesis, the temples would belong to two different traditions that, as far as the shape of the ground plan is concerned, did not undergo drastic change in the course of Central Javanese history. In one

Shape	Hindu	Buddhist
Square	19 Arjuna Asu ^a Gebang Gedong Songo I-VI Ijo Kedulan Lawang	Lumbung (Magelang) Merak Morangan Ngempon Puntadewa Sambisari Srikandi
Staggered square	9 Bima ^c Dwarawati Gatokaca Gedong Songo IV* Loro Jonggrang	5 Lumbung* Ngawen* Plaosan Kidul* Plaosan Lor* Sewu ^{ab}
Rectangular	7 Gedong Songo II* Gedong Songo III ^{cd} Loro Jonggrang ^{ce} Pringapus ^{cf}	9 Borobudur Bubrah Kalasan Lumbung Mendut
		3 Banyunibo Plaosan Lor Sari

Table 37: Ground plan and religion. * Secondary shrines;

- Its religious affiliation is actually not known with certainty. The three temples of Candi Pos, Asu, Lumbung and Pendem, are usually associated with the Hindu inscription of Śrī Manggala (874 A.D.), which was found about 250m north of Candi Pendem. No further element however gives evidence of their Hindu character.*
- The small secondary shrines.*
- The Dieng plateau is usually considered as a Hindu place of worship. Nevertheless, there is no clear evidence for the religious affiliation of the candi Bima, Dwarawati, Sembodro and Gatokaca.*
- The secondary shrine in front of the main temple.*
- The secondary shrine in front of the Siwa temple.*
- Although it is not absolutely certain, I consider Candi Pringapus to be secondary shrine to Candi Perot. See note 35 above.*
- The secondary shrine in front of Candi Arjuna.*

319 Unfortunately, this observation does not work the other way around: not all staggered square buildings are Buddhist; some are Hindu.

group, we find Buddhist buildings, from the early and the late periods, characterized by a staggered plan. In the other, Hindu shrines present less uniform traits, since they may follow either a square or a staggered plan. According to this hypothesis, there would be no obvious influence from one tradition to the other.

One can 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 tradition³²⁰ would have shown a preference for the square (the *candi* Arjuna and Gedong Songo II-VI). The staggered square, on the other hand, would have been the plan *par excellence* for Buddhist temples (the *candi* Borobudur, Kalasan and Mendut). This Buddhist building tradition would then have influenced later Hindu architecture, which adopted the staggered square for certain temples (the *candi* Loro Jonggrang), but kept the square for others (Candi Sambisari).³²¹ 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 that the early dating of Dieng as a whole should be questioned. On the basis of the temple ground plan alone, it is unfortunately impossible to decide which hypothesis is the most likely.

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

In the hope that a closer look at other architectural elements would confirm and refine the results of my analysis of the ground plans, I have also undertaken a closer study of temple profiles. Being at the junction between architecture and sculpture, the moulding systems of Central Javanese temples have failed to attract much scholarly attention from either architects or 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

320 By the terms "Hindu tradition" and "Buddhist tradition" I do not mean to suggest that the architectural differences between these two building traditions have a religious signification - that the staggered plan has a Buddhist meaning and that its possible introduction into Hindu architecture therefore implies an influence in doctrine or symbolism. The *raison d'être* of these 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 am thinking 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 that most Hindu shrines do not seem to follow it.

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

Javanese temples. Their theories, though convincing on certain points, have at least three shortcomings: The number of sites taken into account is limited,³²² the mouldings from the temple foot and the base are sometimes mixed up and wrongly compared,³²³ and the dating of the temples that serves as a basis for their studies is not critically examined.³²⁴ In short, these chronologies cannot be considered reliable.

They nevertheless introduce an interesting observation: in Central Javanese architecture there are two sets of mouldings, one with a torus and one without. However, instead of including them in a strict chronological sequence, as my predecessors have done, I would like to classify them in terms of separate traditions and try to determine whether they can be divided into a Buddhist and a Hindu tradition - as in the case of the 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 the sake of clarity, I will divide the mouldings into two distinct parts and describe them separately: the mouldings on the foot of the temple body, and on the base (Figure 50).³²⁵

The profile of the foot of the temple body: variations and interpretations

As suggested by previous studies (Soekmono 1979; Williams 1981; Chihara 1996), the mouldings on the temple foot may be divided into two categories, according to the absence or presence of a torus.³²⁶ The usual composition of mouldings without a torus is (from top to bottom): thread, cyma, plinth (Figure 54). Mouldings with a torus are composed (from top to bottom) of:

322 Chihara, for example, only describes the mouldings of 10 temples - Williams 21 - while there are about 40 Central Javanese shrines that have reasonably well-preserved mouldings.

323 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 see clearly that there is a torus at the level of the temple foot. Similarly, when discussing Candi Pringapus, she seems to omit its base, which consists of a series of superimposed plinths.

324 Chihara does not really question the dates attributed to the Dieng temples and he therefore ascribes them to an early period (c.680-730 for Arjuna, Semar and Srikandi, c.730-780 for the others). He underestimates the possibility that some of the Dieng temples may 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 another inscribed on gold 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 today at the top of Gunung Wukir, whereas Dumarçay has convincingly shown, based on building techniques, that the temple had been thoroughly rebuilt in the 9th century (Dumarçay 1993: 57).

325 There is, on some temples, a kind of intermediate foot between these two sets of mouldings. This is shown in the illustrations. Nevertheless, since I have been unable to come up with a typology for these intermediate feet - they appear to vary far too much to make sense of them - I have not included them in the following paragraphs.

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

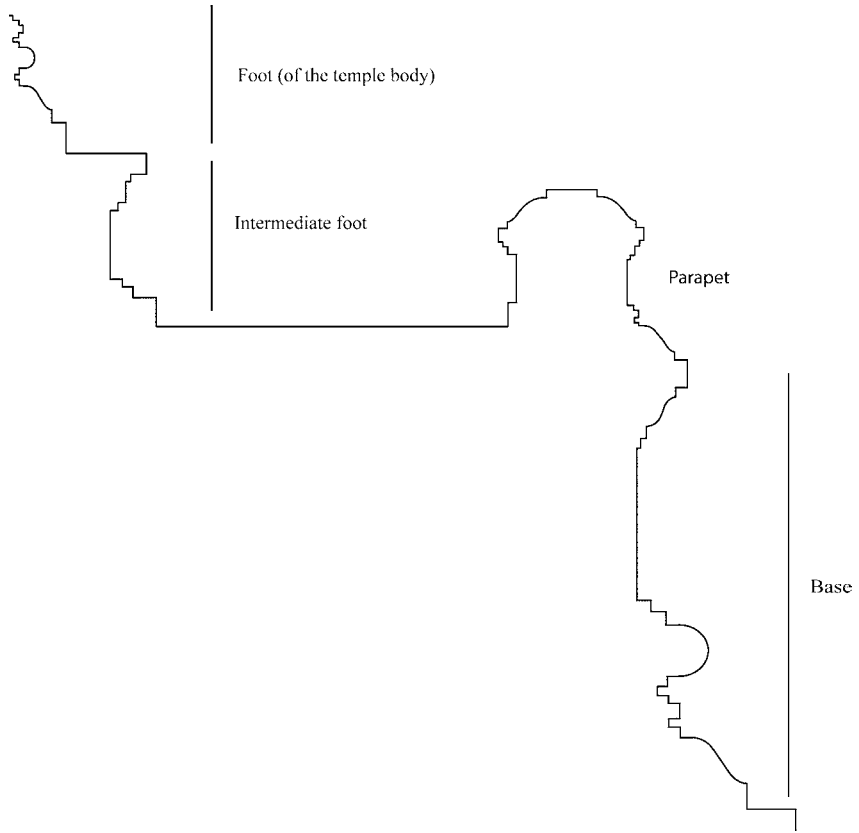


Figure 53: Candi Mendut, mouldings

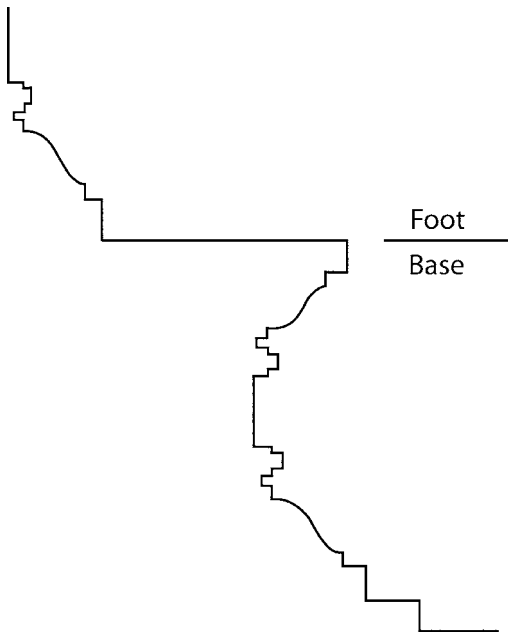


Figure 54: Gedong Songo II, mouldings

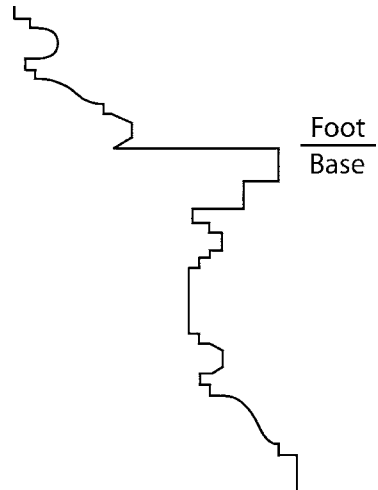


Figure 55: Gedong Songo IIIb, mouldings

thread, torus, cyma, plinth³²⁷ (Figure 53). There are of course many variations to this general structure, 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.³²⁸ 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 on 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 these three structures? Were they built at the same time? It is also possible that, for an unknown reason, Morangan or Ngawen may have been used as models to construct Gedong Songo III.³²⁹

As I have done above in the case of the temple plan, I have tried to match the absence and the presence of the torus with three criteria: location, date and the religious affiliation of the temple. Mouldings without a torus are quite common and occur in the north as well as in the south (Table 38). Although temples with a torus at the foot are essentially found in the middle Progo valley and in the Prambanan area, they also reached the upper Progo valley (Pringapus) and northern Central Java as well (Gedong Songo III). Similarly, we find 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 regions³³⁰ (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 – and that mouldings with a torus represent in contrast a southern tradition that progressively extended to the north. Such a hypothesis does not however explain the absence of a torus at Candi Gebang, an early shrine built on the southern slope of Mount Merapi.

The most striking result of my study of mouldings actually lies elsewhere: almost all the temples that show a profile without a torus are Hindu (Table 39). The only case where such a moulding has been used on a Buddhist shrine is at

327 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 into Java together with the Indian tradition and may not, therefore, be systematically dated from two different periods.

328 This is also true, though less marked, at Gampingan, Semar and Selogriyo; upward corners may also be observed on the base of Candi Lawang.

329 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 only found elsewhere at Loro Jonggrang, where they house lions. Nevertheless, in the latter case, they do not occupy a central position.

330 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, in the latter case, that the profile of the torus is hexagonal rather than semi-circular. It is nevertheless difficult to know whether this was done on purpose or whether it is an unfinished half-round.

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Candi Sewu, but even here it is limited to the secondary shrines, while the main building retains its torus. I therefore think that the composition of the profile does not betray regional tendencies, but is rather linked to the religious affiliation of the various temples.

Moulding type	Dating	Area	Sites
Without torus	Early	N	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**
		C	Asu, Lumbung, Ngawen
		S	Ijo, Loro Jonggrang, Morangan, Plaosan Lor, Sojiwan

Table 38: Mouldings on the foot according to region and date. * Subsidiary building; N: northern Central Java (the kabupaten of Wonosobo, Temanggung, Semarang); C: centre, middle Progo valley (kabupaten Magelang); S: southern Central Java (D.I. Yogyakarta, kabupaten Klaten); a - The northern shrine; date uncertain.

Moulding type	Area	Religion	Sites
Without torus	N	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**
	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

Table 39: Mouldings on the foot according to religion and region. * Subsidiary building; N: northern Central Java (the kabupaten of Wonosobo, Temanggung, Semarang); C: centre, middle Progo valley (kabupaten Magelang); S: southern Central Java (D.I. Yogyakarta, kabupaten Klaten); a - The northern shrine; date uncertain.

If the use of a torus was limited to Buddhist buildings, my hypothesis could be easily confirmed, but this is obviously not the case. Although all the Buddhist temples, with the exception of the secondary shrines of Candi Sewu, belong to the group with a torus, this group also includes Hindu temples as well. 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 single exception of Candi Merak – have no torus. This observation could well provide the clue to our problem. It indeed suggests that, initially, the torus was uniquely associated with Buddhist buildings, while the profile without a torus was characteristic of Hindu architecture. However, at a certain point in time, both building traditions merged or, to be more precise, Hindu buildings started to incorporate Buddhist features, especially in areas where Buddhism was well rooted (e.g. the Borobudur and Prambanan areas).³³¹ This new profile was not however adopted on all Hindu temples; the ancient Hindu moulding, without a torus, still remained in use.³³²

The 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: those without a torus, with a 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; see Figure 57) or it may simply be added below or above the thread (Gana, Loro Jonggrang, Mendut, Pawon; see Figures 53 & 61).

Given that the first stage of Candi Mendut shows a moulding with a torus added above the usual thread, one might arrive at 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 also possible that the older tradition continued to be used on certain later buildings, as was the case for temple planning. This might explain why, at Loro Jonggrang, the base has both a thread and a torus.

331 This process perhaps started in the south, with Candi Merak, at a very early period.

332 The torus is 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 on 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 also found at Candi Sewu.

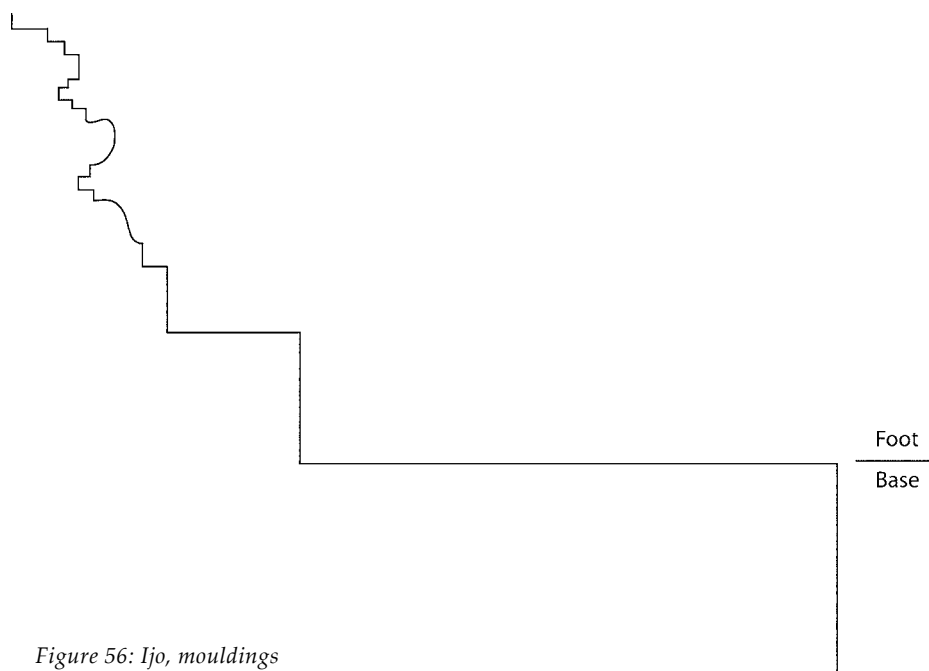


Figure 56: *Ijo*, mouldings

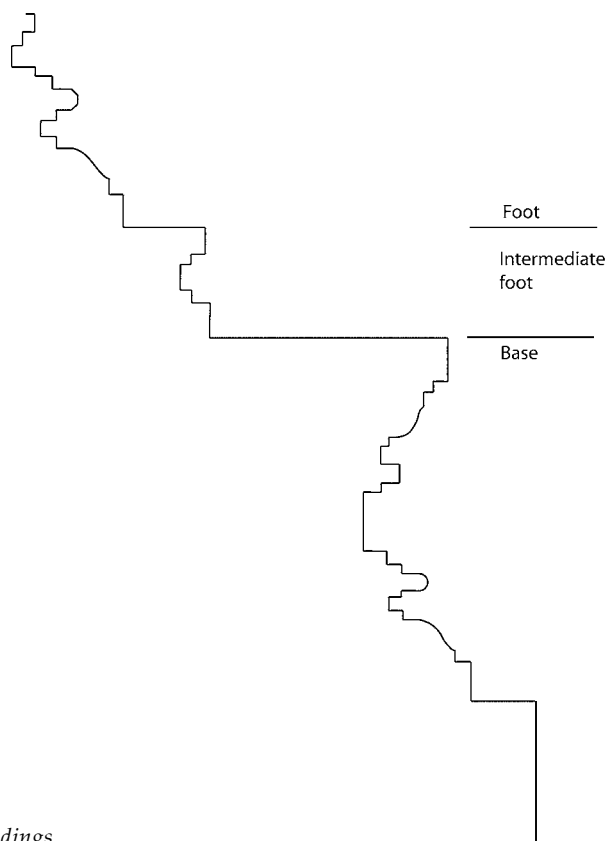


Figure 57: *Candi Merak*, mouldings

The distribution of temples with mouldings that include a torus on the base does not follow any clear geographic or religious schema. In the middle Progo valley, as well as in the Prambanan area, it is not uncommon to see Buddhist structures which do not carry a torus on the base. 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 a torus are found only in the middle Progo valley (Candi Asu) or in the Prambanan area (the *candi* Loro Jonggrang and Merak).³³³

Therefore, I would tend to think that the two main types (with or without torus) are roughly 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 level of the base the same moulding they had already adopted for the temple foot. In a later change of tradition, the torus came to replace the original thread. Some Hindu buildings then started to adopt the torus too. It is possible that the northern part of Central Java,³³⁴ 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 yet discussed the last type of moulding. While the two types above show a somewhat complicated assemblage of cyma, panels, threads and plinths, the last type consists only of 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 from the *Oudheidkundige Dienst* (Stutterheim 1940: pl.6), this was also the case for 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. As the association between the Canggal inscription and the temple of Gunung Wukir in its present form cannot be firmly established,³³⁵ the only example of an early use of a plain base is the first stage of Candi Kalasan. In addition, there is little doubt that at least Sambisari and Lawang are later structures: the building techniques used at Sambisari are probably posterior to 830 A.D., while Candi Lawang includes a secondary building that bears similarities with structures found in East Java.

Coherence between the base and the temple foot

Up till now, we have looked at the various parts that constitute a temple profile, but we should also consider the profile in its entirety and say something con-

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

334 This is essentially valid for Gedong Songo and, as far as we may still determine it, for the *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.

335 See p.162, note 50.

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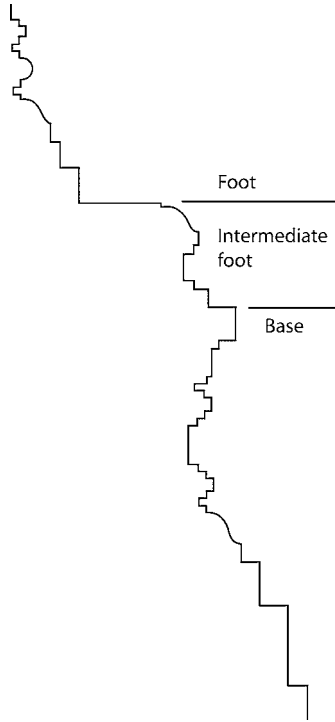


Figure 58: Candi Lumbung (Magelang)

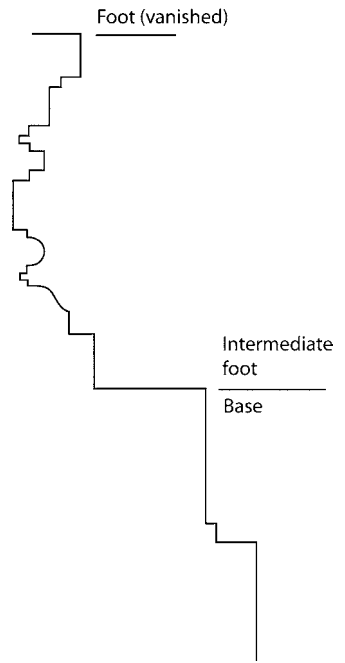


Figure 59: Candi Lawang

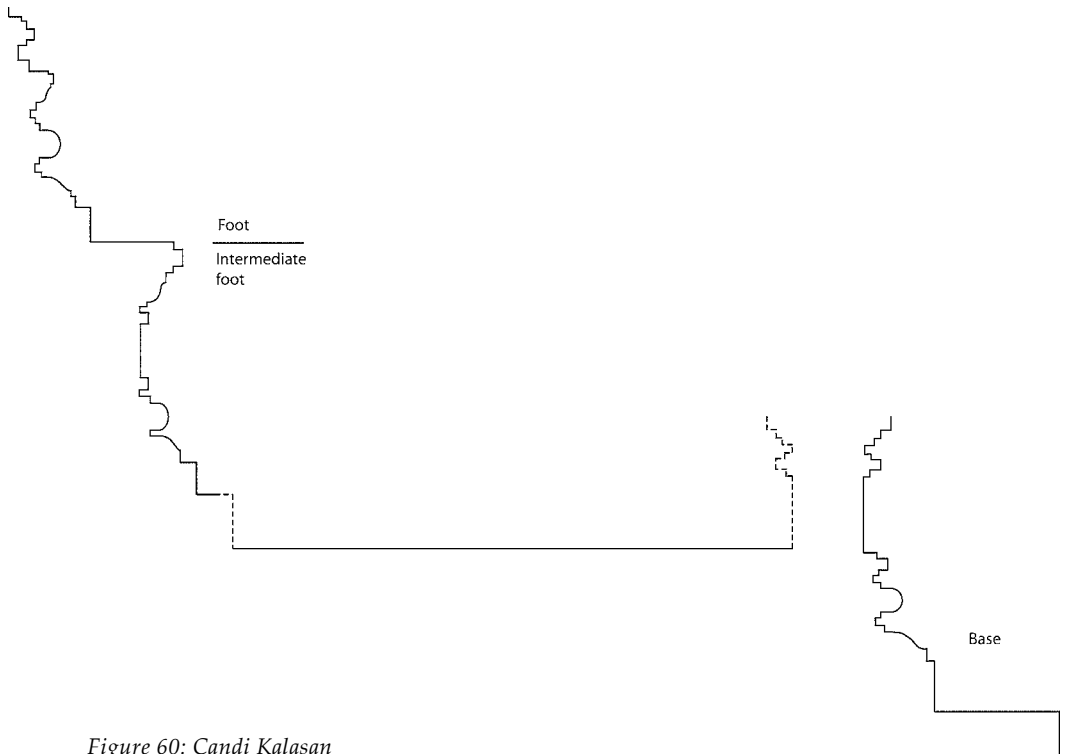


Figure 60: Candi Kalasan

cerning the relationship between the mouldings of the base and mouldings on the temple body (Table 41).

Twenty temples have similar mouldings on the base and at the temple foot (Table 41, Figure 56). The mouldings on the temples of Gedong Songo clearly stand out: not only do the mouldings of the lower part of the base repeat those

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 ^a	S	Hindu	Merak.
			S	Buddhist	Banyunibo, Gana.
			C	Buddhist	Ngawen II ^b
With cyma reversa, thread and torus ^c		C	Buddhist	Mendut	
With frieze and torus ^d		S	Buddhist	Bubrah, Plaosan Lor, Plaosan Lor*, Sojiwan.	
		N	Hindu	Gedong Songo III* ^e	
With frieze, thread and torus ^f		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*.		

Table 40: Mouldings on the base according to region and religion. * Subsidiary building.

- a. The usual composition of this moulding type is, from top to bottom: cornice, cyma reversa, thread, panel, torus, cyma, plinth.
- b. The temple base has two mouldings: the first, without a torus, on the main part; the second, with a torus, for the projection sustaining the gopura.
- c. The composition of this moulding type is, from top to bottom: cornice, cyma reversa, panel, torus, thread, cyma, plinth.
- d. The usual composition of this moulding type is, from top to bottom: cornice, frieze, thread, panel, torus, cyma, plinth.
- e. The northern shrine.
- f. The usual composition of this moulding type is, from top to bottom: cornice, frieze, thread, panel, thread, torus, cyma, plinth.

of the temple foot, but the base also shows a symmetrical composition (from top to bottom: cornice, cyma reversa, thread, panel, thread, cyma, plinth).

However, such coherence is not a general phenomenon and the two series of mouldings may be quite different. That the mouldings of the base and the temple body may be at variance is well exemplified at the *candi* Lumbung (Magelang), Lumbung (Klaten), 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 reconstruction a delicate task, as one cannot automatically project the mouldings of the base onto the temple itself.³³⁶

Foot	Base	Religion	Temples	
-	-	Hindu	Arjuna Barong Gebang Gedong Songo I-V	Kedulan Ngempon Semar Sewu*
With torus	-	Buddhist	Lumbung (Klaten) Lumbung* Ngawen Ngawen* Sewu	
		Hindu	Lumbung (Magelang)	
With torus	With torus	Buddhist	Banyunibo Bubrah Kalasan Mendut Ngawen II (gopura)	Pawon Plaosan Lor Plaosan Lor* Sojiwan
		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	

Table 41: Mouldings on the temple foot and base, summary chart. * Secondary building; a. First stage.

336 The only exception is in the case of bases with a torus, as they seem to be matched consistently to a temple foot with a torus.

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 religious affiliation – Buddhist or Hindu – rather than to regional styles or the date of the monuments. This hypothesis appears to be confirmed by an analysis of the profiles, especially the mouldings on the foot of the temple body. The facts suggest that two distinct building traditions originally existed side by side. 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.³³⁷ The second building tradition distinguished itself by the choice of a square plan and a profile without torus. Although this second tradition was, 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 (the *candi* Gebang and Merak).³³⁸ The first tradition, which we may call

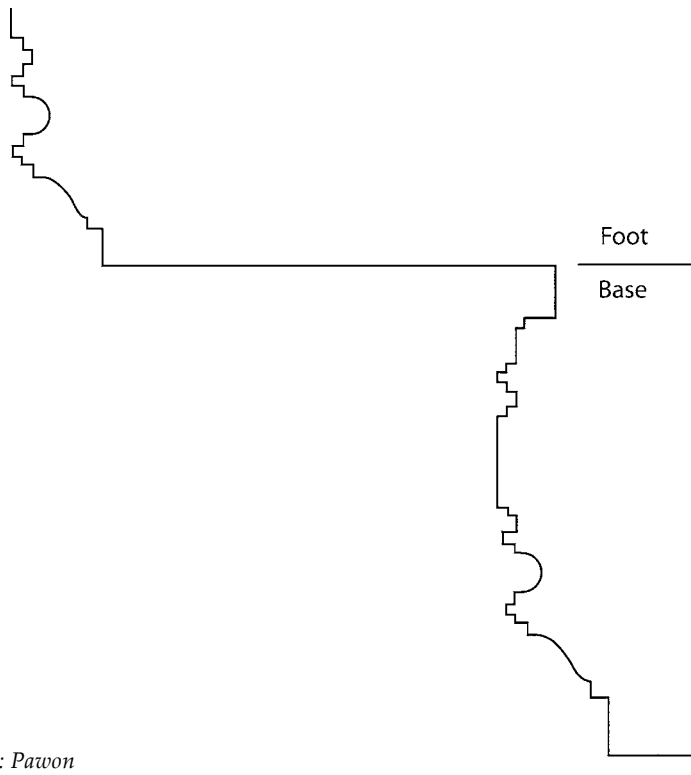


Figure 61: Pawon

337 There are no Buddhist temples in northern Central Java.

338 At Candi Merak, the ground plan is square, but the profile presents a torus. Thus it does not entirely follow the Hindu tradition.

“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 not however used in all of 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 will need to be tested in the light of further art historical studies, nevertheless illuminates an interesting aspect of socio-cultural history during the Central Javanese period. Architectural influences seem to have indeed followed a one-way path, from Buddhism to Hinduism, and not *vice-versa*. It is the art of Buddhism, though scarcer, that influenced later Hindu shrines – and this says much about the fame that early Buddhist monuments such as Borobudur and Sewu must have enjoyed. It also appears that the Hindu architecture of the late period, using both square and staggered square plans, and profiles with or without a torus, was quite heterogeneous. It would be highly interesting to know if the homogeneous Buddhist tradition of Central Java is a purely Javanese phenomenon or reflected the wider international tendencies of that time.

CONCLUSION

By way of conclusion, I would like to draw on the preceding chapters and summarize my main results and hypotheses. Through this thesis, I hope to have demonstrated that the architectural landscape of Central Java is the result of a complex socio-cultural process. The distribution, orientation and design of Central Javanese temples were determined – at various levels – by economic, political and religious factors; revealing the manifold nature of the relationship between shrines, land occupancy, natural environment, conceptualized space and building traditions.

Temple distribution and land occupancy

The creation of a new inventory of temple remains – both preserved and vanished – including their geographic coordinates has allowed us to go one step further than the ancient inventories available (Verbeek 1891; Krom 1914a; Bosch 1915) and to draw a precise archaeological map of ancient Central Java (see appendices and in-text illustrations in chapters 4-5). These geographical data have been used to initiate my subsequent reflections over the physical structure of the Central Javanese territory (chapters 4-5), and to assess the extent of the Hindu-Buddhist sphere of influence over the neighbouring regions of Java (chapter 4). Religious buildings are today the only extant *in situ* remains of the ancient Central Javanese polity and are found across the whole region studied, from Semarang to the Indian Ocean. Their density, however, varies considerably: vestiges are far more numerous in the southern part of the Progo valley and on the south-western slope of Mount Merapi than anywhere else, reaching a peak around Prambanan.

My analysis of the correlations between temple distribution patterns, ecological zones and topography, enriched by data from secondary sources, has allowed me to reconstruct the main traits of land occupancy. The territory of ancient Central Java was structured around a core agricultural region, a series of secondary centres and several religious centres – sometimes relatively isolated (chapters 4-5).

Temple distribution patterns and ecological data show that the economic heart of the polity was the region extending from Prambanan to Muntilan. In this area, correlations between temple distribution, water accessibility, soil fertility and gentle topography suggest a direct relationship between shrines, settlements and agricultural activities (chapter 5). The large majority of the remains are indeed found on gently sloping plains covered by a dense network of streams. High, dry land, as well as marsh and flood areas were avoided. These observations confirm those already made by Mundarjito for the districts

of Sleman and Bantul (Mundarjito 2002), as well as earlier research on ancient Central Javanese society, strengthening the hypothesis that the economy of Central Java was essentially agriculture-based (Krom 1931; Wisseman Christie 1992; 2004). The relationship between temples and cultivation is made more explicit in inscriptions, which show that temples drew a large part of their income from taxes on agriculture. It was thus in the interest of religious foundations to change dry fields into *sawah* and so to intensify rice production (Wisseman Christie 1992; 2004; and chapter 4). Geographical information derived from the Chinese annals have further revealed that the Central Javanese *kraton* – the ruler’s residence and political centre of the polity – was most probably originally located in the northern part of this rich agricultural zone, around the town of Muntilan (chapter 4). This conclusion is in contrast to a previous study made by Soekmono, who suggested that the palace was actually located near Grobongan, in the northeastern part of Central Java (Soekmono 1967); an hypothesis that neither temple distribution patterns nor ecological data appear to sustain (chapter 4).

Outside this central, agricultural area, I have identified three clusters of temple remains, located respectively near the modern towns of Secang, Ngadirejo and Boyolali (chapter 4). These clusters are situated in areas of medium to low agricultural value, but at important points in the landscape, and most probably represented key centres within an ancient road network (chapter 5). Temple distribution patterns show that this network linked the rich agricultural plains of the south to the northern coast *via* two main itineraries: one leading north through the Progo valley, the other following the eastern foot of the Merapi-Merbabu massif (chapter 5). The existence of such routes confirms that the economy of Central Java was not a closed economy based on isolated communities, but quite the contrary; it relied on an extensive trade network, as already underlined by Jan Wisseman Christie on the basis of inscriptions (Wisseman Christie 2004). This network not only linked Central Javanese villages with one another, but also connected the economic centre of the polity to the outside world *via* a harbour situated on the northern coast. The exact location of this port is still to be determined, but the evidence points towards the area of Semarang (chapter 4): this is where the communication routes apparently ended and it also corresponds to a slight increase in the density of temple remains. This conclusion is in obvious contradiction to the opinion of Soekmono, who placed the harbour of Central Java in the area of Grobongan – close to the place where he located the *kraton* (Soekmono 1967). Not only does this identification of Grobongan as the main harbour of Central Java fit badly with temple distribution patterns, but the hypothetical reconstruction of the ancient coastline on which his argumentation is heavily reliant also appears erroneous (chapter 4).

Besides temples related to places of economic interest, Central Java also possessed a series of religious centres linked neither to roads nor to settlement (chapter 4). I have demonstrated that the densely clustered remains around

Prambanan cannot be interpreted as a large-scale settlement: the sharp decrease in temple density to the east of Prambanan does not fit with the hypothesis of a bustling economic centre and is indeed better explained by the existence of an important religious centre, located on the eastern periphery of the Central Javanese polity. The development, in later times, of a road linking Prambanan directly to the north coast – without passing through the Progo valley – seems nevertheless to suggest that the area acquired a new degree of economic interest during the 9th century and might well have been the Medang in Mamrati to where the *kraton* was transferred around 855 A.D. (Casparis 1956). If this proves to be true, it puts in perspective the shift of power from Central to East Java, presenting it as a slow process that started in the mid-9th century (Barrett Jones 1984), rather than as an abrupt change (Krom 1931).

Unlike Prambanan, which is located in the plain, a series of other important religious sites are located on dry, high and relatively isolated grounds (chapter 5). These are the temples situated in the Pegat-Ijo hills (including - among others - Ratu Boko, Candi Barong and Candi Ijo), together with Dieng and Gedong Songo further to the north. Although they were built in areas unsuitable for wet-rice cultivation and could not sustain large settlements, these sites show a very long period of occupation and a rich construction activity, all elements that point towards a significant ritual role apart from any obvious economic interest.

Outside the area constituted by the Progo valley, the Yogyakarta plain and the eastern slope of the Merbabu-Merapi massif, Hindu-Buddhist sites are scarce (chapter 4). To the west of the Progo valley, Hindu-Buddhist remains are often restricted to *yoni* and stone terraces and are often found in combination with small menhir and a sort of mortar stone; thus showing simultaneously the geographical limits of the Hindu-Buddhist polities and their influence on neighbouring cultures.

Interaction between architecture and natural environment

Irrespective of whether temples were built in fertile plains or on high ground, the choice of the site was guided by a series of factors determined by the natural environment (chapter 5). Religious buildings were most often associated with specific landscape markers such as rivers, water confluences or sources, isolated hilltops, sulphur springs, transitional zones, etc. Whenever possible, building sites combined several of these elements. Candi Ngempon, near Ambarawa, is a good example of this phenomenon, being located on a riverbank near a confluence, and close to hot and cold springs. Similarly, Candi Gunung Wukir stands not only on an isolated hilltop, but is also surrounded on three sides by rivers and is located in a transitional zone marking the junction between the Progo valley and the more open landscape of the Yogyakarta plain.

Sometimes, landscape markers played a role in the choice of the site but had no further influence on construction. In other cases, however, architecture was influenced by and made use of the natural environment. Although the vast majority of the temples were oriented more or less towards the cardinal points and faced either east or west, the relative position of rivers and mountains played a role in the location of the entrance. This is especially true in southern Central Java, where most of the temples are oriented with their back to a river or hilltop. Thus, while making offerings to the deity housed in the main shrine, the devotee was also facing a river or mountain, introducing the natural environment into ritual practice. In a few cases, the mountain or hilltop rising behind the temple appears to have been the main focus of the site. Candi Miri, for example, is not built atop Gunung Pegat, but immediately below its summit, so that the devotee paying homage to the deity would clearly see the peak behind the building.

Even when temples are located on isolated hilltops, such as Candi Abang or Gunung Wukir, the natural features of the site do not appear to have been altered or subordinated to the architectural program. With the notable exception of Borobudur, hills were not artificially re-shaped by means of concentric terraces and axial staircases, as was sometimes the case for the mountain-temples of Cambodia.

It should be emphasized that the association of temples with rivers was not based exclusively on economic interests (chapter 5). The inscriptions leave no doubt about the ritual importance of rivers. On the one hand, temples benefited from the sacred presence of purifying water, while, on the other, rivers gained religious significance and potency through the presence of temples along their banks. The physical relationship between temples, inscriptions, and landscape clearly shows that the natural and the built environment were mutually strengthened by religious association and were perceived by early Javanese society as an undivided and inseparable whole.

Built space and conceptualized space in Central Javanese architecture

Beyond questions of territory and landscape, the present work also offers reflections on the structure of the built space and its possible relation to conceptualized space. On this subject, architectural and epigraphic data have both shown the influence of imported Indian concepts – as well as their limits. While Central Javanese temples are oriented around the cardinal points – as expected from the Indian textual sources – they show no marked preference for an eastward orientation (chapter 5). The fact that a slight majority of Central Javanese temples face west rather than east (whereas east-facing temples are the *de facto* norm in Indian architecture) and that the position of rivers and mountains also played an important role in the placement and orientation of temples, shows

that the art of Central Java was not exclusively based on the Indian building tradition. Furthermore, we have come to the conclusion that temple orientation, as suggested in inscriptions, was influenced by two distinct conceptions of space: one of Indian origin, based on the movement of the sun around a unique centre; and another of probably local origin, that structures space around two axes – a dual conceptualization that has already been noted for East Java and Bali (Klokke 1995).

In fact, the Indian concept of space appears to have been more directly implemented in Buddhist architecture than in the Hindu shrines. The layout of the large Buddhist temples of Central Java indeed depicts a rather concentric view of the cosmos, compatible in most respects with Indian descriptions of the universe. The Hindu religious compounds, in contrast, emphasize a different approach in which the idea of progression is reinforced, as well as the association of sanctity with the rear of the temple compound, as so frequently found in East Java.

The westward orientation of many temples, the role sometimes played by landscape markers in this orientation, the concept of a space structured around two axes and the sanctity of the rear are all elements showing that the art of Central Java can no longer be merely described as “connected with facts known elsewhere” (i.e. from India; Bernet Kempers 1959). Indeed, since the same characteristics have been recognized in East Java as well (Patt 1979; Klokke 1995), our observations bring Central Javanese and East Javanese architecture closer together, proving that the concept of localization – which is often associated with East Java (Bernet Kempers 1959; Soekmono 1990) – is essential to our understanding of ancient Central Java as well.

Hindu and Buddhist building traditions

Our analysis of temple plans and spatial arrangement has further shown that there was a distinct Buddhist architectural tradition in Central Java. This tradition was characterized by the systematic use of staggered square or rectangular plans, and an inclination for concentric arrangement – at least in the larger temple complexes. The study of architectural mouldings has confirmed this hypothesis, showing that the presence of a torus was not related to stylistic evolution – as previously thought by Soekmono (1979) and Williams (1981) – but was tied to the existence of a distinct tradition: the torus being associated with Buddhist architecture, as foreseen by Dumarçay (1981).

Despite the many uncertainties concerning the relative chronology of Central Javanese temples, it is probable that a separate Hindu building tradition existed alongside the early Buddhist constructions. This Hindu tradition distinguished itself from Buddhist architecture by making use of square plans and flat mouldings, and by a tendency towards linear arrangement. In later periods, however, a series of Hindu structures incorporated elements from the

Buddhist tradition. The most magnificent example of this Buddhist-influenced Hindu architecture is of course the *candi* Loro Jonggrang, the layout of which is reminiscent both of small-scale Hindu sanctuaries (for the inner courtyard) and of the larger Buddhist compounds of the Prambanan plain (for the concentric rows of buildings, its staggered square plan and its use of mouldings including a torus). Such similarities may not be limited to architecture and probably explain why the famous Hindu compound was first described as a Buddhist temple (Jordaan 1993).

Further research

Although this book has – I hope – achieved its aim of revealing the complex relationship between temple, space and landscape, it has also raised many further questions that are left open. My hypothesis concerning the existence of a ritual network – through which the king of Mataram could both acknowledge local ritual practices and strengthen his power over distant territories – requires further analysis and, in particular, a re-examination of the epigraphic data. Similarly, future archaeological research along the northern coast could shed new light not only on the location of the main harbour of Central Java, but also on the relations between the coastal region and the hinterland, and the modes of interaction between Central Java and its Southeast Asian neighbours.

Furthermore, one of the most intriguing features I have come across during my research is the presence, at several Hindu-Buddhist sites, of *batu lumpang*; a sort of mortar stone also commonly found in west Central Java, in areas where megalithic cultures predominated. The question that inevitably comes to mind is: are these the *batu kulumpang* so frequently mentioned in Old Javanese inscriptions and to which offerings were made during *sīma* demarcation? Additional research on the distribution of these artefacts and on the rituals described in the inscriptions would certainly reveal more information on this subject.

Finally, I hope that my conclusions, hypotheses and observations will raise the interest of many others and invite further reflections on the nature and history of early Central Javanese society.

Appendix 1

ORGANIZATION OF THE INVENTORY

In the following inventory, temple remains are listed by province (Daerah Istimewa Yogyakarta and Jawa Tengah), then by district, subdistrict, village and hamlet, according to alphabetical order.

For each entry a single layout is used:

- Site name (other names)
- Administrative localization
- Latitude
- Longitude
- Precision of the previous measurements
- Altitude
- Surroundings
- Religion
- Main features
- Description
- Sculptures
- Inscriptions
- Site name

The first name mentioned is the modern official site name according to the Suaka Peninggalan Sejarah dan Purbakala. Between brackets, one will find other names for the site. These are essentially former names dating back to the colonial era.¹

Localization

Administrative localization

The administrative localization is given according to modern Indonesian districts (i.e. administrative divisions in use when the fieldwork was carried out).² Names are presented in order from the smallest to the widest administrative entity (hamlet to province): *dusun*, *desa*, *kecamatan*, *kabupaten*, and province.³

1 Only one spelling convention has been retained here. It is necessary to bear in mind that *u* may be spelled *oe* and that *a* and *o* are often interchanged.

2 These administrative divisions have changed several times since the end of the 19th century. It is frequently the case that districts mentioned in the older literature are not the same as those given in the present inventory.

3 As the *dusun* is a very small entity, the administrative localization is sufficient to find one's way to the site. I have therefore chosen not to mention any suggested itinerary.

DIY stands for Daerah Istimewa Yogyakarta.

JT stands for Jawa Tengah.

Geographical location

Where field-checking was possible, the administrative localization is followed by coordinates of latitude and longitude. The coordinates have been determined using a portable GPS device (Geographical Positioning System).⁴ Measurements have been taken as close as possible from the centre of each site, that is to say, from in front of the door of temples that still have a roof.

Although GPS provides useful information, it should be noted that measurements are not as precise as they could be using traditional techniques. However, the accuracy is usually sufficient to plot sites on a 1:50,000 or 1:25,000 map. The accuracy of any GPS device relies on the number of satellites available at the time of measurement, their position and the intensity of their signal. GPS accuracy therefore varies according to place and time, and the estimated precision of the coordinates is mentioned for each site.

When it was not possible to take coordinates in the field, either because the remains were no longer visible or because they were outside the area of study, indicative coordinates are given. They correspond roughly to the centre of the *dusun* from where the remains have been reported. In the field “data accuracy” one will then find “map” indicated.

The altitude is approximate. It is a general measurement taken from topographical maps.

Surroundings

After the localisation, a brief survey of the surroundings is given. It includes an overview of the local topography, hydrology and closest archaeological sites. Within this context, “lowland” is used to designate land located between 0 and 199m above sea level, “lower middle land” is between 200 and 499m, “upper middle land” is between 500m and 1,499m and, finally, “highland” means 1,500m and above.

Religion

When it was possible to identify, religious affiliation is mentioned. Religion is determined according to the presence of meaningful relief carvings or free-standing sculptures (a *lingga*, a *yoni* or any clearly identifiable deity).⁵

4 This explains some differences between the coordinates mentioned here and those given by Mundarjito. In his study, Mundarjito determined the latitude and longitude according to the position of the village name on topographical maps (Mundarjito 1993).

5 In practice, this information is not always definitive: new finds may come to light that contradict the present evidence.

Main features

The field “main features” has been conceived as a summary of the “description” field. It gives the type of remains, general orientation, plan of the main structure and possible presence of enclosure walls (see table below).

Description

This field builds on the data from the preceding section, giving further details. One should note that emphasis is put on spatial organisation, i.e. on plan rather than elevation. Each building at the site is described, from base to temple body. When information is available, the orientation of the main temple is clarified. Possible finds of deposit boxes are also mentioned. A smaller font is used to underline when the information is solely derived from secondary sources.

Sculptures

This field is suggestive rather than comprehensive. It mentions only the most important free-standing sculptures found at the site.⁶ When known, their official inventory numbers are given.

Inscriptions

All inscriptions found at the site.

⁶ Mainly sculptures identifiable as Buddhist or Hindu.

Type of remains	
Mound	Shapeless heap of earth, stones and/or bricks.
Scattered stones	Cut stones scattered over a limited area, sometimes including identifiable architectonic elements and reliefs.
Stūpa	Buddhist monument usually consisting of a square base and a bell-shaped body.
Miniature temple	Temple unusually small in scale, with an inner space that is not wide enough to be entered by an adult.
Single temple	
Pendopo	Open pavilion, usually of wood, rising upon a rectangular stone terrace.
Sanctuary	Group composed of a small number of temples and secondary shrines built on a line or facing each other: <ul style="list-style-type: none"> - Type 1: one temple facing a secondary building - Type 2: one temple facing three secondary buildings - Type 3: one temple flanked by two smaller shrines and facing three secondary buildings - Type 4: one temple flanked by two smaller shrines - Type 5: temples and/or shrines in a row
Compound	Group of more than six buildings that can be either: <ul style="list-style-type: none"> - concentric (around a single temple or sanctuary) - organic (without symmetrical organisation) - axial/terraced (the prevailing element is a succession of terraces of which the rear, uppermost terrace bears the main temple)
General orientation	
General orientation of the main structure, without taking into account possible deviation from the true cardinal points.	
Plan of the main structure	
General layout of the temple body of the main temple: square, staggered square or rectangular, with or without a porch	
Enclosure walls	
When traces of at least one enclosure wall have been found.	

The use of small letters indicates that the information does not come from direct fieldwork observation but from secondary sources.

Appendix 2

INVENTORY OF THE TEMPLE REMAINS OF SOUTH CENTRAL JAVA: DAERAH ISTIMEWA YOGYAKARTA AND KABUPATEN KLATEN

WATUGILANG (Batu Gilang)

Administrative localization: Gilang, Baturetno, Banguntapan, Bantul, DIY.

Geographical localization: 07° 49' 36.7" S
110° 25' 13.3" E
Precision: 9m
Alt.: 81m

Surroundings: In lowland, on flat ground, 100m to the west of the Blotan/ Mruwe River, on the western bank of a small watercourse. No other remains are visible in the immediate vicinity. The *candi* Mantup, Sampangan and Tegalsari are located 1km to the north, while Condrowangsan is 800m to the south.

Religion: Unknown.

Main features: Monolith.

State of preservation: Intact.

Description: This monolith, measuring 1m high, 2.40m long and 2.30 wide, is carved on the four lateral sides. Between floral patterns can be seen: a fish and a *makara*; an elephant and a winged horse; a winged lion (?) and a goose; a goat and a bull. The upper face of the block is plain, without traces of any kind. Its lower side lies on the ground and is therefore not visible.

MANTUP

Administrative localization: Mantup, Sampangan, Mantup, Bantul, DIY.

Geographical localization: 07° 48' 56.4" S
110° 25' 03.4" E
Precision: 12m
Alt.: 88m

Surroundings: In lowland, on flat ground, some 450m to the east of *kali* Semarangan and 400m to the west of *kali* Blotan/Mruwe. Candi Mantup is located close to the sites of Tegalsari and Ampangan, while it is only one kilometre to the north of Watugilang and one kilometre to the southwest of Klodangan.

Religion: Hindu.⁷

Main features: Sanctuary type 5; facing west.

State of preservation: Only bases and lower parts of the temple bodies remain.

Description: The site is composed of three miniature *candi* lying in a row from north to south. The structures, however, do not seem to belong to a coherent group: the building materials and orientation are not identical. Although the three miniature temples open to the west, the exact position of the building axis in relation to magnetic north is different for each structure: 270° for the northern shrine, 275° for the central one, and 279° for the southern building.

The northernmost *candi* is built of brick and is 1.25m square (at the base). The door gives access to the structure almost at ground level, piercing both the temple body and the base.

The central miniature temple is slightly smaller (1.10m square) and is made of stone. Its entrance follows the usual pattern and starts above base level. Surprisingly, even if the door is clearly visible, there is no trace of a staircase.

The southernmost structure is 1.25m square and is built of stone too. Only its base and the foot of the temple body are still visible.

Sculptures:

Nearby, or within the central structure, a sculpture of a couple holding hands was found. In their free hand, both the man and the woman were holding an egg-shaped object (Wulanningsih 1995: 31).

SAMPANGAN

Administrative localization: Sampangan, Sampangan, Mantup, Bantul, DIY.

Geographical localization: 07° 48' 40" S
110° 25' 10.3" E
Precision: Map.⁸
Alt.: 90m

⁷ According to Wulanningsih (1995: 31), based on the sculptures (see below).

⁸ The village of Sampangan is mentioned on the 1:25,000 map issued by the Topografische Dienst (n° XLII-47 m). It does not figure on the Bakosurtanal maps. Therefore, the coordinates have been calculated according to its position on the early 20th century document.

Surroundings: In lowland, on flat ground, some 300m east of the *kali* Semarangan and along the western bank of the *kali* Blotan/Mruwe. The *dusun* of Sampangan is 550m to the north northeast of Candi Mantup, 750m to the west northwest of Klodangan and 900m to the east of Tegalsari.

Religion: Hindu

Main features: Organic compound; enclosure.

State of preservation: No visible remains.

Description:

Remains of at least two shrines and an enclosure wall were discovered here (Bernet Kempers 1948: 37-38).

In the eastern part of the site was a square base, probably turned to the east. It was made out of brick and stone. A pedestal was found among the remains. It seems that the mouldings on the temple body were continued on the pedestal, so that it is probable that it belonged with the temple body, as is the case at Candi Gebang.⁹

North of these remains was an enclosure wall running north-south. Unfortunately it was too disturbed for its parameters to be identified. Perpendicular to this wall, there was a second wall running east-west. The latter showed traces of a gate. Excavations revealed that under the gate was a stone box containing a gold plate, stones and beads? (both of stone and glass).

The right angle formed by the two main walls was enclosed by two other walls, so as to form a square courtyard. At the centre of the latter courtyard, were the remains of a stone base.

Sculptures:

A *yoni*, Gaṇeśa and a Durgā were discovered within the remains of the eastern temple (Bernet Kempers 1948: 37).

Two small *yoni* (60cm x 60cm x 60cm and 24cm x 19cm x 20cm) were discovered more recently in the nearby village of Sampangan (*Daftar peninggalan benda DIY* 1985: 8-9).

Miscellaneous archaeological finds:

At the bottom of the central pit of the eastern temple, a deposit box was found. The square casket had 17 holes (16 small holes around a larger, central hole) (Bernet Kempers 1948: 37-38).

9 The pedestal found here was identified as the pedestal of a Gaṇeśa also discovered at the site. At Gebang, the pedestal also bears a Gaṇeśa.

TEGALSARI

Administrative localization: Tegalsari, Sampangan, Mantup, Bantul, DIY.

Geographical localization: 07° 48' 39.5" S
110° 24' 40" E
Precision: Map.¹⁰
Alt.: 90m

Surroundings: In lowland, on flat ground, between the *kali* Semarang and *kali* Blotan/Mruwe. The *dusun* of Tegalsari is located 900m west of Sampangan and 900m northeast of Mantup.

Religion: Hindu (*Wiṣṇu?*).

Main features: Single temple.

State of preservation: No visible traces.

Description/sculptures:

In the fields, one hundred meters from Sampangan, the remains of a temple base were once visible. Several sculptures were discovered within the remains, e.g. a seated Wiṣṇu and the goddess Śrī. Their style is said to have been close to that of Loro Jonggrang (Bernet Kempers 1948: 38).

CONDROWANGSAN

Administrative localization: Condrowangsan, Potorono, Mantup, Bantul, DIY.

Geographical localization: 07° 50' 02" S
110° 25' 12" E
Precision: Map.
Alt.: 75m

Surroundings: In lowland, on flat ground, on the banks of the *kali* Blotan, 800m south of Watugilang.

Religion: Unknown.

Main features: Scattered stones.

State of preservation: No visible remains.

10 The village of Tegalsari is mentioned on the 1:25,000 map issued by the Topografische Dienst (n° XLII-47 m). It does not figure on the Bakosurtanal maps. Therefore, the coordinates have been calculated according to its position on the early 20th century document.

Description:

According to the SPSP DIY, a doorjamb, a few temple stones, an antefix and other fragments were found here (*Daftar peninggalan benda DIY* 1985: 10-12).

These elements (and especially the large doorjamb) might indicate that a temple once stood in this area.

GAMPINGAN

Administrative localization: Gampingan, Srimulyo, Piyungan, Bantul, DIY.

Geographical localization:

Main compound	Secondary compound
07° 50' 08.6" S	07° 50' 06.8" S
110° 26' 13.9" E	110° 26' 14.2" E
Precision: 20m	
Alt.: 75m	

Surroundings: In lowland, on flat ground, some 250m east of the *kali* Kuning. The site is located 1km southeast of Watugilang and 1,250m west-southwest of Payak.

Religion: Buddhist.¹¹

Main features: Sanctuary type 4 facing west.

State of preservation: Only the bases remain.

Description: Up to now, four buildings have been excavated.¹² Three of them form the "main compound". The fourth structure, located some 50m away, constitutes the "secondary compound".¹³

The main compound is formed by a central temple and two secondary structures standing in a row. The base of the main building is 4.50m square, with a projecting staircase to the west. Unfortunately, nothing remains of the temple body, except the 1m square pit of the *cella*.

The secondary structures are located to the north and south of the central temple. Only 2.40m x 2.40m foundations remain. Curved stones with *padma*-mouldings found around the compound suggest that these secondary constructions were actually *stūpa*. Remains of another structure are visible 4m to the

11 Uncertain. Based on the presence of probable *stūpa* fragments (see below).

12 Ceramic sherds are found across a wide area (roughly 1km square), suggesting that the site was not limited to the present-day remains.

13 These are utilitarian names rather than a true hierarchy; given the state of preservation and the stage of archaeological research at this site, it is impossible to tell which compound was the most important.

south of the southern secondary building. Whether this was a temple, a *stūpa* or part of an enclosure is not known.

The secondary compound is not in line with the main compound. It houses only one small square base.

Sculptures:

A sculpture of Jambhala, found at the foot of the northern wall of the main temple (Bambang, personal communication 2002).

Inscriptions:

Two inscribed (but unreadable) copper strips were found during excavation (Setianingsih 2002: BG 1471, BG 1470c).

PAYAK

Administrative localization: Payak, Srimulyo, Piyungan, Bantul, DIY.

Geographical localization: 07° 50' 00.5" S
110° 27' 28.2" E
Precision: 9m
Alt.: 80m

Surroundings: In the lowland, 50 m west from the *kali* Petir, and a few metres below the present-day ground level. The site is 1,250m to the north-northeast of Gampingan.

Religion: Unknown.

Main features: Bathing place.

State of preservation: Preserved almost to the top of the surrounding wall.

Description: This ancient bathing place consists of a single pool (3.10m x 3.20m) looking NNE. To the north, the pool is bordered by a wall 1.70m high. In the centre of this wall there is a small niche. Within the pool, the ends of two water ducts are visible.

Miscellaneous finds: A *peripih* found at Payak is now in the Prambanan museum. The square stone, measuring roughly 15cm, has 17 holes (1 at the centre and 16 around the edge).

WILADEG

Administrative localization: Nglampar, Wiladeg, Karangmojo, Gunung Kidul, DIY.

Geographical localization: 7° 56' 45.6" S

110° 39' 00" E

Precision: Map.

Alt.: 175m

Surroundings: In lowland, on flat ground.**Religion:** Hindu.**Main features:** Scattered stones.**State of preservation:** No visible remains.**Description/sculptures:** Today, only two or three dressed stones are still visible, near a modern bathing place.

However, according to the SPSP DIY, numerous temple stones and a bull were discovered here (*Daftar peninggalan benda DIY* 1985: 42).

PLEMBUTAN (Sari)

Administrative localization: Plembutan Timur, Plembutan, Playen, Gunung Kidul, DIY.

Geographical localization: 07° 57' 30.4" S
110° 33' 02.2" E
Precision: 18m
Alt.: 185m

Surroundings: In lowland, on flat ground.**Religion:** Unknown.**Main features:** Single temple.**State of preservation:** Mound.**Description:** Today, the temple is but a low mound. However, the temple pit is still clearly visible and is orientated around the cardinal points. The building was built of limestone. Around the mound are scattered stones, some with mouldings. Fragments of crowning pieces are also noticeable.

RISAN (Candirejo, Rejo)

Administrative localization: Candi, Candirejo, Semin, Gunung Kidul, DIY.

Geographical localization: 07° 49' 41.0" S
110° 45' 18.1" E
Precision: 7m
Alt.: 200m

Surroundings: In lower middle land, atop a hill.

Religion: Buddhist.¹⁴

Main features: Sanctuary type 5; facing west; staggered square.

State of preservation: The base of the main temple is no longer clearly visible, but the foot of the temple body is in a satisfactory state of preservation. Only the base of the secondary building remains.

Description: Candi Risan is composed of two structures in a row. The main temple is to the north. It is an impressive building facing west. Its base is roughly 13m square.¹⁵ The temple body is a staggered square of 9.20m x 9.20m. Scattered stones are visible around the main temple. Among these, one can see a *kāla* with a lower jaw and two *makara*. The secondary building is located some 25m south of the main temple. It is a plain base measuring 12m square.

Sculptures:

A sculpture, which is probably of the *bodhisattwa* Awalokiteśwara, was found near the temple (Verbeek 1891: 168; Hoepermans 1913: 218; Bosch 1915a: 25; *Laporan Peninjauan situs Semin, Playen dan Karangmojo* 1981; *Daftar peninggalan benda DIY* 1985: 37-39).

DENGOK

Administrative localization: Dengok Lor, Pacarejo, Semanu, Gunung Kidul.

Geographical localization: 08° 00' 35.7" S
110° 36' 29.4" E
Precision: 13m
Alt.: 150m

Surroundings: In lowland, in a slightly hilly area. The temple itself is on flat ground, some 25m west of the Dengok River.

Religion: Unknown.

Main features: Single temple.

State of preservation: Mound.

Description: Candi Dengok is now a low mound. Dozens of stone are found around the site, some of them possibly *in situ*. Fragments of mouldings and of crowning pieces are visible. A small trident-shaped stone is also evident here.

¹⁴ On the basis of a Buddhist sculpture found at the site. See below.

¹⁵ Due to its poor state of preservation it is difficult to say if the base was a simple square or a staggered square.

Sculptures: 4 sculpture fragments are still visible at the site: three lower parts of a seated human figure and a female head and torso.¹⁶

JETIS

Administrative localization: Wonosari, Gunung Kidul, DIY.

Geographical localization: 12km from Wonosari.

Surroundings:

Religion: Unknown.

Main features: Single temple

State of preservation: No visible remains.

Description:

Earlier, there were remains of the base of a temple (Verbeek 1891: 168; Hoepermans 1913: 218).

KARANGNONGKO (Bandung)

Administrative localization: Bandung, Karangnongko, Karangnongko, Klaten, JT.

Geographical localization: 07° 40' 38.5" S
110° 33' 25.5" E
Precision: 8m
Alt.: 240m

Surroundings: In lower middle land; on the southern side of Mount Merapi, in an area where the slope starts to be felt. On flat ground, above the small canyon of the *kali* Bagor, which flows 100m east of the remains. The site is situated 900m south-southeast of Merak.

Religion: Unknown.

Main features: Single temple; facing west.

State of preservation: Only the western part of the base is visible.

Description: A base made from andesite blocks is visible here, although only its western part is preserved. It measures 9.15m from north to south, and at least 7.50m from west to east. On the western side, there is a double projection.

¹⁶ According to villagers a bull was found here too.

MERAK (Batoro Gono)

Administrative localization: Merak, Karangnongko, Karangnongko, Klaten, JT.

Geographical localization: 07° 40' 11.2" S
110° 33' 12.1" E
Precision: 7m
Alt.: 275m

Surroundings: In lower middle land; on the southern side of Mt Merapi, in an area where the slope starts to be felt. Some 140m west of the Bagor River. Candi Merak is situated 900m north-northwest of Candi Karangnongko.

Religion: Hindu.

Main features: Sanctuary type 2; facing east; square with porch; enclosure wall.

State of preservation: The main temple is the best preserved and is still standing up to the foot of the temple body. The secondary temples are now mere foundations. Traces of the western *gopura* of the enclosure are still visible.

Description: The compound is composed of one main temple, three secondary shrines and an enclosure wall. The main temple faces east.

Its exact orientation is said to be 74° 06' (Siswoyo 1996: 9).

Its base is 8.40m square, with a projection on the eastern side. The temple body is 5.90m square, with a porch on the east.

Its northern, western and southern sides possessed a deep central niche flanked by two smaller and shallower niches (Perquin 1927b: 156).

A 2.40m long vestibule leads to the *cella*, which is 2.50m square.

Three secondary shrines face the main temple. They all follow the same pattern: they face west and are roughly 3.40m square, with a projection on the western side. Approximately 5.5m west of the main temple, the remains of a *gopura* and an enclosure wall are still visible.

Sculptures: On the sides of the staircase leading to the main temple are carved two male figures. Several free-standing sculptures can still be found on the temple ground: one Durgā (originally found near the northern side of the temple, Bosch 1926:16), one Gaṇeśa, one *yoni*, two bulls, one seated female figure, one

male figure seated “à l’européenne”,¹⁷ another seated male figure¹⁸ and an unfinished Gaṇeśa. A beautiful *yoni* is also to be seen within the sacred area. It is adorned with a *nāga*, a bull and a turtle.

Around the temple were also discovered one huge Gaṇeśa (near the main temple), a small high relief representing a seated Brahmā¹⁹ and several heads and fragments (Bosch 1926: 16, pl.30).

KALIWORDO

Administrative localization: Pacitan, Ngemplakseneng, Manisrenggo, Klaten, JT.

Geographical localization: 07° 39' 57.4" S
110° 30' 13.7" E
Precision: 13m
Alt.: 370m

Surroundings: In lower middle land; on the southern slope of the *gunung* Merapi, within the extended bed of the *kali* Woro.

Religion: Hindu.

Main features: Single temple; facing west.

State of preservation: Only the base remains.

Description: West of the *kali* Woro, but within its dikes, one can see a small square base measuring 3.55m x 3.55m. On its western side, a kind of terrace some 2.20m deep is visible; it might be the remains of a porch.

Numerous stones are scattered on and around the structure, as well as in the nearby village of Pacitan. Among these, one can notice non-carved antefixes.

Sculptures: One small *yoni* and a *lingga* are still visible at the site.

17 It was originally flanked by two devotees and found near the southern secondary shrine (Bosch 1926: 16).

18 This is probably one of the two sculptures mentioned in earlier literature. According to Perquin and Bosch, two male figures adorned with jewels, seated on cushions and resting on the left arm were found in the neighbourhood (Bosch 1925a: 5; 1925b: 74; Perquin 1927b: pl. 26-27).

19 Bosch's opinion was that - as the Gaṇeśa is a tall free-standing statue, whereas the Brahmā is a small high relief carving - the Gaṇeśa should belong in the cella, while the Brahmā was intended to be placed in an outer niche (Bosch 1925b: 74)

GANA (Asu, Wetan, Anjing, Segawon, Timur, Sijwoe 3)

Administrative localization: Bener, Bugisan, Prambanan, Klaten, JT.

Geographical localization: 07° 44' 38.4" S
110° 29' 46.3" E
Precision: 9m
Alt.: 163m

Surroundings: In lowland, on flat ground. The temple is situated 300m east of Candi Sewu, roughly 950m to the west-southwest of Plaosan Lor and 900m west of Plaosan Kidul.²⁰

Religion: Buddhist.²¹

Main features: Single temple; turned to the West.

State of preservation: Only parts of the base remain.

Description: Although the state of preservation of the temple is very poor, loose stones gathered around the building give an idea of the richness and refinement of the decoration. The staircase is located to the west. The square base seems to have supported a balustrade. The space between this parapet and the temple body was probably sufficient to allow circumambulation.

According to Brumund (quoted by IJzerman 1891: 92), the *cella* had 8 niches, 2 in each wall.

One should note that the temple is not on the east-west axis of Candi Sewu, but 10m south of it (Stutterheim 1937: 17).

Sculptures:

Five sculptures of Kuwera were found among the remains (Bosch 1915a: 74); IJzerman thought that the whole temple was dedicated to that divinity (IJzerman 1891: 92).

KULON

Administrative localization: Ngablak, Bugisan, Prambanan, Klaten, JT.

²⁰ Without the present vegetation, both temples would have been visible from the site.

²¹ On the basis of its association with Candi Sewu.

Geographical localization: 07° 44' 44.4" S
 110° 29' 23.8" E
 Precision: Map.²²
 Alt.: 145m

Surroundings: In lowland, on the banks of the Opak River. The remains are supposed to have been located 350m to the southeast of Candi Sewu (IJzerman 1891: map).

Religion: Unknown.²³

Main features: Single temple.

State of preservation: No visible remains.

Description:

This temple, thought to be related to Sewu, has long disappeared, but enough stones were left for Brumund to identify a building (Brumund 1854: 23). The remains of Candi Kulon were not on the east-west axis of Candi Sewu, but 200m south of it (Stutterheim 1937: 17).

LOR

Administrative localization: Candirejo, Bugisan, Prambanan, Klaten, JT.

Geographical localization: Alt.: 166m

Surroundings: In lowland, some 250m north of Candi Sewu (IJzerman 1891: Map).

Religion: Unknown.²⁴

Main features: Single temple.

State of preservation: No visible remains.

Description:

In the 19th century, temple remains were still visible here (Munnich 1845: 180; Verbeek 1891: 185). According to Bosch, at the beginning of the 20th century, the temple had already disappeared (Bosch 1915a: 74). However, Stutterheim still mentions the remains in a report dated 1937 and underlines the fact that the temple was 3m east of the north-south axis of Candi Sewu (Stutterheim 1937: 17).

22 The temple does not figure on the Bakosurtanal map. The coordinates were estimated on the basis of IJzerman's map (IJzerman 1891).

23 No sculpture from Candi Kulon has ever been reported, so it is difficult to ascribe a religious affiliation to the temple. However, if one considers that it is related to Sewu, then Candi Kulon should be classified as Buddhist.

24 The same remarks as for Candi Kulon.

Today, some stones are still visible around the village of Candirejo. However, given the proximity of Sewu, it is impossible to determine if the stones come from Candi Lor or from Sewu itself.

Sculptures:

Fragments of *jina* were found here (Munnich 1845: 180; Verbeek 1891: 185)

PLAOSAN LOR

Administrative localization: Plaosan, Bugisan, Prambanan, Klaten, JT.

Geographical localization: 07° 44' 26.3"S²⁵
 110° 30' 16.0" E
 Precision: 9m
 Alt.: 165m

Surroundings: In lowland, on flat ground, some 400m west of the Klongkangan River and 150m west of the smaller Borongan/Dengok River.²⁶ Candi Plaosan Lor is located 150m north of Plaosan Kidul, 950m east-northeast of the *candi* Gana and 1,300m east-northeast of Sewu. From Plaosan Lor, one can see Candi Ijo and the Gunung Kidul to the South, Mt Merapi to the NNW, Candi Sewu to the WSW and Candi Loro Jonggrang to the SW.

Religion: Buddhist.

Main features: Concentric compound; facing west; two rectangular central shrines with porch; enclosure walls.

State of preservation: The main temples have been restored from base to superstructure, as have a few of the secondary structures. The first enclosure wall is also rebuilt. The bases of the secondary shrines around structures A1 and A2 are well preserved, but those around structure C are merely piles of stones (if they are present at all). A few stones from the second enclosure wall are visible to the west of structures A1 and A2. The outer enclosure, with its double wall and moat, is still visible in some places to the east and west of Plaosan Lor, as well as to the south of Plaosan Kidul.

Description: This large compound is formed around three main structures (C, A1 and A2) built on a north-south alignment and surrounded by an inner enclosure wall, secondary shrines and an outer enclosure wall. The whole complex

25 Measurements were taken in front of the northern temple.

26 This river now flows southwards then southwest and joins the Opak near Ratu Boko/Bokoharjo. However, on IJzerman's map (IJzerman 1891), one can clearly see the Dengok River joining the Klongkongang just southeast of Plaosan.

of Plaosan Lor is further included within two other enclosure walls that also include the *candi* Plaosan Kidul. None of the structures are perfectly turned towards the cardinal points.²⁷

At the northernmost end of the Plaosan Lor compound is the so-called structure C and its secondary shrines.

Structure C and its secondary buildings

Structure C is actually a *pendopo*, that is to say a stone terrace on which once stood a wooden pavilion. A staircase located on the western side gives access to the *pendopo*. The base of structure C is 21.7m (N-S) x 18.9m (E-W) at the bottom and 19.2m x 16.3m at the top. A 1m wide stone bench runs from the centre of the northern side of the terrace, goes along its eastern edge, and ends in the middle of its southern side. All around the platform, a groove is visible, punctuated by square pillar bases (8 to the east and west, 6 to the north and south). It was probably carved in order to receive the wooden panels that made up the walls of the structure. In addition, there were 16 wooden columns, whose octagonal stone bases are still visible today at the centre of the platform (4 on the small sides, 6 on the large ones).

Excavations have suggested that the *pendopo* rose within a courtyard delimited by an enclosure wall (Miksic, Nayati & Tjahjono 2001: 326).

Traces of this first enclosure are still visible near the northeastern corner of the building.

Outside this first enclosure lie rows of secondary buildings.

According to IJzerman (1891: 103) and Krom (1923, II: 14), there were three rows of secondary buildings on the western and eastern side of structure C, but only one row on its northern and southern sides. Given their circular forms, all seem to have been *stūpa*. Recent excavations, however, have suggested that there were at least two rows of secondary buildings to the south of the platform (Miksic, Nayati & Tjahjono 2001: 322).

For the visitor today, one row (of 12 structures) is still visible to the north and south, while three rows are still to be seen to the east and west (of 9 and 8 structures respectively).

Second enclosure

The whole ensemble (structure C with its secondary buildings) was included within a larger enclosure wall that also contained the two other main buildings of Candi Plaosan Lor (structures A1 and A2, respectively to the north and south). Traces of the foundations of the wall and of its two *gopura* are still visible west of structures A1 and A2.

27 Its exact orientation is 265° 40' 08.40" according to the SPSP JT map or 264° 08' according to Siswoyo (1996).

This second enclosure wall was 225m (N-S) x 87m (E-W). Two of its doors have been identified in front of structures A1 and A2. A third door might have been located on the axis of structure C (Bernet Kempers 1948: fig. B).

Ancient sketches of Plaosan Lor show a wall running east west and dividing the secondary shrines belonging to structure C from those centred around the *candi* A1 and A2 (IJzerman 1891: pl. XXIX). It seems that some traces of it were found in the 1940's (Bernet Kempers 1948: fig. B). However, more recent excavations were unable to confirm the existence of such a wall (Miksic, Nayati & Tjahjono 2001: 327).²⁸

Structures A1 and A2

The two other main buildings of Plaosan Lor (A1 and A2) are twin structures. They are not only similar in plan, but also physically linked to one another. Both are rectangular, measure 23.3m (N-S) x 15.7m (E-W) and have a projection on the western side, for the staircase (at the base level) and the vestibule (at the level of the temple body).

They face west, although not exactly: their east-west axis is 264° 08' from due north (Siswoyo 1996: 7).²⁹

Their inner space is divided into a vestibule and three rooms measuring 6m (E-W) x 3.5m (N-S). The rooms communicate with each other via a door located in their western half. An altar for three sculptures occupies the rear of the three rooms. The northern and southern rooms of each building are opened to the outside via two windows. On the walls are carved reliefs depicting donors. A wooden ceiling that was used as ground for the second floor covered all the rooms.

According to Dumarçay (1986a: 50), the remains of an earlier structure were found under the southern temple during restoration work.

Around both the *candi* A1 and A2 runs an enclosure wall that determines an inner courtyard of 100m (N-S) x 38.70m (E-W). This enclosure wall is flanked in the corners and in the centre of its western and eastern sides by small shrine-like structures with storied roofs. The wall is pierced by two *gopura*, in front of the entrances of the buildings A1 and A2. The inner courtyard is further divided into two parts by a wall running east west between the two main buildings. At its centre is another *gopura* that allows passage between the two main structures.

²⁸ These excavations were carried out in a limited area south of the *pendopo*.

²⁹ Measurements taken in 1948 gave a different result: 267° (Bernet Kempers 1948: 29)

Secondary shrines around structures A1 and A2

Outside the enclosure wall are three rows of secondary buildings. The inner row is actually composed of 50 small shrines³⁰ looking outward. They measure roughly 4.50m x 4.50m³¹ and have a square plan.

The central and outer rows of secondary buildings actually consist of both *stūpa* and shrines (the latter only at the corners).³² The shrines in the NW and SW corners are turned to the west, while those in the NE and SE corners face east. Six of the eight shrines bear inscriptions, while only four of the 116 *stūpa* are inscribed.³³

As far as the secondary buildings are concerned, one must also note that the space between the different rows is narrow. Therefore it is difficult to imagine a large procession tracing its way among the shrines. The *pradakṣina* would have had to be fulfilled either within the inner courtyard or outside the second enclosure.

Outer enclosures

Structures C, A1 and A2, as well as Candi Plaosan Kidul, were farther included within a wider enclosure wall, a moat and a final outer enclosure, measuring respectively 415m (N-S) x 245m (E-W), 435m x 265m and 460m x 290m (SPSP JT 1993: map; Miksic, Nayati & Tjahjono 2001: 319ff).

Sections of these enclosures and moat are visible to the west and east of Plaosan Lor as well as to the south of Plaosan Kidul.

No architectural remains were found within these outer enclosures, but numerous ceramic sherds have been discovered, particularly in the SW corner, suggesting that they might have been used as a habitation area for monks or other officials linked to the temple. In the same area, the remains of two bridges have been excavated (Miksic, Nayati, Tjahjono & 2001: 320, quoting Kusen, 1986: 402).

Although the enclosure walls run parallel to the row of *candi* C, A1 and A2, the latter buildings are not located at the centre of the demarcated space: they are displaced to the eastern part of it.

Sculptures: The SPSP JT has recently placed sculptures on top of structure C. These are supposed to be the sculptures mentioned by IJzerman.

30 There are 17 shrines on the western side, 19 along the eastern wall, and 9 both on the north and south (the corner shrines counted twice).

31 The measurements were taken at the base. The temple body is more or less 3.40m square and the *cella* 1.75m x 1.75m.

32 There are 54 *stūpa* (17 + 9 + 19 + 9) and 4 shrines in the central row; 62 *stūpa* (19 + 11 + 21 + 11) and 4 shrines in the outer row.

33 Three of the four inscribed *stūpa* are located close to one another, around the NW corner of the inner enclosure.

When the latter visited the site, 22 sculptures of *jina Buddha* and *bodhisattwa* (i.e. Akṣobya, Amitābha and Manjuśrī) were indeed standing on the stone bench of structure C. Unfortunately, the Dutchman was unable to determine if they were *in situ* (IJzerman 1891: 103).³⁴

Near the gates of the second enclosure wall are two pairs of *dwārapāla*. Within the various rooms of structures A1 and A2 are couples of *bodhisattwa* (still *in situ*).

According to IJzerman (1891: 125-127) and Krom (1923, II: 9-10), the following figures were identified:

- A1, northern room: Maitreya.
- A1, central room: Awalokiteśwara and Wajrapāni (?).
- A1, southern room: Manjuśrī and Sarwanīwaranawiśkamthī (?).
- A1, vestibule: Maitreya and Manjuśrī .
- A2, northern room: Maitreya.

The *bodhisattwa* flanked an empty space, probably reserved for a sculpture of Śākyamuni, as in Candi Mendut.

According to IJzerman (1891: 101) a few sculptures were found near structures A1 and A2, among the remains of the shrines of the first row. To the west of the compound were found 4 Amitābha, to the north 1 Amitābha and 2 Amogasiddhi, to the east 6 or 7 Akṣobya and to the south 1 Ratnasambhawa. Furthermore, one sculpture of Akṣobya was discovered in the third row, in the SE corner.

Apart from the freestanding sculptures, structures A1 and A2 also shelter a few relief carvings.³⁵

Inscriptions:

There is one major stone inscription and several smaller inscriptions on the secondary shrines (784-803 A.D.? Wisseman Christie 2002-2004: nr 11)

34 I would also like to draw attention to the fact that the pavement of structure C is quite unusual. For a rectangular platform, one would expect stone slabs to follow roughly the same pattern and to be laid more or less in lines. The pavement of structure C, however, seems to radiate from a point located slightly east of its geometrical centre. Its general pattern is thus a kind of circle or, rather, an ellipsoid. This suggests the presence of some important element at the centre of the ellipsoid. The nature of this element is unknown, but one might think of a preacher's chair or, rather, a sculpture that would complete the group seated on the wooden bench (possibly a representation of Wairocana).

35 In the northern room of the northern structure, one can see standing female figures on the northern and southern wall, near the altar. The southern room of the same building houses similar reliefs. In contrast, the southern temple shows only reliefs of male devotees.

The northern room of the southern temple is carved with 4 reliefs:

- Northern wall, eastern part, near the altar: a standing male figure (a dignitary or king) among 6 secondary figures (one of them is holding an umbrella)
- Southern wall, eastern part, near the altar: two standing male figures accompanied by two umbrella bearers. One of the main figures wears a monastic dress.
- Western wall, southwest corner: two seated male figures in attitude of prayer (hands joined), together with two umbrella bearers.

There are more than 75 short inscriptions. Almost all the shrines bear inscriptions (Casparis 1958).³⁶

On one of the stones of the first enclosure of Structure C was found a short inscription reading "...waneraja". According to palaeographical analysis, it would date back to the 9th-10th century (*Laporan ekskavasi Plaosan Lor* 1997: 19).

Miscellaneous archaeological finds:

Four deposit boxes have been found under the central room of A1 (Gutomo & Wirasanti 1998: 54; Miksic, Nayati & Tjahjono 2001: 323).³⁷ They were not at the corners of the room, but along the northern and southern walls, near the door leading to the side *cella* and in front of the podium, so as to form a square. One of these stone boxes still contained an earthenware pot (*Rencana pemugaran Plaosan Lor* 1993: pl.). Near the southeastern *peripih* was discovered a gold leaf bearing an inscription.³⁸

PLAOSAN KIDUL

Administrative localization: Plaosan, Bugisan, Prambanan, Klaten, JT.

Geographical localization: 07° 44' 34.2" S³⁹
 110° 30' 16.2" E
 Precision: 9m
 Alt.: 163m

Surroundings: In lowland, on flat ground, 150m east of the Borongan River and 250m east of the *kali* Klongkongan. Plaosan Kidul is located 150m south of Plaosan Lor, 900m east of the *candi* Gana and 1,200m east of Sewu.

Religion: Buddhist.

Main features: Concentric compound; facing west; square central platform; enclosure wall.

36 In the southern room of the southern building are two reliefs:

- Northern wall, eastern part, near the altar: two standing male figures and two umbrella bearers.
- Southern wall, eastern part, near the altar: one standing male figure.

In total, 42 shrines out of 50 in the first row are inscribed. Inscriptions are to be found on the rear wall of the buildings, that is to say on the closest wall to the main temples. The only exceptions are the shrines bordering pathways, where inscriptions are placed in order to be read by anyone approaching the temple. Concerning the inscriptions from Candi Plaosan, see Casparis 1958.

37 *In situ peripih* have also been found in the SE, SW and NW corners of one of the secondary shrines to the NE of the main temple (Miksic, Nayati & Tjahjono 2001: 324).

38 This inscription is in the Sanskrit language and in pre-Nāgarī script (Gutomo & Wirasanti 1998: 54).

39 Measurements taken from the staircase of the fourth temple of the first row.

State of preservation: There are no identifiable traces of the central building. To the west of the compound, heaps of stones indicate the presence of the secondary shrines. In a few cases, their bases are still preserved. Several of these secondary temples have been restored from base to superstructure. The *stūpa* are reduced to loose stones covering almost entirely the eastern part of the site. Neither the secondary shrines nor the *stūpa* can be accurately counted.

Description: The site is nowadays badly damaged, but IJzerman was still able to give a fairly good idea of its general organization (IJzerman 1891: 103-105).

According to him, the complex was centred on a square terrace similar to structure C of Plaosan Lor. This base was surrounded on the northern, eastern and southern sides by three rows of circular structures (probably *stūpa*).⁴⁰ On its western side there was one row of *stūpa* and, on the outside, two rows of square shrines, facing west.⁴¹ The shrines near the entrance were larger than the others (IJzerman 1891: 103-105). IJzerman's information was partly confirmed by Bernet Kempers. Excavations made in the 1940's brought to light the remains of 12 shrines (in 2 rows) and 5 *stūpa*. However, the discovery of a *stūpa* just west of the *pendopo* led to the conclusion that there were also 3 rows of *stūpa* on the western side of the compound (Bernet Kempers 1948: 31ff).

The shrines here are quite different from those of Plaosan Lor and their plans show similarities with Candi Bima, on the Dieng plateau. In place of the usual *cella* with a small vestibule, a proportionally large room has been added to the west. The presence of this *mandapa* is translated at base level by a deep projection, breaking away from the square plan. The main portion of the base is 5.46m (N-S) x 5.42m (E-W), while the projection is 3.62m x 1.82m. The *cella* is 2.86m x 2.84m, and the *mandapa* 1.90m x 1.44m.⁴²

The compound of Plaosan Kidul is located in the southeastern corner of the third enclosure wall of Candi Plaosan Lor.⁴³

40 Nevertheless, when IJzerman visited the site, the northernmost row of secondary structures had already vanished. Its existence is therefore only a hypothesis. In total, 39 *stūpa* were still visible, together with 14 shrines.

41 According to measurements taken on the restored shrine, their east-west axis would be 267° 14' away from magnetic north (Siswoyo 1996).

42 The shrine is conceived so that the *mandapa* is a simple addition: the building would be complete without it. The western door of the *cella* is treated as a normal front door, with a small projection, moulding and pilasters. Therefore, it is possible that the Plaosan Kidul shrines were first conceived as simple square structures and that the *mandapa* are a later addition. This would fit with similar observations on the *candi* Mendut, Lumbung (Klaten) and Sewu.

43 As the orientation of this enclosure wall is similar to the general orientation of Plaosan Lor but different from that of Plaosan Kidul, I consider that the wall belongs to the Plaosan Lor Complex. Whether Plaosan Kidul was included after its foundation or built within the already existing enclosure is impossible to determine with architectural data alone.

Sculptures:

According to IJzerman, twelve Buddhist sculptures were found among the remains. Two goddesses and one *bodhisattwa* were found on the stone platform, while five other *bodhisattwa* (among others Maitreya and Wajrapāni), one Amitābha and three goddesses were lying within or around the secondary shrines to the west of the compound (IJzerman 1891: 105 and pl. XXIX).

Inscriptions:

One stone inscription (784-803 A.D.? Wisseman Christie 2002-2004: nr 11)

SEWU

Administrative localization: Bener, Bugisan, Prambanan, Klaten, JT.

Geographical localization: 07° 44' 38.1" S
110° 29' 35.1" E
Precision: 6m
Alt.: 161m

Surroundings: In lowland, on flat ground,⁴⁴ some 550m to the east of the *kali* Opak and 350m to the east of one of its branches called the *kali* Ngapan. Candi Sewu is located 300m to the west of Gana, 350m to the northeast of Kulon, 250m to the south of Lor, 1,300m to the west-southwest of Plaosan Lor, 1,200m to the west of Plaosan Kidul and 1,000m to the north-northeast of Loro Jonggrang.

Religion: Buddhist.

Main features: Concentric compound; facing east; staggered square with 5 chambers; enclosure walls.

State of preservation: The main temple has been restored from base to superstructure. Most of the secondary shrines are relatively well preserved: at least the base and the lower parts of the temple body are still visible, while a few of them are still standing in their entirety. Traces of 6 out of the 8 temples flanking the compound axis can be distinguished. The eastern ones have been restored almost to the top. The outer enclosures have disappeared.

Description: Candi Sewu is a vast compound consisting of a main temple surrounded by a first enclosure, four rows of secondary shrines and one or two further enclosure walls. It is roughly orientated around the cardinal points.

The east-west temple axis is 88° 09' 07" from geographical north (Anom & Hatmadi 1992: fig.7).⁴⁵

⁴⁴ The ground is flat to the eye, although it is actually slightly sloping down to the west, towards the Opak River (Dumarçay 1981: 5).

⁴⁵ However, according to Siswoyo, its orientation is 88° 25' (Siswoyo 1996: 8)

The central temple and its courtyard

The central sanctuary is a staggered square. Its base is an impressive square platform (roughly 18m square) with important projections at the centre of each side.⁴⁶ Access to the platform is possible from all four sides *via* staircases.

The temple body is a square to which four projections have been added, one on each side (the square is 12m x 12m; the projections are 7.20m wide and deep). The building shelters 9 rooms (1 central *cella*, 4 secondary rooms and 4 corridors). The central *cella* faces east and is 5.50m (E-W) x 5.90m (N-S). It is surrounded by a circumambulation path (partly covered, partly open). The four secondary rooms are located on the axis of the building and are 4m x 3.50m. They can be entered either from the circumambulation path or from the courtyard.

The main temple is surrounded by a courtyard measuring 41m (N-S) x 40m (E-W) and bordered by a low stone perimeter fence.⁴⁷ The fence has four gates, one at the centre of each side (although the northern and southern gateways are smaller than the two others). These gateways are actually simple openings within the wall; they are not buildings.⁴⁸

Secondary shrines

Directly outside the central courtyard and 38 cm below it, are four rows of secondary shrines and four pairs of axial sanctuaries.⁴⁹ The first row includes 28 shrines looking outwards (8 on each side).⁵⁰ Their backs rest almost against the first enclosure. They all have a similar plan. Their base and temple body are square (respectively 6m and 4.20m square) with a projection for the entrance. Lightly projecting niches are to be seen on the rear and side walls. The trapezoidal *cella* (1.75m x 1.70m x 1.70m) is preceded by a small vestibule. In the outer niches, standing figures were carved.

⁴⁶ The projections are 5.80m deep and 11m wide.

⁴⁷ In contrast to Candi Plaosan Lor, where the first enclosure is indeed a high wall, the first courtyard of the Sewu compound is only a symbolic border: the eye is not stopped by the stone, but can freely discover the whole sanctuary, either from outside or from inside. Nothing is hidden. Those people who had access to the second courtyard were allowed to view what was happening in the central courtyard. At Plaosan, the secondary shrines and the two main temples are clearly separated from each other. However, the importance of this architectural system is difficult to evaluate. Were rituals around Candi Sewu more public than those performed at Plaosan? Were the first and second courtyards of Sewu for the use of the same social group while Plaosan was for two different kinds of people? If one considers Candi Plaosan as a monastery (*wihāra*) rather than a temple, the latter hypothesis makes sense: monks moved inside, and high-ranking lay officials outside.

⁴⁸ This is also a difference between Sewu and Plaosan. At Plaosan, the gates of the first enclosure wall are true *gopura*. Again, the architecture seems to translate a stronger division between the inner and outer enclosures at Plaosan than is the case at Sewu.

⁴⁹ The distance between the secondary shrines along the east-west axis is 4m; along the north-south axis, it is 1m.

⁵⁰ The corner shrines are facing either westwards (when located on the west) or eastwards (when located on the east), but never south or north. The same organization is found in the second and fourth rows.

The second row of secondary shrines consists of 44 buildings looking outwards (12 on each side). These shrines are different from those of the first row: they are bigger and in the form of a staggered square. Their base is square (6.30m) with a projection for the entrance. The temple body is a staggered square (4m) with one more important projection on the entrance side. Inside, a small vestibule leads to a square *cella* (1.65m). The rear and side walls of the latter are pierced by a niche.

Between the second and third rows of secondary shrines lies a 25m-wide space. This space is empty, with the exception of four pairs of temples located along its axes.⁵¹ Each pair consists of two temples facing each other. Although larger, the plan of these temples bears similarities with that of the shrines of the second and third rows. The base is square (9.30m) with a single projection on the side of the entrance. Above the platform rises a staggered square temple body (5.80m) with a more important projection on the entrance side. The temple body houses a central *cella* (2.30m square) with three niches (one on each wall) preceded by a deep vestibule.

The third row of secondary shrines consists of 80 buildings (20 on each side). Contrary to other secondary shrines, all the buildings of the third row are facing inwards. They are similar in plan to the shrines of the second row.⁵²

The fourth row is composed of 88 square buildings (22 on each side). They are all facing outwards and are similar in plan to the shrines of the first row.

Outer enclosure walls

The four rows of secondary shrines were once surrounded by an enclosure wall (no longer visible).

According to recent excavations, the wall would have measured 187m (N-S) x 170m (E-W) (Anom & Hatmadi 1992: 61). Unfortunately, the state of preservation of this second enclosure wall was too poor to allow an exact reconstruction.⁵³

In 1983, the remains of a wall were discovered 103m to the east of the third enclosure wall of Candi Sewu (Anom & Hatmadi 1992: 61).

51 In fact, out of the supposed eight temples, traces of only six have been found: four along the western and eastern axis, and two along the northern and southern axis. The remaining two were perhaps never planned, are entirely destroyed, or were planned but never built. The latter hypothesis is probably the most plausible when one considers that the main path leading to the temple was via the east-west axis. It would be logical that the construction of these four pairs of secondary temples started along this axis; only afterwards were the temples along the northern and southern axis added.

52 The shrines located in the corners do not have a projection for the entrance, due to lack of space.

53 It could have been a low perimeter fence as in the case of the first enclosure. This hypothesis is strengthened by the localization of the four pairs of *dwārapāla*. These guardians were discovered at the centre of the four sides of the enclosure, but within the courtyard (IJzerman 1891: fig.153). Usually, such sculptures are found in front of a building or gate(?). The localization of Sewu's *dwārapāla* is less surprising if one considers the possibility of a low fence. The *dwārapāla*, though inside, would then have been visible from the outside.

It is therefore not unthinkable that originally the compound was wider and had four enclosures.

Between these remains and the third enclosure were traces of a stone building (Anom & Hatmadi 1992: 61).

Architectural history

The complex organization of the main temple of Candi Sewu is thought to be due to modifications of the sanctuary undertaken at the end of the 8th century (Dumarçay 1981: 21-23). In its initial state, the central base would have supported not one cruciform temple but five square shrines (one main shrine in the centre and four smaller ones at the cardinal points).⁵⁴

Sculptures:

A statue of Akṣobhya was found in the southeastern shrine of the second row (IJzerman 1891: fig.153).

In the space between the second and third row, among the remains of the northern temple of the eastern axis, an image of Wairocana was discovered (IJzerman 1891: fig.153).

Numerous sculptures were found among the remains of the third row. In the eastern shrines were discovered an Amogasiddhi⁵⁵ and six Amitābha statues; among the northern shrines, three of Ratnasambhawa; in the western buildings, one Amitābha⁵⁶ and two Akṣobhya; and, finally, within the southern shrines, one Amitābha and one Amogasiddhi (IJzerman 1891: fig.153).

Sculptures were also discovered within the fourth row: in the eastern shrines, five Akṣobhya;⁵⁷ to the north, two Amogasiddhi;⁵⁸ in the western shrines, two Amitābha and one Akṣobhya;⁵⁹ in the south, three Ratnasambhawa (IJzerman 1891: fig.153).

Inscriptions:

54 This hypothesis is strengthened by the fact that the mouldings on the outer wall of the main *cella* are continuous and are visible within the covered passage between the secondary rooms and the central *cella*. Secondly, the walls linking the axial shrines to the central sanctuary have no physical bond with those structures; they are simply built against them. Thirdly, the entrances of the four shrines bear traces of later modification.

However, even if one accepts the hypothesis of later modifications, it is still difficult to have a clear idea of the original organization of the building as a whole. It is impossible to determine whether or not the four axial shrines were opened on both sides (as they now are). It is nevertheless probable that the eastern shrine opened to the central *cella* too, but this gives no certainty as far as the other shrines are concerned.

55 According to IJzerman (1891: fig.153), it was not in its original position.

56 According to IJzerman (1891: fig.153), this was not in its original position.

57 According to IJzerman (1891: fig.153), one of them was in the alley between the third and fourth row.

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59 According to IJzerman (1891: fig.153), this was not in its original position.

An inscription (the Mañjusrīgrha) dated 792 A.D. was found next to shrine no. 202 (western row, fifth shrine from the south) (Dumarçay 1981: pl. XVI).

The inscription of Kêlurak dated 782 A.D. (Sarkar 1971-1972: no. 6)

Several short inscriptions above the doors of the secondary shrines (early to mid 9th century; Casparis 1950: 113-115).

Three small gold plates (early to mid 9th century; Wisseman Christie 2002-2004: no. 30).

Miscellaneous archaeological finds:

An intriguing feature of the main temple is the structure found underneath the central *cella* (Anom & Hatmadji 1992: 21-22; Dumarçay 1987: 289-291).

It was discovered that the *cella* stood on top of a cubic structure distinct from the stones filling the rest of the base. This structure had almost the same dimensions as the *cella* (5.30m x 5.24m). It was made from 10 layers of adjusted stones and was 1.79m high. It rested at the same level as the floor of the secondary rooms, but instead of being built upon the base, it lies upon another independent cubic structure.

This second element is also 5.30m x 5.24m, but it is not faced. It is also formed from 10 stone layers. On the upper face of several of the layers, axes and diagonals have been carved.

Underneath this second stone cube, there is a third square structure composed of 19 layers of brick. It is 5.30m x 5.24m and 1.11m high. At its four corners are small boundary stones.

Around the brick structure, there is a stone pavement measuring 11.59m (E) x 11.56m (S) x 1.53m(?) (W) x 1.47m(?) (N).

The dismantling of the temple base within the context of restoration work also provided interesting data concerning techniques and rituals related to temple building. On the 4th and 14th layers of the base, small crosses had been carved; they were probably reference points for the ancient architects and topographers (Dumarçay 1987: 291). Within the foundations, between layers of river stones and sand, were found three artefacts: A Chinese bowl with some coal (in the SW corner of the central *cella*), a terracotta replica of a musical instrument and a small (*in situ*) boundary stone (the two latter pieces were found close to each other, in the SE quadrant of the main temple).⁶⁰

60 Dumarçay believes that these artefacts support the opinion of Bosch, who considered Sewu to be a three-dimensional *maṇḍala*. Dumarçay proposes to associate the bowl and coal with the “Incense Tārā” from Bosch’s *maṇḍala* and the terracotta instrument with the “Playing Tārā”. He nevertheless recognizes that the artefacts were not found exactly where they should have been according to the theory proposed by Bosch (Dumarçay 1987: 290). However, in an earlier book, Dumarçay expressed the opinion that it was only at a later stage (i.e. after the transformation of the central sanctuary into a single building) that Candi Sewu was adapted to fit the *Wajradhātumaṇḍala* (Dumarçay 1981: 33). In other words, Bosch’s hypothesis would correspond to the last phase of the building, but not to its original conception. Thus, it is rather surprising to find Bosch’s “meditation Tārā” deep in the temple foundation.

SOJIWAN (Sojiwan I, Kalongan, Kebon Dalem)

Administrative localization: Sojiwan, Kebondalem Kidul, Prambanan, Klaten, JT.

Geographical localization: 07° 45' 40.0" S
110° 29' 46.0" E
Precision: 6m
Alt.: 145m

Surroundings: In lowland, on flat ground, 1,000m east of the *kali* Opak, 400m west of the Dengok/Borongan River and 1,700m west of the *kali* Klongkangan. The site is close to the northern tip of Gunung Kidul (800m to the south). Candi Sojiwan is located 750m to the east of (?), 1,100m to the southeast of Loro Jonggrang, 1,000m to the north of Sumberwatu and Arca Ganesa and 1,400m to the northeast of Ratu Boko. From the site one can see the Serape to the north and Mount Pegat and Mount Ijo to the southeast.

Religion: Buddhist.⁶¹

Main features: Organic sanctuary; facing west; staggered square; enclosure wall.

State of preservation: In course of restoration by the SPSP Jawa Tengah.

Description: The site of Candi Sojiwan consisted at least of a main temple, a secondary shrine and an enclosure wall.⁶²

The main temple faces west, although its exact orientation is said to be 268° 39' (Siswoyo 1996: 9).

Its base is roughly square (19.60m x 19.32m x 19.28m x 19.42m)⁶³ with a single projection for the entrance.⁶⁴ On the platform is a low square terrace, upon which rises the temple body and an independent gate.⁶⁵ The temple body is a staggered square (13m). It houses a 6m square *cella* and a long vestibule. The northern and southern walls of the *cella* are each pierced by a window (at the centre) and a niche (in the eastern half).

61 Van Blom thought that the temple was dedicated to the cult of Amitābha (Blom 1935: 2).

62 Candi Sojiwan was under restoration when fieldwork was carried out, and was actually dismantled to the foundation. Therefore, most of the information is drawn from maps.

63 These measurements are taken from a plan made by the SPSP JT: *Candi Sojiwan. Gambar Rencana Rekonstruksi: Denah* (1994).

64 The disposition of the projection is quite peculiar. Usually, such projections follow the shape of the temple body; that is to say, they have exactly the same shape, but with wider dimensions (see for example the secondary shrines at Sewu). Here, the projection is not as wide as the corresponding forepart of the temple body, but it is deeper. This is due to the presence of a gate on the platform in addition to the temple.

65 In contrast to Sambisari or Kedulan, this gateway was not linked to a parapet: no traces of such a wall are visible in the case of Candi Sojiwan. Moreover, there is no space for it on the platform.

According to Dumarçay, the entrance of the temple body has undergone some transformation after the completion of the building (Dumarçay 1986a: 25).⁶⁶

The temple used to be surrounded by an enclosure wall, situated more or less 40 meters from the building (Mackenzie 1814: 18; IJzerman 1891: 108; Bosch 1915a: 81). Traces of it were found during restoration work in 1934, roughly 40m north of the temple (Blom 1935: 6).

In the northwestern corner of the enclosure stood a small structure (MacKenzie 1812: 18); it had already vanished by the end of the 19th century (IJzerman 1891: 107).

Sculptures:

Two giant *dwārapāla* once guarded the western entrance of the enclosure. As in the case of Candi Sewu, they were located within the enclosure (Baker, referred to by Blom 1935: 2 and fig. 2).

A few Buddhist sculptures were found at the site, among others an Amitābha and two *bodhisattwa* (Bosch 1915a: 81).

Inscriptions:

An Inscription was also discovered. It reads “Śrī mahārāja” (Bosch 1915a: 81).

KALONGAN (Sojiwan II)

Administrative localization: Kalongan, Kebondalem Kidul, Prambanan, Klaten, JT.

Geographical localization: Alt.: 145m.

Surroundings: In lowland, on flat ground, 1,200m east of the *kali* Opak, 400m west of the Dengok River and 1,700m west of the *kali* Klongkangan. In the vicinity of Sojiwan.

Religion: Buddhist.

Main features: Centred compound; facing west; two square central shrines.

State of preservation: No visible remains.⁶⁷

Description: Kalongan was described as being some 80m south of Sojiwan (Bosch 1915a: 84; Blom 1935: 1).

IJzerman was still able to see enough to give an idea of the general layout of the compound, which he compared to Candi Plaosan Lor. According to him, the sacred area measured roughly 80x50m and was scattered with numerous remains of circular structures (probably *stūpa*; diameter: 3.25m), as well as

⁶⁶ Dumarçay does not precisely state the nature of these transformations. However, it is probable that he is thinking about the junction with the gate or the vestibule.

⁶⁷ To the south of Sojiwan, several houses and fences have been built using stones from a *candi*. However, whether they come from Candi Sojiwan or Kalongan is not yet possible to determine. The completion of the restoration of Sojiwan may solve this question.

fragments of pinnacles. He was not able to count them, but noticed that they were laid out according to the cardinal points. At the centre of the complex were two small square temples (their *cella* both 2.74m square), located 12.28m from each other and facing west (IJzerman 1891: 109).

Sculptures:

A sculpture of Amitābha was found here, between the two main buildings (IJzerman 1891: 109; Bosch 1915a: 84), as well as two *bodhisattwa* (Verbeek 1891: 190; Krom 1923, II: 24)

BUBRAH (Sijwu 1)

Administrative localization: Ngangruk, Tlogo, Prambanan, Klaten, JT.

Geographical localization: 07° 44' 47.7" S
110° 29' 35.0" E
Precision: 7m
Alt.: 156m

Surroundings: In lowland, on flat ground, 700m east of the *kali* Opak. Roughly on a line with the *candi* Lumbung (150m to the south) and Sewu (300m to the north). Visible from here are Mt Merapi, the Gunung Kidul hills as well as the Loro Jonggrang temple (600m to the south-southwest).

Religion: Buddhist.

Main features: Single temple; facing east; staggered square.

State of preservation: Only the temple base and the foot of the temple body are still visible.

Description: Candi Bubrah is a staggered square structure rising on a square base. The base is actually not a perfect square; it measures 19m (N) x 19.60 (E) x 19.30 (S) x 19.60 (W). It has a projection for the entrance on the eastern side.

The precise orientation of the base and temple body is 87° 54' (Siswoyo 1996: 8).

A balustrade bordered the platform,⁶⁸ while a *gopura* linked it to the staircase. On the platform is a square podium (7.50m) upon which rises the temple body. The latter is a staggered square measuring 10m x 10m. It shelters a corridor, a vestibule, a second corridor and a *cella* (3m x 3m).⁶⁹

68 The remains are insufficient to determine whether it was a high wall or a low fence. However, its thickness (approximately 1m) leads one to think that it could have been quite high, perhaps similar to the parapet of Candi Mendut.

69 The *cella* is not at the geometrical centre of the temple body, but slightly to the southwest of it.

According to a plan published by Knebel (Knebel 1910a: pl. 147), the temple body had numerous niches: 4 on the eastern façade (one on each side of the entrance door on the projection and two on the main body), 4 on the northern and southern sides (all of them on the projections) and 6 on the western side (4 on the projections and 2 on the main body).⁷⁰

Sculptures:

Several sculptures were found among the remains, including ten figures of Amitābha, one of Akṣobhya and three of Ratnasambhawa (Bosch 1915a: 66).

LUMBUNG

Administrative localization: Ngangruk, Tlogo, Prambanan, Klaten, JT.

Geographical localization: 07° 44' 53.2" S
110° 29' 34.9" E
Precision: 9m
Alt.: 156m

Surroundings: In lowland, on flat ground, some 500m east of the Opak River. Candi Lumbung is roughly on a line with Bubrah and Sewu (respectively 150m and 450m to the north). Visible from here are Mount Merapi, the Gunung Kidul and Candi Loro Jonggrang (roughly 500m to the south-southwest).

Religion: Buddhist.⁷¹

Main features: Centred compound; facing east; staggered central shrine; enclosure wall.

State of preservation: Several secondary shrines have been restored up to their superstructure. The main temple, however, is badly damaged, and its walls are crumbling away.

Description: Candi Lumbung is a compound composed of a main temple and 16 surrounding secondary shrines. The main temple faces east.

Its exact orientation is 84° 25' (Siswoyo 1996: 8).

Its base is a staggered square (10m) with a supplementary projection on the eastern side for the staircase. On the platform rises the temple body. This is also a staggered square (6.60m). The projections are narrower and deeper than usual; three of them house a niche. On the eastern side, the projection shelters a corridor that leads to the *cella*. Within the *cella*, 11 niches are visible: three

70 It is interesting to note that, once again, the E-W axis is emphasised.

71 Because of the organization of the niches within the *cella* (three on the back and side-walls and two on each side of the entrance), Krom thought that the pantheon of Candi Lumbung consisted of a Buddha between two *bodhisattwa*, with the other 6 main *bodhisattwa* along the sidewalls. Near the entrance would have been Hārītī and Kuvera (Krom 1923, I: 273).

are pierced in the northern, western and southern walls (the central niches are wider, especially the one on the west), while two flank the entrance.

Surrounding the central temple are 16 secondary shrines, all similar in plan and dimensions. The base and temple body are both square (respectively 5m x 5m and 3.60m x 3.60m). The *cella* interior is 1.80m square. The peculiarity of this compound lies in the layout of the secondary shrines. The five shrines on the western side face east. The four shrines on the northern and southern sides are also turned towards the main temple. However, within the eastern row, only the central building faces inward. The remaining two structures do not face the main temple but are turned towards the central shrine of the row. It also seems that a path once linked this shrine to the main temple.⁷²

The whole compound was surrounded by an enclosure wall or stone fence, the remains of which were found in 1920 (Bosch 1920: 79).

TANGKISAN

Administrative localization: Tangkisan, Hargomulyo, Kokap, Kulon Progo, DIY.

Geographical localization: 07° 51' 18.9" S
110° 04' 43.1" E⁷³
Precision: Map.
Alt.: 50m

Surroundings: In lowland, in a hilly area.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

72 The organization of the secondary shrines is quite different from that of the third row of Candi Sewu. If one wanted to apply Sewu's principle of organization to Lumbung, one would have five shrines facing east on the western side, three shrines looking towards the main temple on the southern and northern sides and, finally, five shrines turned to the west on the eastern shrine. This is not the case. If the main temple is still the focus (with 11 out of 13 shrines looking towards it), the notion of the "rear" (the five shrines on the western side) and, even more significantly, the opposition between the main temple and the central shrine of the eastern row play an equally important role. This is underlined by the fact that the latter shrine is also a central focus for other secondary buildings and that it is physically linked to the main *cella*. This type of relation, although usual for Śaiva temples, is unique in the case of Buddhist remains.

73 Due to a lack of precision in the literary sources, the coordinates have been taken between the hamlets of Tangkisan Satu and Tangkisan Dua.

Description/Sculptures:

Numerous bricks from the classical period have been found in the hamlet of Tangkisan, some with a torus. Among the remains were a *lingga* and a *yoni*. (Nurwidayati 1993: 5).

JATIWANGI

Administrative localization: Grubug, Jatisarano, Nanggulan, Kulon Progo, DIY.

Geographical localization: 07° 45' 38.2" S
110° 13' 11.9" E
Precision: Map.⁷⁴
Alt.: 75m

Surroundings: In lowland, on flat ground, a few dozens meters west of the *kali* Progo.

Religion: Hindu.

Main features: Single temple.

State of preservation: No visible remains.

Description:

A foundation made from river stones was discovered here (Abbas 1993: 26ff). It was 3.40m square. At its centre was a 1.14m square pit lined with (?) bricks.

Sculptures:

A *yoni* and an unfinished Gaṇeśa statue were found in the surroundings (*Daftar peninggalan benda DIY* 1985: 28; Abbas 1993: 27).

GLAGAH

Administrative localization: Glagah, Sidorejo, Temon, Kulon Progo, DIY.

Geographical localization: 07° 53' 59.1" S
110° 03' 58.3" E
Precision: 11m.
Alt.: 2m

Surroundings: In lowland, on flat ground, 1,200m to the north of the seashore, 1,200m to the west of the *kali* Serang and 2,500m to the east of the Bogowonto River.

⁷⁴ Jatiwangi is not mentioned either on the Bakosurtanal map or on the map of the Topografische Dienst. The coordinates were calculated according to a sketch from Abbas 1993.

Main features: *Stūpa*.

State of preservation: Two fragments of the *stūpa* are still visible.

Description: Nowadays, only a square stone with mouldings on four sides and a top piece are visible. Both pieces fit with one another and can be identified as fragments of a *stūpa*.

Earlier excavations revealed the presence of at least two distinct structures. One is a square foundation measuring 4m x 4m, orientated around the cardinal points and made from river stones. It was probably the foundation of the *stūpa*. The second structure is further west and consists of a brick wall running SW-NE. Around both structures were found fragments of crowning pieces and bricks, some adorned with garlands, others obviously belonging to a *stūpa* (Suryaningsih 1990: 29ff).

Sculptures:

A small bronze statuette was found in the same village. It depicted a standing male figure holding a *wajra* in one hand and a lotus in the other. A book lay on top of the flower (?). (Nitihaminoto 1976b: 2).

Three *yoni* and two *lingga* were found in the nearby village of Karangwuluh (*Daftar peninggalan benda DIY* 1985: 21; Hartono 1988: 4).

PRINGTALI

Administrative localization: Pringtali, Kebonharjo, Samigalu, Kulon Progo, DIY.

Geographical localization: 07° 42' 46.4" S
110° 09' 52.6" E
Precision: Map.
Alt.: 425m

Surroundings: In lower middle land, in the heart of the Menoreh hills.

Religion: Hindu.

Main features: Single temple (miniature).

State of preservation: Restored.⁷⁵

Description:

Some scattered stones (Verbeek 1891: 161) and a *yoni* at the top of a hill testify to the ancient presence of a temple. However, Hoepermans was unable to find any temple remains (Hoepermans 1913: 218). According to the SPSP DIY, the remains of a miniature *candi* are still visible (SPSP DIY 2000, personal communication).

⁷⁵ I have not been able to visit the site. However, according to information from the SPSP DIY and recent photographs of the site kept at the Bogem office, the temple is in a good state of preservation.

SAMBIROTO

Administrative localization: Sambiroto, Banyuroto, Nanggulan, Kulon Progo, DIY.

Geographical localization: 07° 48' 43.1" S
110° 10' 21.6" E
Precision: 17m
Alt.: 55m

Surroundings: In lowland, on the slope of a hill, 300m from the *kali* Serang.

Religion: Unknown.

Main features: Single temple.

State of preservation: Only a few stones remain *in situ*.

Description: The site is merely a low mound of mixed earth and bricks, overgrown by trees. A line of bricks, to the east of the mound, is still *in situ*. According to their orientation the structure must have been positioned around the cardinal points.

ABANG

Administrative localization: Blambangan, Jogotirto, Berbah, Sleman, DIY.

Geographical localization: 07° 48' 37.3" S
110° 28' 07.0" E
Precision: 7m
Alt.: 150m

Surroundings: In lowland, on top of the 150m-high Gunung Abang, 900m east of the Opak River. The hill rises in the middle of the plain between the Opak and the Gawe/Sorogeduk Rivers. Candi Abang is located 400m to the northwest of Sentono and 1,250m to the northeast of Candirejo. From the *candi*, there is a magnificent view of the surroundings, including the Yogyakarta plain (to the west) and Mt Merapi (to the north). To the east and south, one can see the impressive rocky barrier of the Gunung Kidul, which seems to form a crescent around Mt Abang.

Religion: Unknown.

Main features: Single temple.

State of preservation: Mound.

Description: *Candi* Abang must have been a huge temple, but it is today reduced to a 6m-high heap of bricks without any clear shape. Some parts of the structure were apparently made of stone, as testified by a stone base still lying a few meters away from the temple remains. Given its very bad state of preservation, it is impossible to draw any plan of the temple. A test pit revealed the remains of a pit and a depression is still visible at its centre, suggesting the presence of a temple pit or the inner chamber of a *stūpa*.

According to the archaeological report, the structure stood in the middle of a courtyard covered with bricks (*Laporan kegiatan Abang, Sentono and Jepang* 2000: 3).

Inscriptions:

A short inscription has been found at the site and is dated 872 A.D. (*Laporan kegiatan Abang, Sentono and Jepang* 2000: 4).

NGESONG

Administrative localization: Blambangan, Jogotirto, Berbah, Sleman, DIY.

Geographical localization: Unknown.⁷⁶

Surroundings: In the lowland, on the northern slope of Gunung Abang, a hill that rises 1km east of the Opak River, in the middle of the Sorogedug valley.

Religion: Unknown.

Main features: Caves.

State of preservation: Unknown.

Description:

The site is composed of two caves. The first opens to the north and is a natural “abri sous-roche”. Stone blocks and brick fragments testify to its early occupation. There might be the remains of a building that once stood there, under the shelter of the natural rock (*Indentifikasi Situs Gua Ngesong* 1989: 1). The second is situated in front of cave I and faces the south, but is more a sort of niche than a true cave. None of the remains give any clue concerning the religious affiliation.

⁷⁶ I have not visited this site and was not able to locate it on the topographical map.

SENTONO

Administrative localization: Blambangan, Jogotirto, Berbah, Sleman, DIY.

Geographical localization: 07° 48' 47.0" S
110° 28' 17.5" E
Precision: 20m
Alt.: 100m

Surroundings: In the lowland at the southern foot of Gunung Abang, a hill that rises 1km east of the Opak River. The site is located 400m to the southeast of Candi Abang and 1,500m east of Candirejo.

Religion: Hindu.

Main features: Caves; facing west.

State of preservation: The three caves are still clearly visible, although the sculptures have been badly damaged (particularly those of the two southernmost caves).

Description/Sculptures: Three small shrines have been excavated out of the natural rock. At this point, the hill forms a crescent looking south, but the caves have been excavated so that their entrances face west.

The southern cave shrine is 1.90m deep, 1.73m wide and 1.41m high. Its eastern wall was once adorned with a relief carving, but it has now almost completely disappeared.

It might have been of a turtle (*Laporan Abang, Sentono dan Jepang* 2000: 7).

In the middle of this cave there is a small pool (53x50x12cm).

The central shrine is a mere niche, 50cm deep, 1.17m wide and 1.25m high. On the rear (?) wall is carved a relief showing three figures, one seated and two standing on either side. In front of the niche there is a small *yoni* with its *lingga* and a small pool (30x50x13cm). Both are carved directly into the rock.

The third cave is a kind of corridor (2.85m deep, 1.30m wide and 1.40m high) with a relief carving on either side. On its northern wall, one can see Mahākāla (on the west) and Durgā (on the east). On the southern wall, there is Nandiśwara (west) and Agastya (east).

Unfortunately, the rear wall is very badly preserved but, according to the SPSP DIY, it was once possible to see a seated figure drawn with black paint (*Laporan Abang, Sentono dan Jepang* 2000: 6).

In the middle of this northern cave, a *yoni* and its *lingga* have been carved directly from the natural rock.

TANJUNGTIRTO

Administrative localization: Tanjungtirto, Kalitirto, Berbah, Sleman, DIY.

Geographical localization: 07° 47' 27.7" S
110° 27' 50.1" E
Precision: 16m
Alt.: 110m

Surroundings: In lowland, on flat ground, 200m west of the *kali* Opak.

Religion: Hindu.

Main features: Scattered stones.

State of preservation: Scattered stones.

Description/Sculptures: The only visible remains are a *yonī* and a few stones.

The *yonī* (B579) is 1.33m square and about the same height. On its front face is carved a beautiful *nāga*, although the animal head is badly damaged. On the sides run garlands and other flowers. On the top, at the emergence of the drainage duct, a *kāla* head has been carved. Some stones from a *candi* are to be found underneath and around the *yonī*.

Another *yonī* was found in the same area (B577), together with carved stones and fragments of a finial (*Hasil Berbah*).

Villagers mention the former presence of sculptures. According to Krom, sculptures were indeed transferred from Tanjungtirto to Yogya (Krom 1923, I: 252).

KLODANGAN

Administrative localization: Klodangan, Sendangtirto, Berbah, Sleman, DIY.

Geographical localization: 07° 48' 45.6" S
110° 25' 34.6" E
Precision: 20m
Alt.: 90m

Surroundings: In the lowland, on flat ground, 500m east of the Blotan River. The site is located 750m to the east-southeast of Sampangan and 1km northeast of Mantup.

Religion: Unknown.

Main features: Organic compound; staggered square.

State of preservation: Only the base of the temple is still standing.

Description: This site, in a poor state of preservation, has been partly excavated. It consisted of at least two structures, a temple and a rectangular building (now disappeared). The temple combined a square base (8.75m x 8.75m) and a staggered square body (6.50m x 6.50m). Although its orientation is unknown (east or west), its axis is roughly SE-NW and 6-7° from magnetic north.

The rectangular structure, perhaps some kind of *pendopo*, was located 25m south of the temple.⁷⁷ It measured approximately 4m (east-west) x 6m (north-south).⁷⁸ In common with the square temple, the building axis lay SE-NW, but it was more than 10° from magnetic north.

CANDIREJO

Administrative localization: Candirejo, Tegaltirto, Berbah, Sleman, DIY.

Geographical localization: 07° 48' 51.3" S
110° 27' 26.3" E
Precision: Map.
Alt.: 92m

Surroundings: In the lowland, on flat ground, a few hundred meters west of the Opak River, not far from the meeting point between the latter and the *kali* Tepus. The village of Candirejo is located 1,250m to the southwest of Candi Abang and 1,500m to the west of Sentono.

Religion: Hindu.

Main features: Unknown.

State of preservation: Scattered stones.

Description:

Some dressed stones and a *yoni* (B569) have been found in this village (*Hasil Berbah*).

77 Only the temple itself and the area directly south of it have been excavated. Other structures might once have existed.

78 According to a map made by the SPSP DIY, a wall measuring 10m x 7m surrounded it. However, it is not clear whether this wall was an enclosure or part of an outer base (SPSP DIY 2000, *Peta Grid Situs Klodangan*).

JETIS

Administrative localization: Jetis, Argomulyo, Cangkringan, Sleman, DIY.

Geographical localization: 07° 40' 05.7" S
110° 27' 49.7" E
Precision: Map.
Alt.: 387m

Surroundings: In lower middle land, in an area where the slope of Mount Merapi already alters the landscape. Some 200m west of the *kali* Gendol.

Religion: Hindu.

Main features: Sanctuary type 5; facing west.

State of preservation: No visible remains.

Description:

The site consisted of at least two small temples in a line⁷⁹ (*Laporan singkat ekskavasi Cangkringan III* 1982: 2). The structures were similar in shape and dimensions; they both face due west. Their bases are square (roughly 6m), but of the temple bodies, nothing remains.

Sculptures:

A *yonis* was found among the ruins of the southern temple (*Laporan singkat ekskavasi Cangkringan III* 1982: 2).

BESALEN

Administrative localization: Besalen, Glagaharjo, Cangkringan, Sleman, DIY.

Geographical localization: 07° 39' 04.1" S
110° 27' 54.6" E
Precision: Map.
Alt.: 475m

Surroundings: In lower middle land, in an area where the slope of Mount Merapi is already steep. Approximately 100m east of the Gendol River.

Religion: Hindu (?).

Main features: Unknown.

State of preservation: No visible remains.

⁷⁹ To the west of these temples is a modern house, so that this area could not be excavated. It is therefore possible that other buildings once stood there.

Description:

Within the villages of Besalen and Guling, numerous dressed stones were found, together with fragments that could have belonged to *stūpa* or pinnacles. Given the number of loose stones, it is highly probable that a temple once stood here (*Laporan identifikasi Besalen* 1985: 4-15).

Sculptures:

A statues of Durga, a bull, a standing male figure and a *lingga* bearing an inscription were found here (*Laporan identifikasi Besalen* 1985: 4-15).

PUREN

Administrative localization: Pringwuling, Condongcatur, Depok, Sleman, DIY.

Geographical localization: 07° 46' 17.3" S
110° 23' 48.9" E
Precision: Map.
Alt.: 135m

Surroundings: In the lowland, on flat ground, 100m to the west of the *kali* Gajahwong and not far from the confluence of the latter with the Pelang River.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Excavations revealed numerous stone blocks testifying to the former existence of a structure. Unfortunately nothing was left *in situ*. In the village, two finials and one pinnacle were found (*Laporan khusus Situs Puren* 1980: 2).

CUPUWATU

Administrative localization: Cupuwatu, Purwomartani, Kalasan, Sleman, DIY.

Geographical localization: 07° 46' 28.3" S
110° 27' 04.9" E
Precision: Map.
Alt.: 130m

Surroundings: In lowland, on flat ground, 1km east of the *kali* Kuning, 900m west of the *kali* Tepus, and 1,400m to the south-southeast of Sambisari.

Religion: Buddhist.

Main features: *Stūpa*.

State of preservation: No visible remains.

Description:

A fine *stūpa* was discovered here in the middle of the nineteenth century (Bosch 1915a: 31).

KADISOKA

Administrative localization: Kadisoka, Purwomartani, Kalasan, Sleman, DIY.

Geographical localization: 07° 45' 19.6" S
110° 26' 45.6" E
Precision: 13m
Alt.: 155m

Surroundings: In lowland, 100m west of the Kuning River. The site is located 800m to the north of Sambisari.

Religion: Unknown.⁸⁰

Main feature: Single temple; facing west.

State of preservation: Only the base remains.

Description: This huge temple has not been entirely excavated yet and only part of it is visible. It faces west and was covered by 3m of volcanic mud. The sanctuary was left unfinished: only five layers of the base were built. It measures 6.90m (north-south) by 6.40m (east-west). The temple is not perfectly oriented around the cardinal points (the difference is approximately 10°).

Miscellaneous archaeological finds:

The temple pit was excavated in February 2001. At its base were found some small semi-precious stones, fragments of gold and a square deposit box (*peripih*). The box contained, together with earth, a gold plaque engraved with an open lotus flower (*Laporan pengangkatan Kadisoka* 2001).

SAMBISARI

Administrative localization: Sambisari, Purwomartani, Kalasan, Sleman, DIY.

⁸⁰ The association of Candi Kadisoka with Hinduism is based on the presence of a temple pit at the centre of the *cella*, a feature that seems to be typical of Hindu buildings, according to information from the *Laporan penggalian Kadisoka* 2001.

Geographical localization: 07° 45' 44.8" S
 110° 26' 49.0" E
 Precision: 8m
 Alt.: 145m

Surroundings: In lowland, on flat ground, some 300m east of the Kuning River and 800 to the south of Kedulan.

Religion: Hindu.

Main features: Sanctuary type 2; facing west; square main shrine; enclosure walls.

State of preservation: Restored up to the superstructure.

Description: This compound consists of four shrines and two enclosure walls. The main temple faces west.

Its exact orientation is 272° 03' (Siswoyo 1996: 6).

Its base is square (13.65m x 13.65m), with a small projection on the western side. The platform is reached via a *gopura* and is bordered by a balustrade. The latter is flanked by 15 tower-like elements: four on the northern and southern sides, five on the eastern side and two on the western side (one on each side of the *gopura*). On the platform itself, there are 12 stone bases (4 square bases on the western side and round bases on the other sides).⁸¹ In the centre of the platform stands the temple body. It measures 4.70m x 4.70m and has lightly projecting niches on the northern, eastern and southern sides. The entrance also protrudes outwards. The *cella* is 3.10m square and houses a *yonī*.⁸²

In front of the main temple, one finds three secondary shrines, in a line, facing east. The central shrine is rectangular. Its base measures 4.80m (E-W) x 5.90m (N-S). The platform is crowned by a balustrade adorned with seven tower-like elements (at the corners and at the centre of the northern, western and southern sides).⁸³ The northern and southern secondary shrines share the same features, although adapted to a square plan (4.80m x 4.80m).

81 According to Dumarçay (1986: 48), these bases would have supported a wooden roof structure that once covered the temple. This would explain the flat proportions of Sambisari, which are quiet unusual for such a "late" building.

82 This *yonī* is too large to pass through the door and must have been placed there before the building of the roof.

83 It seems that, for the three secondary shrines, this balustrade was the only stone element to rise above the base. They do not appear to have been closed temples, and it is possible that they were never covered by any wooden structure either (as no traces of such a structure survive), but were rather open-air structures.

The central courtyard in which the main temple and its secondary shrines stand, measures roughly 46m x 46m.⁸⁴ It is further flanked by eight *lingga*-like boundary stones (one in each corner and at the centre of the four sides).⁸⁵ These boundary stones demarcate a space of 35.40m x 35.70m that encloses all of the buildings.⁸⁶ This first courtyard is bordered by an enclosure wall opened to the four directions.⁸⁷ The *gopura* of this first enclosure were left unfinished, as testified by the lintels prepared to receive *kāla* that were never carved.

The second courtyard is approximately 1.15m below the level of the first.⁸⁸ It measures roughly 134m x 134m. As it has not been fully excavated, there is no information available concerning the *gopura* of this second enclosure wall.

Sculptures: The niches of the main temple shelter sculptures of Durgā (N), Gaṇeśa (E) and Agastya (S). A 41cm square pedestal with padmasana and naga heads is visible within the central secondary shrine.

Miscellaneous archaeological finds:

Under the stone bases around the main temple were found cavities for ritual deposits. Four of them had already been plundered, but in the remaining ones were found bronze pots, *kendi*, bowls and plates, bronze leaves and gold strips (Soediman 1980: 161-162).

Inscriptions:

In one of the circular stones surrounding the temple body of the main temple was found a gold leaf bearing a short inscription that read “*Om siwa sthana*” (Soediman 1980: 162; Setianingsih 2002: BG 525).

PONDOK

Administrative localization: Pondok, Selomartani, Kalasan, Sleman, DIY.

Geographical localization: 07° 44' 04.1" S
110° 28' 30.5" E
Precision: 8m
Alt.: 180m

84 The inner measurements.

85 The boundary stones are not exactly at the centre of the various sides. On the eastern and western sides, they are slightly shifted to the north, while on the northern and southern sides they are shifted to the east. These positions ensure that they are not directly on the axis of the enclosure doors.

86 The precise centre of the space determined by the boundary stones (as well as the centre of the central courtyard) does not correspond with the position of the main *yoni*. In fact, it lies south of the staircase leading to the main temple.

87 According to information gathered during excavation, it is probable that the northern door was closed (*Mengenal candi Sambisari*: 8).

88 Therefore, given the low proportions of the main temple, the structures of the inner courtyard are invisible to people wandering in the second courtyard.

Surroundings: In lowland, on flat ground, with a view of both Mount Merapi and the Gunung Kidul (in clear weather). The site is located a hundred meters from a small unnamed watercourse, 400m east of the *kali* Bening and 800m west of the Opak River.

Religion: Hindu.

Main features: *Yoni*.

State of preservation: No standing structure.

Description: The only items left are a cut stone, two small *yonis* and a round stone with a hole.

Sculptures:

A sculpture of a man adorned with jewels was also found here (B698) and might be identified as a *bodhisattwa* (*Hasil pengumpulan data Kalasan; Daftar Peninggalan Benda DIY 1985: 122*).⁸⁹

BOGEM

Administrative localization: Bogem, Tamanmartani, Kalasan, Sleman, DIY.

Geographical localization: 07° 45' 17.3" S
110° 29' 14.0" E
Precision: Map.
Alt.: 135m

Surroundings: In lowland, on flat ground, a few hundred meters west of the *kali* Opak. The site was located roughly 550m to the southwest of Loro Jonggrang, 750m to the north-northwest of Gatak and 1,000m to the northeast of Bugisan.

Religion: Buddhist.

Main features: Sculptures.

State of preservation: No visible remains.

Description/Sculptures:

The temple that once stood at Bogem had already disappeared by the beginning of the 20th century (Bosch 1915a: 47).

Sculptures known to have come from here (mainly a *rākṣasa*, Padmapāni, Amitābha and Akṣobhya) have been moved to the nearby office of the Suaka Peninggalan (B692, B693, B694, B695; *Hasil pengumpulan data Kalasan*).

⁸⁹ On the photograph studied, the sculpture does not seem to bear the attributes of any particular *bodhisattwa*.

BUGISAN (Dinangon, Randoe Goenting) ⁹⁰

Administrative localization: Bugisan, Tamanmartani, Kalasan, Sleman, DIY.

Geographical localization: 07° 45' 34.5" S
110° 28' 45.6" E
Precision: 12m
Alt.: 140m

Surroundings: In lowland, on flat ground, 550m west of the Opak River and 250m east of the *kali* Bening. The site is located 350m to the northwest of the *gunung* Mijil and 600m to the east-southeast of Sari.

Religion: Buddhist.

Main features: Single temple.

State of preservation: Only sculptures and loose stones remain.

Description: Stones, both carved and uncarved, are to be found around the whole *kampung*, leaving no doubt that a temple once stood here. Parts of staircases, antefixes, *makara* and *kāla* (B683, B685 and B686 in *Hasil pengumpulan Kalasan*) can be identified. Two huge stone vats are also lying in the neighbourhood.

In 1937, remains of the limestone foundation of a building were found (Stutterheim 1937: 16).

90 The name Bugisan is not found in the older inventories, although it seems that the site was already known in the 19th century, but under a different name. IJzerman makes no mention of it in his text, but on his map the word *beelden* is written near the *desa* Randukunting, at the very place where Bugisan is located. The lack of information from IJzerman's inventory and the proximity to Candi Dinangon/Gunung Mijil led later authors to mix up the two sites. Indeed, in Verbeek's inventory, Randoe Goenting and Dinangon are listed under the same number. The only information he gives however is that a few sculptures were found there, among others a *Buddha* and two *bodhisattwa* (Verbeek 1891: 178).

Similarly, Bosch uses the name Randoe Goenting to designate a vanished temple thought to have been located in the *kampung* of Dinangon (Bosch 1915a: 47). As for Krom, he too thought that the site called Randoe Goenting was probably the same as the *candi* at Dinangon mentioned in earlier inventories (Krom 1923, I: 269). However it appears through fieldwork that IJzerman's map was correct and that Randoe Goenting and Dinangon are two separate sites. The first is now known as Bugisan and it was here that the Buddhist sculptures mentioned by Verbeek were found (and are still present today). As for Dinangon, it should be associated with the *gunung* Mijil (see this entry for more details).

According to IJzerman, Candi Dinangon was located on a hill south of Randoe Goenting village. The summit of the hill had been levelled and could be reached via stairs. He added that no traces of a building were visible (IJzerman 1891: 34). This description corresponds indeed to what can be seen today at Gunung Mijil: the summit is flat and houses a graveyard that one can reach via stairs located on the eastern side of the hill.

Sculptures: Six Buddhist sculptures are still visible, gathered close together (probably three *Buddha* – B675, B676, B677 - and three *bodhisattva* – B679, B680, B681).⁹¹

GUNUNG MIJIL (Randukunting, Dinangon)

Administrative localization: Randukunting, Tamanmartani, Kalasan, Sleman, DIY.

Geographical localization: 07° 45' 43.3" S
110° 28' 53.43" E
Precision: 121m
Alt.: 152m

Surroundings: In lowland, on the top of the small *gunung* Mijil, some 400m west of the Opak River and 500m east of the *kali* Bening. The site is located 350m to the southeast of Bugisan, 700m to the west of Gatak and 800m to the east of Sari.

Religion: Hindu.

Main features: Unknown.

State of preservation: Loose stones.

Description: Some stones from a *candi* scattered within a Muslim graveyard and one Hindu sculpture (probably of Agastya), though not well preserved.

SARI (Bendah, Bedah, Bendan)

Administrative localization: Bendan, Tirtomartani, Kalasan, Sleman, DIY.

Geographical localization: 07° 45' 41.2" S
110° 28' 26.6" E
Precision: 52m
Alt.: 138m

Surroundings: In lowland, on flat ground, 200m west of the *kali* Bening and 700m to the east of the *kali* Wareng. The site is located 800m west of Gunung Mijil, 600m west-northwest of Bugisan and 600m to the north-northeast of Kalasan.

91 All the *Buddha* figures are seated in the lotus posture, wearing a monk's robe. The best-preserved still retains its head and one can see the typical curls, *uṣṇiṣa* and long ears. Two of the *Buddha* statues were probably in *bhūmiṣpaṣamudrā*, while the third may have been in *waradamudrā*. The inventory numbers are taken from the *Hasil pengumpulan data Kalasan*. One of the *bodhisattva* figures wears a Brahmanical cord.

Religion: Buddhist.

Main features: Single temple; facing east; rectangular with porch; enclosure wall.

State of preservation: Restored up to the superstructure.

Description: Candi Sari is a large rectangular building facing east.

Its exact orientation is 89° 51' (Siswoyo 1996: 6).

Its base measures 20m (N-S) x 14m (E-W) and has a single deep projection on the eastern side. The temple body is 18m (N-S) x 10.70m (E-W). It probably had an important porch on the eastern side (traces of it are still visible on the eastern wall). Only two niches are carved into the outer wall of the temple body: one is located in the eastern half of the northern wall, the other in the eastern half on the southern side. The walls are divided into panels and adorned with divinities from the Buddhist pantheon.

A corridor leads to the central *cella*. The three *cella* in the interior have roughly the same dimensions; they are 3.50m (N-S) x 5.80m (E-W). The central room has a niche on each side, in the centre of the northern and southern walls, as well as doors leading to the two other *cella*. The southern and northern rooms have only one niche each (respectively in the southern and northern walls). Both rooms also have windows (on the east and south for the southern *cella*, and east and north for the northern one). The cornice running along the walls of the three rooms suggests that there was once a wooden floor dividing each room horizontally. The upper floor was reached via the southern room. There were thus six rooms rather than three. Because of its shape and peculiar inner space, Candi Sari is considered to be a *wihāra*, rather than a pure temple.⁹²

Test pits made to the north and west of the temple revealed the existence of an enclosure wall (Stein Callenfels 1929a: 11).

Fragments of limestone *stūpa* were also found next to the temple, but they were not *in situ* and might have originated from Candi Kalasan (Stein Callenfels 1929a: 15)

Inscriptions: A minor inscription in black ink (?) on the lower inner walls (early to mid 9th c.)

92 This organization makes one think of the prayer and meditation halls (*wihāra*) one usually finds in Buddhist monasteries, allowing monks to gather but still be able to enjoy some solitude in the side rooms. IJzerman (1891: 26) compared Sari to contemporary Buddhist temples in Nepal, where the ground floor is dedicated to the adoration of idols, while the upper floor is used as a habitation for the monks. It is on the basis of this structural similarity that both Sari and Plaosan have been called *wihāra*, although no inscription actually describes them as such.

Miscellaneous archaeological finds:

Seven earthenware pots were also discovered to the north of the temple, some 0.25m beneath the original ground level of the courtyard. In two of them were iron fragments. As they were not found within a stone casket or a *stūpa*, it is difficult to determine if these pots were urns or just common ceramics (Stein Callenfels 1929a: 11).

KALASAN (Kalibening)

Administrative localization: Kalibening, Tirtomartani, Kalasan, Sleman, DIY.

Geographical localization: 07° 46' 02.2" S
110° 28' 21.1" E
Precision: 10m
Alt.: 135m

Surroundings: In lowland, on flat ground, 125m west of a small watercourse, 300m west of the *kali* Bening and 600m east of the Opak River. The site is located 600m to the south-southwest of Sari.

Religion: Buddhist.

Main features: Concentric compound; facing east; staggered square with 4 *cella*; enclosure wall.

State of preservation: Preserved up to the superstructure, even though the extensions housing the secondary *cella* have long since crumbled away.

Description: The original compound was probably much larger than the remains visible today: apart from the main temple, it probably included housing for monks or pilgrims, as testified by the remains of a *pendopo* found in the 19th century. The main temple is an impressive staggered square facing east.

Its exact orientation is 84° 34' (Siswoyo 1996: 6).

The base rises above a low square terrace (36m x 36m). The base itself is a staggered square measuring 27m x 27m; its projections are 20.5m wide and 3.5m deep. It can be reached via four staircases. The eastern staircase was preceded by a beautifully carved doorsill.⁹³ A wall or a low perimeter fence, out of which only a few traces remain, once bordered the platform.

At the centre of this platform stands the temple body; at the base, it is a staggered square (16.5m x 16.5m). It is reached via four staircases. Its outer walls are pierced by four doors and carved with 16 niches (eight in the walls of the main body, and eight in the lateral walls of the four projections).

⁹³ To my knowledge, this stone is quite unique in Central Java. However, similar stone features are common in Cambodia.

To the north, west and south, a corridor leads to a 3.5m square secondary *cella*. The sidewalls of the *cella* are interrupted by a niche, while a large pedestal occupies the rear wall. The main entrance of the temple body, located on the east, opens into a corridor leading to a vestibule similar in dimensions to the three secondary *cella*. Three niches are carved into each of the sidewalls of this vestibule. To the west of the vestibule, a short corridor leads to the central *cella*. The latter measures 7.50m x 7.50m. A large pedestal stands against the rear wall.

According to Dumarçay (1986a: 20), the temple underwent at least two modifications of plan. During its first state, which would perhaps correspond to the date of the inscription of Kalasan (778), the temple was square. It is only in a later phase, (Dumarçay suggesting around 790), that it acquired its present plan, a staggered square with four *cella*.

Remains of an earlier structure were indeed discovered in 1940, inside the temple body and the base (Stutterheim 1940: pl. 6).

Surrounding the main temple are the remains of 52 small limestone structures (14 on each side, the corners counted twice).⁹⁴ They consist of small square bases measuring 2.10m x 2.10m.

Fragments of their superstructure were still numerous enough for Van Stein Callenfels to identify them as *stūpa* (Stein Callenfels 1929a: 8).

To the northwest, east and west of the main temple were discovered the remains of an enclosure wall (Stein Callenfels 1929a: 8; 1929b: 137). According to the Dutch scholar, the wall was probably similar to the low perimeter fence around the main temple of Candi Sewu. In 1929, a test pit was dug in order to identify the eastern gate of the enclosure wall. No traces of a *gopura* were found, but six small earthenware pots were discovered under the ground (Stein Callenfels 1929b: 138).

In the nineteenth century, a brick *pendopo* terrace was still to be seen 150m south of the temple (Brumund 1854: 40-41; IJzerman 1891: 15-16; Krom 1923 I: 263). This latter structure was quite large. Its main length was built on an east-west axis and it had two entrances, one on the east and another on the west. Both entrances were overlooked by guardian figures.⁹⁵ As the statues (?) on the eastern side were bigger, it is probable that this was the main entrance. The *pendopo* itself was built of wood and supported by 14 pillars. A 22-column veranda surrounded it.

Inscriptions:

A stone inscription (Kalasan, 778-779 A.D.), six gold plates and five silver plates are associated with the site (Sarkar 1971-1972: no. 5).

94 In fact, most of those along the southern side have disappeared.

95 These guardians have all been removed from the site. Two ended up at the Sono Budoyo Museum in Yogyakarta, while the two others were sent to the Presidential Palace in Jakarta (Bernet Kempers, Soekmono 1974: 12).

Miscellaneous archaeological finds:

Urns were found within the 52 structures surrounding the main temple, but unfortunately, these had already been disturbed (Stein Callenfels 1929a: 8). These 'urns' appear in fact to have been stone caskets. According to Bernet Kempers, 81 such caskets were discovered. They contained, among other things, ashes and metal fragments (perhaps the remains of razors(?)). A miniature mirror was also discovered in or near the *stūpa*, as well as fragments of cloth (Bernet Kempers 1954: 29) and two inscribed gold leaves (Bernet Kempers 1954: fig. 22).

KEDULAN

Administrative localization: Kedulan, Tirtomartani, Kalasan, Sleman, DIY.

Geographical localization: 07° 44' 33.2" S
110° 28' 11.0" E
Precision: 7m
Alt.: 165m

Surroundings: In lowland, on flat ground, 35m east of the small *sungai* Wareng and 450m west of the Bening River, with a view of both Mount Merapi and Gunung Kidul. The site is located 1,100m to the southwest of Pondok.

Religion: Hindu.

Main features: Sanctuary type 2; facing east; square; enclosure wall.

State of preservation: The base, as well as parts of the temple body, is still preserved.

Description: The temple was found under 3-4m of volcanic ash, like Sambisari, Morangan and Wades. It was nevertheless already badly damaged and is currently under restoration. Its base is 13.5m square with a projection to the east, for the staircase.⁹⁶ A balustrade, pierced on its eastern side by a small *gopura*, bordered the platform. The pavement on the base has two levels: it is lower near the temple body than by the balustrade. On the highest level are 12 square column bases (four on each side). On the lowest level, closer to the temple body, are nine smaller column bases. The temple body is 4.7m square, with 5 niches (one at the centre of the northern, western and southern walls, two on the eastern wall, and one on each side of the entrance door). The *cella* measures 3.2m x 3.2m.

Numerous stones in the balustrade and even of the temple body have been re-used from another structure. Traces of modification are also visible on the *gopura* (which seems to have been made smaller; Haryono 2003, Personal communication).

⁹⁶ The measurements are approximative, as the temple had been partly dismantled when I visited it.

Remains of an enclosure wall have been found 13.17m south of the temple (Haryono 2003, Personal communication).

Sculptures:

Several sculptures were found among the remains, not far from their original position, i.e. a Durgā Mahīśāsūramardīnī, a Gaṇeśa, a *lingga* and a *yoni* (*Laporan ekskavasi Kedulan* 1994). An Agastya has also been discovered more recently (Haryono 2005, personal communication).

Inscriptions:

Two stone inscriptions were discovered during excavations (Haryono 2005, personal communication), as well as two inscribed metal leaves (one of gold, the other of silver). The gold leaf reads “om lā om ō saḥ om jūr jū saḥ”. The silver leaf reads “om lā om jū saḥ om raga jñana” (*Laporan ekskavasi situs Kaliworo* 1990: 32)

Miscellaneous archaeological finds:

An empty *peripih* casket was found in 2005 (Haryono 2005, personal communication)

SANAN

Administrative localization: Sanan, Tirtomartani, Kalasan, Sleman, DIY.

Geographical localization: 07° 46' 28.8" S
110° 28' 26.3" E
Precision: Map.
Alt.: 120m

Surroundings: In lowland, on higher ground, 100m west of the *kali* Opak and 100m east of the Kali Bening River, not far from the confluence of both water-courses. The site is located 550m west of Ngaglik, 750m west of Watugudig and 800m south of Candi Kalasan.

Religion: Buddhist.

Main features: Unknown.

State of preservation: No visible remains.

Description:

According to older descriptions, the site was located on a small elevation. Numerous stones testified to the former presence of a temple, among others five doorposts (?) and six stone cylinders (Verbeek 1891: 175).

Sculptures:

Ten Buddhist sculptures were found here; among them were eight Buddha statues and one Tārā (Bosch 1915a: 41; Krom 1923, I: 255; Verbeek 1891: 175).⁹⁷

BALANGAN

Administrative localization: Balangan, Sendangharjo, Minggir, Sleman, DIY.

Geographical localization: 07° 43' 04.1" S
110° 16' 4.1" E
Precision: Map.
Alt.: 140m

Surroundings: In lowland, on flat ground, 1km south of the Progo River and the *kali* Putih, near a small unnamed watercourse. The site is located 1,250m to the southwest of Punden.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description/Sculptures:

No stones from a temple have been found in this village, but the SPSP DIY noticed the presence of four sculptures: a bull (B884), an Agastya (B887), a Gaṇeśa (B888) and a standing male figure (B885; *Hasil pengumpulan Minggir*). As their style and dimensions are similar, it is probable that all these statues belonged to a single group and come from the same temple.⁹⁸

PUNDEN (Planden, Plunden)

Administrative localization: Punden, Sendangharjo, Minggir, Sleman, DIY.

Geographical localization: 07° 42' 36.2" S
110° 16' 35.8" E
Precision: Map.
Alt.: 135m

97 Numerous stones have been discovered in this area by the SPSP DIY, in the villages of Brintikan (to the northwest) and Sidomulyo (to the northeast). Among the plain blocks, mouldings and finials were a *Buddha* in *dhyānamudrā* and a goddess, also in *dhyānamudrā* (*Hasil pengumpulan Kalasan*). The latter sculptures may be the remains of those seen by Verbeek.

98 The standing male figure is probably a *dwārapāla*. Compared with the traditional iconography of Central Javanese temples, Durgā and the second *dwārapāla* are missing. It is possible that the sculptures originally came from the village of Punden, where temple remains have been found (see below).

Surroundings: In the low land, on the southern bank of the *kali* Putih, in an area flooded by numerous small watercourses flowing down Mount Merapi to the Progo River (which passes 750m west of the site). Punden is also near the confluence of the *kali* Putih and the Progo River, and close to the meeting point between the Progo River and another important watercourse, the *kali* Krasak. The site is located 1,250m northeast of Balangan.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Apart from stone blocks, two *yoni* (B890, B891) and a sculpted fragment of a garland with squirrels (B894) were discovered here (*Hasil pengumpulan Minggir*).

MULUNGAN WETAN

Administrative localization: Mulungan Wetan, Sendanghadi, Mlati, Sleman, DIY.

Geographical localization: 07° 43' 45.6" S
110° 22' 03.3" E
Precision: Map.
Alt.: 185m

Surroundings: In lowland, on flat ground, between two branches of the Winongo River (500m to the east and west).

Religion: Buddhist (?).

Main features: Single temple.

State of preservation: No visible remains.

Description:

Traces of a stone foundation were noticed in 1935 (Stutterheim 1931-1935: 17).

Various stone fragments have been found here, together with a finial (B279, probably part of a *stūpa*; *Hasil pengumpulan Mlati*; *Daftar Peninggalan Benda DIY* 1985: 92-94). The discovery of four (uninscribed) boundary stones (*Daftar Peninggalan Benda DIY* 1985: 94) confirms the former presence of a temple in the area.

Sculptures:

Four sculptures have also been discovered: a seated goddess with her hand open on her right knee (B278), a male figure in a similar position (B275),⁹⁹ a seated male figure in monastic robes touching the ground with his right hand (B276)¹⁰⁰ and another headless male figure adorned with jewels (B277; *Hasil pengumpulan Mlati; Daftar Peninggalan Benda DIY* 1985: 92-94).¹⁰¹

NGAGLIK

Administrative localization: Ngaglik, Sinduhadi, Mlati, Sleman, DIY.

Geographical localization: 07° 45' 38.2" S
110° 21' 10.7" E
Precision: Map.
Alt.: 135m

Surroundings: In lowland, on flat ground, 100m to the east of the Dengung River and 400m to the west of the *kali* Winongo.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description/Sculptures:

Several sculptures have been found in the village, among others a bull (B432), a Durgā (B433), a Mahākāla (B434), a Gaṇeśa (B436) and two *yoni* (B439, B440; *Hasil pengumpulan Mlati*). Their similarities and complementary features suggest that they might belong to the same temple. Unfortunately, the area is densely populated (it is now part of the city of Yogyakarta) and no traces of a building have yet been identified.

99 The latter is adorned with jewels, but his position and the presence of another male figure in monastic robes suggest that it might have been a *bodhisattva*.

100 Given the clothes and the *bhūmiṣpārsamudrā* one should probably identify this sculpture as a *Buddha*.

101 Some sculptures were also found in the nearby village of Mulungan Kulon; among them, three are thought to be Buddhist (one identified as Akṣobhya), while another fragment could belong to a Gaṇeśa (*Daftar Peninggalan Benda DIY* 1985:92, 98-99).

BURIKAN

Administrative localization: Burikan, Sumberhadi, Mlati, Sleman, DIY.

Geographical localization: 07° 42' 49.3" S
110° 20' 08.7" E
Precision: 12m
Alt.: 190m

Surroundings: In lowland, on the slope of a hill, in an area flooded by numerous small watercourses and lying between two branches of the Ngalang River (200m to the west and 300m to the east of the site). The site is located 600m to the east of Jumeneng, 1,050m to the east-southeast of Konteng, 1,100m to the north-northwest of Warak and 1,150m to the northeast of Candi.

Religion: Hindu.

Main features: Unknown.

State of preservation: Scattered stones.

Description/Sculptures:

Many carved stones (plain blocks, fragments of finials, antefixes etc.) were found in this village by the SPSP DIY, testifying to the former presence of a temple. A few sculptures were also discovered: a goddess (B298/BG 418), two *yoni* (B302, B303), a *makara* (B345) and a magnificent Śiwa head (B314) with a bun and a third eye (*Hasil pengumpulan Mlati*).¹⁰²

Today only a few blocks remain - essentially fragments of finials. Some of them were left uncarved.

Miscellaneous archaeological finds:

Two jars, that might have been part of a foundation deposit, were found by the SPSP DIY (*Daftar peninggalan benda DIY* 1985: 85).

CANDI

Administrative localization: Candi, Sumberhadi, Mlati, Sleman, DIY.

Geographical localization: 07° 43' 05.6" S
110° 19' 36.5" E
Precision: 10m
Alt.: 190m

¹⁰² Both the goddess and the Śiwa head are now kept at the SPSP DIY office in Bogem.

Surroundings: In the lowland, on flat ground, some 300m to the east of the *kali* Konteng and 500m to the west of the Ngalang River. The site is located 600m to the southwest of Jumeneng, 700m southeast of Konteng and 1,150m to the southwest of Burikan.

Religion: Hindu.

Main features: Unknown.

State of preservation: Scattered stones.

Description: Behind the graveyard and around the village, there are a few stone remains of a *candi* including, among others, fragments of mouldings, garlands and a plant-like relief.

A *yoni* (B382) was found here (*Hasil Mlati*).

CEBONGAN

Administrative localization: Cebongan, Sumberhadi, Mlati, Sleman, DIY.

Geographical localization: 07° 44' 00" S
110° 20' 00" E
Precision: Map.¹⁰³
Alt.: 169m

Surroundings: In the lowland, on the lower slope of Mount Merapi.

Religion: Hindu.

Main features: Sanctuary type 4 (?); facing east.

State of preservation: No visible remains.

Description:

According to early 20th century reports, the site was composed of two or three temples in a row. The main temple base was square, with a projection on the eastern side for the staircase (Knebel 1911a: pl. 168; Krom 1912a: 5).

Sculptures:

A Ganeśa, a *yoni* and a bull were found at the site (Knebel 1911a: pl. 170; Krom 1912a: 6).

¹⁰³ Today, the small town of Cebongan covers a large area, including the villages of Cebongan Pasar, Cebongan Lor and Cebongan Kidul. As no detailed information is available in the older reports and as all traces of the site have disappeared, the coordinates given here are those of the town centre.

JUMENENG

Administrative localization: Jumeneng, Sumberhadi, Mlati, Sleman, DIY.

Geographical localization: 07° 42' 51.2" S
110° 19' 49.9" E
Precision: 43m
Alt.: 195m

Surroundings: In lowland, on flat ground, 350m west of the *kali* Ngalang and 450m east of the Konteng River. The site is located 500m to the southeast of Konteng, 600m to the west of Burikan and 600m to the northeast of Candi.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description/Sculptures:

Nothing is left. However, several *yoni* (B388, 389, 392) have been found in this village, together with a small sculpture of a bull (B391; *Hasil pengumpulan Mlati*).

KONTENG

Administrative localization: Konteng, Sumberhadi, Mlati, Sleman, DIY.

Geographical localization: 07° 42' 43.0" S
110° 19' 34.6" E
Precision: 41m
Alt.: 190m

Surroundings: In lowland, 50m west of the *sungai* Konteng. The site is on a plateau dominating the small but deep canyon of the Konteng River. It is located 500m to the northwest of Jumeneng, 700m to the north of Candi and 1,050m to the west-southwest of Burikan.

Religion: Hindu and Buddhist.

Main features: Unknown.

State of preservation: Scattered stones.

Description: A pile of stones from a *candi* is still visible in the garden of a house. These are mainly plain blocks, but some fragments of moulding are also to be found.

Sculptures:

Earlier, a *Buddha* in *bhūmiṣpaṣamudrā* (B393) and an unidentified female sculpture (B396) were found here (*Hasil pengumpulan Mlati; Laporan identifikasi Konteng*, 1982: 3). In the immediate surroundings an *Agastya* (B410) and a *yoni* were also discovered (*Laporan identifikasi Konteng* 1985: 1).

WARAK

Administrative localization: Warak, Sumberhadi, Mlati, Sleman, DIY.

Geographical localization: 07° 43' 19.3" S
110° 20' 20.5" E
Precision: Map.
Alt.: 185m

Surroundings: In lowland, on flat ground, 900m west of the Ngalang River, 750m to the north-northwest of Plaosan and 1,100m to the south-southeast of Burikan.

Religion: Buddhist.

Main features: Unknown.

State of preservation: No visible remains.

Description/sculptures:

Previously, numerous temple stones were still visible in this village. A *kāla*, some fragments of a staircase, a *makara*, pinnacle fragments, a relief depicting an elephant with a monkey, and two Buddhist sculptures (one probably of *Amitābha*) were discovered in the surroundings (*Hasil pengumpulan Mlati; Daftar Peninggalan Benda DIY* 1985: 80, 82-84).

KARANG TENGAH (Karang Bajang)

Administrative localization: Karang Tengah, Tlogohadi, Mlati, Sleman, DIY.

Geographical localization: 07° 44' 26.3" S
110° 20' 35.7" E
Precision: Map.
Alt.: 160m.

Surroundings: In lowland, on flat ground, on the western bank of the Bedog River.

Religion: Hindu.

Main features: Sculptures.

State of preservation: No visible remains.

Description/Sculptures:

Although no stones from an actual structure have been reported in the village, I still include the site due to the number of sculptures that have been found here: eight *yonis*, four Gaṇeśa and four bulls (*Daftar Peninggalan Benda DIY* 1985: 52-55).

PLAOSAN

Administrative localization: Plaosan, Tlogohadi, Mlati, Sleman, DIY.

Geographical localization: 07° 43' 26.7" S
110° 20' 40.7" E
Precision: Map.
Alt.: 183m

Surroundings: In lowland, on flat ground, 450m west of the Bedog River and 750m to the east-southeast of Warak.

Religion: Hindu.

Main features: *Yoni*.

State of preservation: No visible remains.

Description/Sculptures:

Two *yonis* (B426) are provenanced from here, as well as two bulls (*Hasil pengumpulan Mlati; Daftar Peninggalan Benda DIY* 1985: 58-60).¹⁰⁴

MARON

Administrative localization: Maron, Donoharjo, Ngaglik, Sleman, DIY.

Geographical localization: 07° 40' 47.6" S
110° 23' 19.7" E
Precision: Map.
Alt.: 330m

Surroundings: In lower middle land, in an area flooded by numerous small watercourses and where the slope of Mount Merapi can already be felt. The site is located between two tributaries of the Winongo River (flowing 100m to the east and to the west of the village) and 600m to the east-southeast of Ngepos.

¹⁰⁴ The *yonis* measure 90cm x 90cm x 74cm; the *nandi* 105cm x 65cm x 53cm. Given these dimensions, the SPSP DIY believes that they were not brought to the village from very far away and that a former temple was probably located in the neighbourhood.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Carved stones and a *kāla* were still visible here in the 19th century (Verbeek 1891: 163).

NGEPOS

Administrative localization: Ngepos, Donoharjo, Ngaglik, Sleman, DIY.

Geographical localization: 07° 40' 41.5" S
110° 23' 00" E
Precision: Map
Alt.: 338m

Surroundings: In lower middle land, in an area flooded by numerous small watercourses and where the slope of Mount Merapi can already be felt. The village is bordered to the east and west by tributaries of the Winongo River. It is located 600m to the west-northwest of Maron.

Religion: Hindu.

Main features: Bathing place.

State of preservation: No visible remains.

Description/Sculptures:

The site seems to have been a bathing place. Carved stones from a *candi* were found in the area, together with a *lingga*, a Durgā and a Gaṇeśa (Hoepermans 1913: 221; Bosch 1915a: 18). Two Gaṇeśa, some fragments of a seated figure and two bulls were still visible in 1977 (*Daftar Peninggalan Benda DIY* 1985: 96, 98, 103).

CANDI

Administrative localization: Candi, Sardonoharjo, Ngaglik, Sleman, DIY.

Geographical localization: 07° 42' 00" S
110° 24' 30" E
Precision: Map.¹⁰⁵
Alt.: 280m

¹⁰⁵ As the literary sources do not give much precision and as the remains have since disappeared, the coordinates given here are those of the centre of the town including the villages of Candidukuh, Canditiga, Candikarang, Candiwinangun, Candirejo, Candisari and Candimendro.

Surroundings: In lower middle land, between the *kali* Kladuan and the *kali* Pelang and not far from the spring of the latter. In this area the slope of Mount Merapi starts to shape the landscape.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Formerly, traces of a temple were visible here (Hoepermans 1913: 220), although Bosch was already unable to find them (Bosch 1915a: 19).

PALGADING

Administrative localization: Palgading, Sinduharjo, Ngaglik, Sleman, DIY.

Geographical localization: 07° 43' 33.9" S
110° 24' 39.4" E¹⁰⁶
Precision: 11m
Alt.: 215m

Surroundings: In lower middle land, on the western bank of the *kali* Kladuan. In this area the slope of Mount Merapi begins to shape the landscape.

Religion: Buddhist.

Main features: Sanctuary type 4; facing west.

State of preservation: Scattered stones.

Description: Today, the only remains of the Palgading sanctuary are stones scattered around the village. According to the villagers, these stones all come from a single place, now a bamboo grove. However, previous literature gives us a better knowledge of the extent of the site.

Candi Palgading consisted of a main temple and two *stūpa* built in a north-south line (Bosch & Perquin 1925: 61-65).

In the early 20th century, the main temple was already badly damaged and only parts of its base were still preserved. It was carved with figurative reliefs, perhaps inspired by the *Jātaka* (Bosch & Perquin 1925: 64).

To the south of the temple there was a small *stūpa*. It rose upon a square base measuring more or less 2.30m x 2.30m and was adorned with figurative reliefs. The whole structure must have been 3.60m high.

106 The coordinates are those of the place where, according to the villagers, the structure once stood. It has since come to my knowledge however, that the SPS DIY has recently found remains of the structure a few hundreds meters away from the place pointed out to me by villagers during my fieldwork in 2002.

The northern *stūpa* was slightly taller. Its base was only 2.20m x 2.20m, but from top to bottom it should have measured 3.80m. Similar reliefs were carved on the base.

Sculptures:

A four-armed female figure in *waradamudrā* was discovered here (Bosch & Perquin 1925: 65),¹⁰⁷ together with a headless *Buddha* (Stutterheim 1937: 24).

MORANGAN

Administrative localization: Morangan, Sindumartani, Ngemplak, Sleman, DIY.

Geographical localization: 07° 41' 05.6" S
110° 28' 09.7" E
Precision: 12m
Alt.: 323m

Surroundings: In lower middle land, in an area where the slope of Mount Merapi is already felt, some 150m west of the Gendol/Pajangan River and 600m east of the Opak River.

Religion: Hindu (?).¹⁰⁸

Main features: Sanctuary type 2 (?); facing west; staggered square with a porch.

State of preservation: Of the main temple, only a quarter of the base is still visible. One secondary shrine is preserved, from the base to the foot of the temple body.

Description: Nowadays, two buildings are visible: a main temple, facing west; and a secondary shrine, located northwest of the main structure and facing east. Due to the position of the remaining secondary shrine, it is highly probable that the compound was once composed of four structures (a main temple facing three secondary buildings). Unfortunately, it has not been possible to carry out further excavations to the south and east, due to the presence of modern roads and houses.

The main temple is poorly preserved, but earlier sketches allow us to trace the main lines of its plan.

107 It was identified as a Tara by Bosch & Perquin (1925: 65).

108 On the basis of its layout, as all the other type 2 sanctuaries are Hindu.

The base was square (7.80m), with a single projection on the western side. The temple body was a staggered square measuring 4.80m x 4.80m. The western projection was most salient and sheltered the entrance; the southern, eastern and northern projections housed niches. A small vestibule led to the *cella* (2.40m square).

The secondary shrine has a square base measuring roughly 4.30m x 4.30m. The temple body seems to have been square too (3,30m x 3,30m), but with slightly salient niches. The *cella* is 1,85m².

GEBANG

Administrative localization: Gebang, Wedomartani, Ngemplak, Sleman, DIY.

Geographical localization: 07° 45' 05.1" S
110° 24' 58.9" E
Precision: 13m
Alt.: 170m

Surroundings: In lowland, on the border between the plain and the first slopes of Mount Merapi. The temple, though built on a flat surface, faces the very steep bed of the *kali* Sembung (this small river flows approximately 25m east of Candi Gebang, but roughly 15m below it). Some 400m west of Gebang, one finds another river - the Krandowan. Both watercourses merge 800m south of the temple to give birth to the Blokan River. Candi Gebang is located 800m to the south-southwest of Jetis.

Religion: Hindu.

Main features: Single temple; facing east; square with a porch.

State of preservation: The temple has been restored up to the superstructure.

Description: Candi Gebang is a very small shrine facing east, with at least two noteworthy particularities: the absence of a staircase and the *yoni* on its western wall.

Its precise orientation is 101° 58' (Siswoyo 1996: 5).

The base is square (5.25m) and without a staircase.¹⁰⁹ The temple body is also square (3.25m) but has a projection on the eastern side, for the entrance. In the middle of its northern, western and eastern wall is a niche. Two niches also flank the entrance. The western niche has been given a peculiar feature: below it, fitting within the temple body, is a small *yoni* (turned to the north). A corridor leads to the small *cella* (1.80 x 1.80m).

¹⁰⁹ It is possible that Candi Gebang was a mere altar with no need to enter it, but with all rituals taking place outside; or was it once possible to reach the *cella* via a wooden staircase?

Around the temple are four *lingga*-like boundary stones that delimit a sacred area of roughly 16m (N-S) x 8m (E-W). On a lower terrace, further east and closer to the river, some more carved stones can be found, though not *in situ*.

Sculptures:

The *cella* houses a *yoni*, while a Ganeśa is still visible in the western outer niche and a *dvarapala* lies/stands (?) near the entrance.

In 1937, three *yoni* were found here (Stutterheim 1937: 24).¹¹⁰

Miscellaneous archaeological finds:

A square deposit box with a lid (23cm x 13cm) and with nine cavities forming a lotus flower was discovered at the site (Stutterheim 1937: pl. 10). Unfortunately, there is no further information as to its original position. Several metallic pieces (a crescent, trident etc.) either in bronze or gold were found during excavation (Stutterheim 1937: pl. 11).

JETIS

Administrative localization: Jetis, Wedomartani, Ngemplak, Sleman, DIY.

Geographical localization: 07° 44' 42.3" S
110° 25' 06.5" E
Precision: Map.
Alt.: 175m

Surroundings: In lowland, 250m east of the *kali* Sembung and 800m to the north-northeast of Candi Gebang.

Religion: Unknown.

Main features: Sanctuary type 1.

State of preservation: No visible remains.

Description:

The remains of a shrine have been found in this village. Only two stone layers from the base were still *in situ*, but numerous stones, antefixes and pinnacles were found.¹¹¹ To the east of the temple was a square foundation. (Bernet Kempers 1938: 19)

¹¹⁰ It is not clear whether this figure includes the central *yoni* or not.

¹¹¹ Most of the antefixes (if not all) were left uncarved.

Miscellaneous archaeological finds:

Within the temple pit were found fragments of gold, iron and bronze, together with a gold ring. Vietnamese ceramics dating to the 11th c. were also discovered at the site (Bernet Kempers 1938: 19).

CANDI¹¹²

Administrative localization: Candi, Purwobinangun, Pakem, Sleman, DIY.

Geographical localization: 07° 37' 52.6" S
110° 24' 11.5" E
Precision: Map.
Alt.: 565m

Surroundings: In upper middle land, between the *kali* Boyong (350m to the east) and one of its tributaries (along the western edge of the village), a few hundred meters north of Tawangrejo.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Formerly, numerous temple stones were still visible in this area; mostly plain blocks but also finials and a *makara* (Verbeek 1891: 162; *Hasil pengumpulan Pakem*).

CEPET (Ceper, Cepit)

Administrative localization: Cepet, Purwobinangun, Pakem, Sleman, DIY.

Geographical localization: 07° 39' 26.3" S
110° 23' 35.7" E
Precision: Map.
Alt.: 415m

112 This site is perhaps the same as Tawangrejo. In *Hasil Pengumpulan Data Kepurbakalaan Kecamatan Mlati* 1980, the names Candi and Tawangrejo are indeed interchangeable. The description given by Verbeek (Verbeek 1891: 162), "ruim 1 kilometer ten noorden van het landhuis Wringin", also corresponds roughly to the localization of the *desa* of Tawangrejo.

Surroundings: In lower middle land, on the southern slope of Mount Merapi, between two tributaries of the Winongo River and 350m west of the *kali* Boyong.¹¹³

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Formerly, some stones from a *candi* were still visible in the village, including a small *lingga* (B525), antefixes, a pinnacle, a small *yoni* adorned with a *nāga* (B542), a *peripih* (B532; a simple stone box) and two *peripih* lids - one circular (B533), the other square (B534; *Hasil pengumpulan Pakem*).

TAWANGREJO

Administrative localization: Tawangrejo, Purwobinangun, Pakem, Sleman, DIY.

Geographical localization: 07° 37' 56.3" S
110° 24' 11.5" E
Precision: Map.
Alt.: 560m

Surroundings: In upper middle land, between the *kali* Boyong (350m to the east) and one of its tributaries (along the western edge of the village), a few hundreds meters south of Candi.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Numerous dressed stones were found here, together with a *makara* (*Hasil Pengumpulan Mlati*: B480 ff).

113 The localization of this site is not so clear. On the map of the Topografische Dienst, two villages in the area (of Pakem, Purwobinangun), bear similar names: Tjepet (415m to the south) and Tjepit (600m to the north).

WRINGINREJO (Wringin)

Administrative localization: Wringinrejo, Purwobinangun, Pakem, Sleman, DIY.

Geographical localization: 07° 38' 39.0" S
110° 23' 45.6" E
Precision: Map.¹¹⁴
Alt.: 480m

Surroundings: In lower middle land, on the steep southern slope of Mount Merapi, between the Dengung River (to the west) and the *kali* Boyong (to the east).

Religion: Hindu (?)

Main features: Unknown.

State of preservation: No visible remains.

Description:

Numerous stones, including mouldings, antefixes and two pedestals (B515, B518) have been found in the village, together with a copper plate (B502; *Hasil Pengumpulan Pakem*).¹¹⁵

BANYUNIBO¹¹⁶

Administrative localization: Cepit, Bokoharjo, Prambanan, Sleman, DIY.

Geographical localization: 07° 46' 41.5" S
110° 29' 38.4" E
Precision: 12m
Alt.: 125m

Surroundings: In lowland, on flat ground, but right at the foot of Mount Pegat-Ijo (although the summit of Mount Ijo is not visible) and between two small branches of the Sorogeduk River. The site is located 450m to the southwest of Candi Barong, 500m to the southwest of Dawangsari, 600m to the east-north-east of Semarang, 750m to the south-southeast of the *pendopo* of Ratu Boko, 800m to the northwest of Tinjon, 1,000m to the east of Gaja and 1,000m to the north-northeast of Keblak.

114 As the sources are not precise, the coordinates have been taken at the centre of the village formed by the hamlets of Wringin Lor and Wringin Kidul.

115 The site is not mentioned in the early inventories. The proximity with Candi/Tawangrejo makes it possible that the remains found in the *desa* of Wringin may actually come from another place.

116 Hoepermans calls Banyunibo "*candi* Semarang", although in reality these sites are quite distant from one another.

Religion: Buddhist.

Main features: Compound; facing west; rectangular with a porch; enclosure wall.

State of preservation: The main temple has been restored up to the superstructure. As for the surrounding *stupa*, only their bases are still visible.

Description: The site consists of a rectangular main building, six secondary structures and an enclosure (?) wall, with the remains of two further foundations. The main temple faces west.

Its exact orientation is 267° 47' (SPSP DIY).¹¹⁷

Its base measures 12.40m (E-W) x 14.60m (N-S) and has a projection on the western side.¹¹⁸ The temple body is 8.60m x 10.80m, with a deep projection on the western side. Small protruding elements are also to be noticed at the centre of each side and at the corners.¹¹⁹ A corridor leads to the rectangular *cella* (4.40m x 6.80m). Eight windows, located near the corners and on each side of the entrance, give light to the room. At the centre of the northern, eastern and southern walls is a niche.

Beneath the *cella*, laid within the base, were five or six stone pits (Bernet Kempers 1941-1947: pl. 14).

To the east and south of the main temple are six *stūpa*¹²⁰ (three to the east and four to the south). Their base is 6m square and topped by a staggered square plinth. Their upper portion has a diameter of 3.60m. Surprisingly, the organization of these *stūpa* seems to be independent from the main temple: the *stūpa* do not mark the centre or corners of the main structure.

Furthermore, 4.70m north of the temple, where one would expect another row of *stūpa*, there is nothing but a wall. It runs east-west. The river has disturbed its western end, while its eastern end is unknown. To the north of the wall the ground is considerably higher (its level corresponds to the top of the wall). No traces of such a wall were found on the other sides.

To the south of the main temple and the *stūpa*, the foundations of two large square buildings were identified (Bernet Kempers 1948: fig.?)

Sculptures: Inside the *cella* are the visible remnants of various reliefs (sitting figures in a praying attitude, a female figure, flying figures, plants, trees etc.).

117 Although according to Siswoyo (1996: 7), it is 269 ° 47'.

118 The mouldings above the plinth also have projections at the centre of each side as well as at the corners.

119 Central projections are quite common in Javanese architecture, while corner projections are a peculiarity of Candi Banyunibo.

120 The scattered stones were numerous enough to allow the identification of these structures as *stūpa*, and one has even been partly restored.

RATU BOKO

Administrative localization: Dawung, Bokoharjo, Prambanan, Sleman, DIY.

Geographical localization:

Western compound, 2nd terrace, *gopura*:

07° 46' 07.4" S

110° 29' 18.6" E

Precision: 6m

Southeast compound, 2nd terrace, miniature *candi*:

07° 46' 18.7" S

110° 29' 26.0" E

Precision: 7m

Alt: 160m – 200m

Surroundings: On the top of a high hill rising up from the lowlands and protected by steep slopes. Parts of the hill have been levelled to house this vast compound. From the various buildings, one can see Mount Merapi, the Prambanan plain, the Yogyakarta plain, the Opak River, Mount Pegat, Mount Ijo and other areas of Gunung Kidul. The site is located 700m to the west-southwest of Sumberwatu and Arca Ganesa, 750m to the north-northwest of Banyunibo, 800m to the northwest of Dawangsari and Barong, 900m to the north of Semarang, 1,000m to the northeast of Watugudig and 1,200m to the east northeast of Ngaglik.

Religion: Hindu and Buddhist.

Main features: Organic compound; facing west; no main structure.

State of preservation: Most of the structures seem to have been built of wood and only their stone bases remain. The complex is currently being restored.

Description: The site of Ratu Boko is composed of three compounds: the western, eastern and southeastern compounds.

The western compound is composed of three terraces.

The first and westernmost terrace is a wide area, roughly 100m long, sloping down to the west. Its surface consists of natural rock covered by dust.

The only remains visible are located at the eastern end of the terrace and are those of a ramp leading to the second terrace.

The second terrace is sustained by an impressive 5m high retaining wall. The wall is running north-south. Another retaining wall, running east west, extends it and links the western compound with the southeastern compound.

In its northern section, the second terrace is divided into two elongated courtyards separated by a wall.¹²¹ The western courtyard is 10m wide and shelters no remains. The wall demarcating the western and eastern courtyards is interrupted by an impressive three-door *gopura*. This *gopura* is linked to the *gopura* of the third terrace via a stone path.¹²²

The eastern courtyard of the second terrace is 20m wide. Apart from the remains of the above-mentioned path, it houses a stone base. The latter is located at the northern end of the courtyard. It is a 2m high square (11.20m x 11.20m) with fine mouldings but without any staircase.

This platform seems to have been bordered by a parapet (Bernet Kempers 1948: 35).

The third terrace measures roughly 130m (E-W) x 170m (N-S). It is sustained on its western, southern and eastern sides by a wall doubled (at its foot) by a small open duct.¹²³ This duct is linked to a tank located in the northeastern part of the terrace. To the west, the enclosure wall is interrupted by a five-door *gopura*, linked through a staircase and a pathway to the *gopura* of the second terrace. Four simple *gopura* are located respectively on the western, southern (two) and eastern sides.

The third terrace houses numerous remains: a double stone base,¹²⁴ several pools, a *pendopo* and two stone podiums. In the northern third of the terrace, is the double stone base and a large water tank. The ground level in this northern part of the terrace is about 60cm higher than in the southern part. It is separated from the southern section of the terrace by a small wall or fence.

The *candi* measures 23m x 23m at its base and faces west. It consists of two bases built one upon the other, giving it the appearance of a small stepped pyramid. The upper platform is reached via a single staircase¹²⁵ and was apparently edged with a balustrade.¹²⁶ No traces of a building are visible on the platform, but a stone pit occupies its centre.

121 Given the poor state of preservation of this structure, it is impossible to say if it was a real wall or a low perimeter fence.

122 Stone blocks on the side of the pathway lead one to think that it was once bordered by a wall or fence and had two side gates giving access to the northern and southern parts of the courtyard.

123 In fact, the northern side of the terrace, as well as the northern two-thirds of its eastern side, did not need any retaining wall as they are delimited by a cliff. The rock has been excavated to give the terrace its present rectangular shape.

124 It is commonly called "Candi Pembakaran".

125 One would expect two flights of stairs rather than a single one, so that the two-storey organization would be respected. This is not the case and, as result, there is no access to the platform of the first base.

126 The balustrade was almost entirely destroyed. Restoration work is still in progress, but it seems that it was not higher than 1.50m.

It measures 7m x 7m at the top, 4m x 4m at the bottom and goes as deep as ground level (Bernet Kempers 1948: 33). Excavations revealed that the pit was filled almost exclusively with charcoal and ashes and was therefore used as a fireplace (Bernet Kempers 1948: 35).

Behind the *candi*, to the west, a large water tank was excavated from the natural rock.¹²⁷

The other remains are all located in the southern part of the terrace. Southeast of the main *gopura* are traces of one or two smaller water tanks. Further east, one reaches the remains of a large *pendopo* measuring 16m (N-S) x 23m (E-W). On its floor surface can be seen traces of three rows of ten column bases. In the southeastern corner of the terrace, in front of its southern gate, are remains of two stone podiums measuring 13.50m (E-W) x 24.70m (N-S).

The eastern compound

Leaving the western compound and heading east, one arrives at the so-called eastern compound. It has not yet been fully excavated, so it is difficult to understand the nature of the remains and their relation to one another. To the north, on top of the hill, are the remains of an enclosure wall. At the centre of the eastern compound are two man-made caves. Nearby are the ruins of a stone structure and a small water tank.

The southeastern compound

The southeastern compound is certainly the largest and the most complex. It is composed of at least nine courtyards, scattered on various levels and housing numerous remains of *pendopo*, enclosure walls, gates, pools, bases and water tanks.

The first and westernmost terrace measures roughly 150m (N-S) x 80m (E-W). It is bordered on its western and southern side by a retaining wall.¹²⁸ The terrace seems to have been divided into three courtyards separated by walls. In each of these courtyards a staircase gives access to the eastern part of the compound. No buildings have been discovered in any of the three courtyards.

The second terrace has an irregular shape and measures approximately 130m (N-S) x 70m (E-W). Its retaining wall is doubled at its foot by an open duct (as already noticed for the enclosure wall of the third terrace of the western compound). The wall is also pierced by at least four gates (two on the west, one on

127 It had not yet been cleared when the fieldwork for this inventory was carried out, and was therefore impossible to measure precisely. Nevertheless, it must be roughly 30m (E-W) x 18m (N-S).

128 Its state of preservation is poor. Up to now, only one *gopura* has been identified, at the centre of the western side.

the south and one to the north).¹²⁹ All the remains on this second terrace are located within its southern half.

A small mound has been created to sustain the main structure of the compound, commonly known as the *pendopo* complex. It has a fine enclosure wall pierced by three doors (on the north, west and south), measuring 34m (E-W) x 40m (N-S) and sheltering two 1.25m high stone platforms. The northernmost platform measures 20m x 20m and is reached via three stairs (on the west, north and east). It is linked to the southern platform by a stone gangway. On the platform floor are traces of at least 20 columns bases (6 on each side, the corners counted twice).¹³⁰ The gangway can be reached from both platforms but also directly from the courtyard via two side stairs. The southern platform is rectangular (20m x 6m) and has only one stairway, to the south. On its floor surface are traces of two rows of six column bases.

To the east and south of the *pendopo* enclosure are the remains of further stone platforms. To the east, one finds an elongated stone terrace measuring roughly 37m x 6.40m. It can be reached via three staircases, located unevenly along its western side. On its floor are traces of 20 square posts. Between some of the posts (mainly along the edge of the terrace) a groove is visible. From these elements, it can be deduced that the stone platform sustained a closed building, and that the latter was divided into four rooms. Three of them were directly accessible via the stairs, while the southernmost chamber communicated with the following. To the north of this eastern platform is a small pool.

The area south of the *pendopo* enclosure is paved and shelters four terraces. The largest measures about 14m x 14m, is higher at the centre and furnished with at least eight rectangular pillars on each side. The platform is certainly not in its original state: traces of modification are clearly visible in the pavement. The structure was originally meant to be lower and only afterwards was it raised to its present level.¹³¹

129 No remains of a *gopura* have been found along the eastern side of the terrace. However, this part of the retaining wall is not well preserved and it is possible that a gate once existed near the northeastern corner. On the other hand, it is also possible that there was no door on this side: the second terrace already communicates with the rest of the compound, although indirectly. Using the southern *gopura*, one can reach a lower courtyard that gives access to a passage leading to the pool area.

130 A groove is also evident running around the platform. It is possible that this groove was intended to secure wooden panels.

131 At the foot of the enclosure wall of the *pendopo* are *makara* gargoyles. The water flowing from the inner courtyard is collected and goes through the mouth of the *makara*, before it is received by a sort of small *yoni* placed under the chin of the *makara*. The *makara-yoni* gargoyles are clearly visible all around the enclosure wall, except around the southeastern quarter, near the stone terrace. The first stone layer of the terrace is indeed under the *yoni*, but the second layer covers it. Therefore, it seems probable that the *pendopo* and the stone terrace as it stands today were not conceived together. The latter is also later.

To the east of this first terrace, and physically linked with it is a smaller stone platform (6.50m x 6.50m). Roughly at its centre, one finds a pit measuring 1.90m (N-S) x 1.25m (E-W) x 1.25m (deep). In its lower southeast corner there is a drainage pipe leading southwards.

To the east of the water storage trough but on the same terrace are three miniature *candi* in a line.¹³² All three are square and possess a small porch. The central *candi* is the largest; it measures 1.35m x 1.34m, while the two others are only 1m square. Behind the central shrine are the apertures of three small grooved channels that go beneath the *candi* and finally reach the water trough. To the north and east of the miniature temples are bare rectangular pedestals. Traces of a third pedestal are visible on the pavement south of the *candi*.¹³³ To the north and south of the platform bearing the miniature *candi* are two small stone podiums.

From the second terrace of the southeastern compound, one can go southwards and, using a gate, reach a *lower terrace*.¹³⁴ Its space is divided into two courtyards. The western one is the largest and shelters the remains of a stone platform. In its southeastern corner a *gopura* leads downhill. The eastern terrace is smaller and free of archaeological remains. A gate in its eastern wall gives access to a narrow passage between the bathing complex and the second terrace.

Further east, one reaches a large *bathing complex* consisting of three or four courtyards and housing at least 14 pools of various dimensions, all excavated from the natural rock. In the northern section of this bathing complex are six rectangular pools. To the west of these pools runs a pathway, enclosed by walls and accessible via three gates (on the north, east and west). The southern section of the bathing complex has its own enclosure wall. It measures roughly 50m (E-W) x 60m (N-S) and has a gate in the centre of each side. This enclosure houses 27 circular pools: 14 large pools (diameter: 3.20m) and 13 smaller ones (diameter: 1.50m). Further east, and at a lower level, is the last and largest pool of the bathing complex. It is a trapezium measuring more or less 13m (at the base) x 20m (at the top?).

132 In fact, they were not found here. Before the restoration work carried out in 1981 they were located east of the *pendopo* enclosure, behind the eastern elongated terrace (Purnomo & Soenarto 1981: pl.). This localization was rather surprising. The *candi* were at a lower level than the terrace, facing its wall but so close to it that it was barely possible to reach them from the front. As their dimensions were similar to the rectangular traces visible on the platform southeast of the *pendopo*, they were thought to belong to the latter and were moved by the SPSP DIY to the place they now occupy. I can see no objection to their removal, although I think it is important to bear in mind that at a later stage in the occupancy of the Ratu Boko compound they were moved to a secondary location and were no longer linked to the water system.

133 On a drawing made by the SPSP DIY, two sculptures are visible: a Durgā on the northern pedestal and a Gaṇeśa on the eastern one. However, I did not see any traces of them and do not know for sure if they were really found during excavation or are simply assumed to have been there.

134 Actually, this terrace is at the same level as the first terrace and can also be reached from the west.

East of the bathing complex, one finds *the last known courtyard* of the Ratu Boko compound. Traces of an enclosure wall are visible to the north, west and south, as well as the remains of three *gopura*. The eastern edge of the enclosure has not yet been identified. Within this courtyard, there are two stone platforms. The northern platform measures 14m (E-W) x 15.65m (N-S) and has a staircase on the west. The platform has two levels: its eastern part is higher and linked to the lower western part by a flight of stairs. The southern platform is larger: 22.10m (E-W) x 21.50m (N-S). It has three staircases (on the west, south and east) and traces of wooden walls and columns are visible on its floor surface. To the northwest of these stone platforms are the remains of a large *stūpa*

Sculptures:

Crawford noted: “(...) a little way to the south of the building a mutilated stone figure which I imagine to represent Mahādeva destroying Tripurāsura.” (quoted in Bernet Kempers 1949: 186)

In the 1950’s, a statue of Durgā and another of Gaṇeśa were discovered in the southeastern compound, around the *pendopo*. More recently, an Agastya was found during excavations on the terrace below the *pendopo* (Bambang, personal communication 2003).

In the southeastern compound, within the easternmost courtyard and close to the podium, were found columns bearing reliefs. Each column is divided into eight panels adorned alternately with a flower and an animal (the same animal is repeated four times on each column). The animals represented are: the horse, elephant, peacock and *garuda*.

Inscriptions: The inscription of the Abhayagiriwihāra (Ratu Boko I) dated 792-793 A.D.

Crawford, as quoted by Bernet Kempers, records: “Dr Tytler who accompanied me in one of my last excursions to Prambanan, discovered in the largest of the two piles of stones on the terrace a fragment of a slab of stone on which was a Déva Nagari inscription (...)” (Bernet Kempers 1949: 186).

On one of the gold strips found within the pit in front of the miniature *candi* was an inscription reading: “Om rudra ya namah swaha” (Setianingsih 2002: BG 1410a).

Miscellaneous archaeological finds:

In the southeastern compound, near the miniature *candi* and underneath the water trough, were six *peripih*. Five of them consisted of earthenware pots containing metal fragments and semi-precious stones and were laid according to the cardinal points. The 6th *peripih* was of a slightly different nature: located south of the others and not in a line, it was a bronze pot that contained gold, silver and bronze strips, but also glass beads and seeds (Hambali 1993-1994: 13).

GATAK

Administrative localization: Gatak, Bokoharjo, Prambanan, Sleman, DIY.

Geographical localization: 07° 45' 41.23" S¹³⁵
 110° 29' 24.3" E
 Precision: 30m
 Alt.: 140m

Surroundings: In lowland, on flat ground, roughly 400m to the east of the *kali* Opak, not far from the northernmost tip of Gunung Kidul (700m to the south). The site is located 700m to the east of the *gunung* Mijil, 750m to the west of Candi Sojiwan and 1,000m to the south-southwest of Loro Jonggrang.

Religion: Hindu.

Main features: Single temple.

State of preservation: Scattered stones.

Description/Sculptures: The only visible remains are three *yoni* scattered in a garden and courtyard. In the direct neighbourhood of these *yoni*, numerous temple stones are to be seen; but none is carved. The stones are today used as fences or boundary markers(?).

Further to the south were the remains of a temple. It was excavated in 1984 and then covered again by an extension to the nearby school (*Laporan penggalian Gatak* 1984). Among the stones were found part of a stairway, blocks carved with garlands (B748e), fragments of sculptures (B748f) and three other *yoni* (B768, B769, B771; *Laporan inventarisasi Madurejo dan Bokoharjo* 1994; *Hasil pengumpulan Prambanan*).

Inscriptions:

Hoepermans is also said to have located a stone inscription in the village (Verbeek 1891: 178).

Miscellaneous archaeological finds:

The temple pit was dug out and a *peripih* was found at the bottom. The square deposit box contained fragments of gold, remains of a gold elephant, a pot and sand (*Laporan penggalian Gatak* 1984).

WATUGUDIG

Administrative localization: Jobohan, Bokoharjo, Prambanan, Sleman, DIY.

135 These are the coordinates of the remains that are still visible (i.e. the three *yoni*).

Geographical localization: 07° 46' 30.4" S
 110° 28' 51.2" E
 Precision: 19m
 Alt.: 125m

Surroundings: In lowland, on flat ground, 500m east of the Opak River. From here one can see Mount Pegat, Mount Ijo and the western edge of the Gunung Kidul hills. The site is located 200m to the east-southeast of Ngaglik, 750m east of Sanan, 750m to the northwest of Keblak, 1,000m to the northwest of Semarang and 1,000m to the southwest of Ratu Boko.

Religion: Buddhist.

Main features: *Pendopo* and single temple.

State of preservation: Only the bases of the columns of the *pendopo* are left. Nothing remains of the temple.

Description: Huge stone column bases of various diameters (up to 75 cm) are visible, together with bricks, *makara* and other cut stones. These remains probably do not belong to a temple but to the *pendopo*.

According to the older literature, there was once a temple located 50m north-west of the *pendopo* (IJzerman 1891: 115). This temple was destroyed by the enlargement of a sugar factory (Knebel 1909a: 52).

Sculptures:

An Amitabha statue was found within the temple area, thus suggesting that this site was Buddhist (IJzerman 1891: 115).

PRAMBANAN OR LORO JONGGRANG

Administrative localization: Karangasem, Bokoharjo, Prambanan, Sleman, DIY.

Geographical localization: 07° 45' 07.4"
 110° 29' 29.2"
 Precision: 13m
 Alt.: 150m

Surroundings: In lowland, on flat ground, some 200m east of a branch of the *kali* Opak and south of Sewu, Bubrah and Lumbung. From the main courtyard, there is a view of the three above-mentioned temples, as well as of Plaosan Lor, Ratu Boko, Dawangsari and Ijo. The site is located 550m to the northeast of Bogem, 500m to the south-southwest of Lumbung, 600m to the south-southwest of Bubrah, 1,000m to the south-southwest of Sewu and 1,100m to the northeast of Sojiwan.

Religion: Hindu.

Main features: Concentric compound organised around a sanctuary type 3; facing east; staggered square with four *cella*; enclosure walls; outer enclosure with a specific orientation.

State of preservation: The buildings in the central courtyard have been restored up to the superstructure. Several secondary temples within the outer enclosure have been thoroughly rebuilt too, but most of them are reduced to their bases. Of the outer enclosure itself, only the southern *gopura* is still visible.

Description: Loro Jonggrang is a large compound composed of three courtyards and corresponding enclosure walls.

First courtyard

The first (or inner) courtyard measures 103m x 103m (inner measurements). Its ground level is considerably higher than the surrounding natural ground level.

It was artificially raised by building a large number of walls with river stones and by filling the gaps between these walls with earth and sand (Stutterheim 1936: fig. 4).

Eight buildings occupy the courtyard. In the western part of the courtyard is a row of three huge temples (known as the *candi* Brahma, Siwa and Wisnu), the largest (Candi Siwa) being at the centre. In the eastern part of the courtyard, in front of the above-mentioned buildings, are three smaller shrines in a line.¹³⁶ The space between the two rows of shrines is flanked to the north and south by an additional building. Further, eight miniature temples mark the cardinal points of the courtyard.

Candi Siwa

Candi Siwa is the largest structure in the compound.

It is almost exactly orientated towards the east (88° 51'; see Siswoyo 1996: 6).

Its base is a staggered square measuring 27.50m. It can be reached via four staircases, one on each side.¹³⁷ The staircases are flanked by some kind of miniature temple, although only the one located south of the eastern staircase has an inner space.¹³⁸

136 These shrines are commonly known as the *candi wāhana* (Hamsa, Nandi and Garuda), although this appellation is dubious and will not be used here. The only *wāhana* ever found was a bull, in the central structure.

137 During restoration work, it was discovered that at a previous stage of construction, the eastern staircase was steeper and shorter than it is today (Bernet Kempers 1938: 5ff).

138 It houses a *lingga*, which is the actual geometrical centre of the courtyard. The Śiwa temple, although it is the focus of attention, is not at the centre of the sacred space. It is displaced to the rear (west) and to the north.

A balustrade crowns the base. From the four gates in this balustrade, large stairs climb to the temple body, while two lateral, smaller staircases gives access to an open-air circumambulation path.¹³⁹ Reliefs of the Rāmāyana adorn the inner side of the balustrade, while on the temple foot are depicted dancers, musicians and the guardians of the winds.

The temple body is a staggered square (17.5m x 17.5m) and it rises on a high, double foot. Its southern, western and northern staircases open onto a short corridor that leads to a small *cella* (3.10m x 3.10m). On the eastern side, the corridor leads to a vestibule¹⁴⁰, which communicates with the central *cella* via a doorway. The main *cella* (7.10m x 7.10m) has roughly five(?) times the surface area of the secondary *cella*.

Candi Wisnu and Candi Brahma

Located respectively to the north and south of Candi Siwa, the *candi* Wisnu and Brahma are two identical buildings. Their base is a staggered square measuring 17.5m, with a single staircase on the east. As on Candi Siwa, it is crowned by a balustrade adorned with relief carvings. The temple body is a staggered square of 11.5m, with a double foot. A doorway, located on the eastern side, gives access to a long corridor leading to the *cella*. The latter is 5m square.

Candi Nandi

In front of Candi Siwa, stands the smaller Candi Nandi. The temple base is rectangular: 15.20m (E-W) x 16.70m (N-S). It is crowned by a balustrade and possesses a staircase and a gate on its western side. The temple body also has a double foot, with the peculiarity that the first foot is rectangular (10m x 11.5m), while the second is a staggered rectangle (7.7m x 9.2m). A corridor leads to the rectangular *cella* (8m x 5.5m). The centre of the room is occupied by the sculpture of a *bull* while two altars are visible at the rear.

Candi B and Candi A

Located respectively in front of Candi Wisnu and Candi Brahma are two temples known as Candi B and Candi A. These buildings are similar, though not identical, to Candi Nandi. Their bases are square (14.1m x 14.1m), with a staircase on the western side, and are crowned by a balustrade. On the platform of

139 This organization is unique in Central Javanese architecture. Loro Jonggrang is indeed the only temple where the platform is at a lower level than the upper part of the entrance staircase. It gives the impression that the passage for circumambulation is not built on top of the base but within it. This is strengthened by the fact that the temple body does not rise directly from the platform; it is built on a moulded podium, so that it really starts only at the level of the gates.

140 This vestibule is similar in position and dimension to the three small *cella*.

each shrine rises the temple body, again with a double foot. The lower part of the foot is square (9.50m x 9.50m) while the upper part is a staggered square (7.3m x 7.3m). A corridor leads to the 3.5m² *cella*.

Candi Apit, the boundary shrines and first enclosure wall

To the north and south of the inner courtyard are two small temples called the *candi Apit*. These buildings have a square base measuring roughly 7.5m. In contrast to the other temples, they possess neither a balustrade nor a circumambulation path. However, the temple body also has a double foot. Its lower part is square while the upper part is a staggered square. Both shrines face the centre of the courtyard (i.e. the northern *candi apit* faces south while the southern *candi* faces north).¹⁴¹

In the corners of the courtyard, as well as at the centre of each side, are distributed eight shrines housing a *lingga*. They mark the boundaries of the most sacred enclosure.

An enclosure wall pierced by four gates, one at the centre of each side, surrounds the inner courtyard.

Second courtyard

The second courtyard is considerably lower than the first courtyard, although it is still higher than the local ground level.

The ground was raised using the same technique as in the case of the central courtyard (Stutterheim 1931-1935: fig. 9).

In the second courtyard are four rows of secondary shrines, counting progressively 44, 52, 60 and 68 buildings. The courtyard is surrounded by an enclosure wall measuring roughly 220m square. It has nowadays almost disappeared.

Parts of the wall were discovered during excavations in 1926 to the north, east and south of the courtyard (Bosch 1926: 6ff). This research revealed that the enclosure had a projection at the centre of each side and was therefore a staggered square. In the eastern corner of the southern projection were found the foundations of a temple (Bosch 1926: 8).

Third courtyard

A third enclosure wall further surrounds the whole compound. In contrast to the two other enclosures, it is not orientated around the cardinal points. Nowadays, only its southern gate is still visible.

Parts of its northern and eastern sides were identified in 1926 (Bosch 1926: 6ff).

¹⁴¹ The staircase of the southern *candi apit* underwent modifications similar to those at Candi Siwa: originally, the staircase was steeper and shorter (Stutterheim 1931-1935: fig. 5).

Within the space between the second and the third enclosures several remains have been found.

The remains of two walls running north and linking the northern projection of the second enclosure with the third enclosure, were discovered in 1926 (Bosch 1926: 7-8). The same year, excavations carried out in the south also revealed a pathway. However, in contrast to the northern causeway, it was not on the axis of the second enclosure, but on the axis of the third.

The northern projection is linked to the third enclosure by two walls running north to south. These walls were probably part of a pathway (Bosch, 1926: 7-8).

Sculptures: In the main temple one can see Śiwa (central *cella*), Durgā (northern *cella*), Gaṇeśa (western *cella*) and Agastya (southern *cella*). In the *cella* of the temples to the north and south of the main temple, a Viṣṇu and a Brahmā are visible. In the secondary shrine in front of the main temple there is a bull flanked by Sūrya and Candra.

Inscriptions:

19 inscribed gold strips were found among the remains of Candi B. Each one bears the name of a *lokapāla*, the 19th name being “Om pascima yatra ya namah” (Setianingsih 2002: BG 1751, BG 1804-1817).

Miscellaneous archaeological finds:

According to IJzerman, the excavation of the central pits of the *candi* Siwa, Wisnu, Brahma and Nandi, and the *candi* A and B, led to some peculiar finds.

A stone box was discovered within the central pit of Candi Siwa, at 5.75m below the ground level of the *cella*. The casket contained earth mixed with ashes and charcoal. It also contained metal fragments, 20 coins, semi-precious stones, beads, copper strips and at least 12 gold leaves of different shapes (7 squares, a turtle, naga, oval; IJzerman 1891).

A similar find was made at Candi Wisnu. From the central pit was extracted a bronze vase containing earth, ashes, bronze strips (a turtle, cakra, vajra), a bronze cross, semi-precious stones, gold strips and copper leaves (IJzerman 1891).

In the pit of Candi Brahma, four broken pots were found, together with some fragments of bronze (IJzerman 1891).

In Candi Nandi, excavations of the central pit brought to light several animal bones (from a squirrel, cow) as well as fragments of a vase (IJzerman 1891).

In Candi A, the pit was filled with dressed stones and, between these, fragments of human bones were found (IJzerman 1891).

A dog skeleton was found within Candi B (IJzerman 1891).

In 1931, two stone caskets containing inscribed gold and silver plates were found near Candi Brahma. In the following years (1931-1935), similar boxes were discovered elsewhere in the first courtyard (Stutterheim 1931-1935a: 7 and note 11). Such a casket was found in the southeastern corner of the eastern staircase of Candi Siwa. Its cover was bound to the box by a chain of 6 rings and 2 plates. (Stutterheim 1931-1935b: fig.10; 1937: 25)

A human skeleton was discovered to the southeast of Candi Nandi (Stutterheim 1931-1935b: fig.11).

More recently, during restoration work carried out at Candi Wisnu by the SPSP, cavities were found within the walls of the temple body, in the SE, NE, SW and NW corners, as well as within the northern and the eastern wall. No such cavities were found in the southern and western walls (Soenarto 1985: 384). The cavities were closed by a stone lid. They were filled with sand and contained bronze pots, bronze fragments, silver strips and gold leaves (Soenarto 1985: 385-387). The distribution was as follow:

- SE cavity: bronze vase with lid (ht: 15.5cm) containing sand, 4 silver strips, 5 gold leaves and fragments of bronze.
- NE cavity: bronze vase with lid (ht: 15cm).
- SW cavity: bronze vase with lid (ht: 17cm) containing sand, 3 bronze strips, 4 gold leaves and bronze fragments.
- NW cavity: bronze vase with lid (ht: 16.5cm).
- N cavity: sand.
- E cavity: sand.

KEBLAK (Geblak, Berbah, Brubah)¹⁴²

Administrative localization: Marangan, Bokoharjo, Prambanan, Sleman, DIY.

142 Keblak is the name commonly used by the local villagers. IJzerman (1891: 116), Verbeek (1891: 173), Bosch (1915a: 50) and Krom (1923, I: 53) all mention a temple called Keblak or Geblak. However, after a close examination, it appears that we are dealing with two different temples. The Keblak of the older literature is the northernmost of three buildings including Keblak, Bubrah and Singo, with the distance between Keblak and the southernmost temple (i.e. Singo) being 700m. This ancient Keblak was located 400m east of Watugudig in the *dusun* of Candirejo while, according to early maps, Singo was on an east-west line with Candi Tinjon.

This description certainly does not correspond with the modern Keblak. The latter is in fact in the *dusun* of Semarang (Candirejo is much more to the north). Furthermore, if the relative positions of Tinjon and Singo were correct, there would only be 300m between Singo and Keblak, not the 700m mentioned in older sources.

There is therefore a high possibility that the names of Keblak and Bubrah have been switched. This hypothesis is strengthened by the fact that Brumund, while listing the temples, says that the northernmost is called Gajah, the central one Geblak and the southernmost Singo.

I will thus keep the name used by Brumund and present-day villagers and call the central temple Keblak. The reader should however keep in mind that other sources usually mention it as Bubrah or Berbah.

Geographical localization: 07° 46' 51.9" S
 110° 29' 04.8" E
 Precision: 17m
 Alt.: 120m

Surroundings: In lowland, on flat ground, 600m west of the *kali* Gawe/ Sorogedug. From here one can see the Ratu Boko Plateau, Mount Pegat, Mount Ijo and the rest of the western edge of the Gunung Kidul. The site is located 300m north of Singo, 400m to the west-southwest of Semarang, 400m to the south of Gaja, 750m to the southeast of Watugudig, 900m to the southeast of Ngaglik and 1km to the west-southwest of Banyunibo.

Religion: Hindu.

Main features: Unknown.

State of preservation: Scattered stones.

Description: The only remains today are a few stones and a *yoni* (1.20m square and 80 cm high; B811a; *Hasil pengumpulan Prambanan*).

Sculptures:

Two *yoni*, as well as sculptures of Śiwa and Gaṇeśa, were found here (IJzerman 1891: 116; Brumund 1854: 49; Verbeek 1891: 173). A headless female figure holding a *triśūlā* was also discovered among the remains (Soeroso 1985: 6).

SEMARANGAN (Kertan, Marangan)

Administrative localization: Marangan, Bokoharjo, Prambanan, Sleman, DIY.

Geographical localization: 07° 46' 48.4" S
 110° 29' 19.1" E
 Precision: 40m
 Alt.: 120m

Surroundings: In lowland, on flat ground, 400m west of the *kali* Gawe. From here one can see the Ratu Boko Plateau, Mount Pegat, Mount Ijo and the rest of the western edge of the Gunung Kidul. The site is located 400m to the east-southeast of Keblak, 500m to the southeast of Gaja, 600m to the northeast of Singo, 600m to the west-southwest of Banyunibo, 900m to the south of Ratu Boko and 1,000m to the southeast of Watugudig.

Religion: Hindu.

Main features: Unknown.

State of preservation: Scattered stones.

Description: Nothing remains *in situ* but a lot of stones scattered in several courtyards of the village; some used to build fences, others to build a well. Some fragments are of architectonic elements: lintels, pilasters, finials, mouldings, antefixes and pinnacles. Most of the blocks however seem to have been left unfinished, without any carving.

A *yoni* was also discovered here (B803; *Hasil pengumpulan Prambanan*).

NGAGLIK

Administrative localization: Pelemsari, Bokoharjo, Prambanan, Sleman, DIY.

Geographical localization: 07° 46' 27.7" S
110° 28' 44.4" E
Precision: 7m
Alt.: 125m

Surroundings: In lowland, on flat ground 250m east of the Opak River. The site is located 200m to the west-northwest of Watugudig, 550m to the east of Sanan, 900m to the northwest of Keblak and 1,200m to the west-southwest of Ratu Boko.

Religion: Buddhist.

Main features: Sanctuary type 4 or 5.

State of preservation: No visible remains.

Description:

At the beginning of the twentieth century, traces of two or three buildings were still visible (Bosch 1915a: 49). They were arranged in a north-south line.

Sculptures:

According to Krom, there were still a few Buddha statues when he visited the site (Krom 1923, I: 252).

SINGO

Administrative localization: Candi, Madurejo, Prambanan, Sleman, DIY.

Geographical localization: 07° 47' 01.7" S
 110° 29' 00" E
 Precision: Map.¹⁴³
 Alt.: 115m

Surroundings: In lowland, on a small elevation 600m west of the *kali* Gawe/ Sorogedug. The site is located 300m to the south of Keblak, 600m to the southwest of Semarang, 700m to the south of Gaja and 800m to the northwest of Polengan.

Religion: Hindu.

Main features: Sanctuary type 3 or 4; facing west; staggered square.

State of preservation: No visible remains.

Description:

According to older inventories, Candi Singo was located on a small hill, whose summit had been partly levelled to create a courtyard of 11 x 45m.

The main temple was said to be in a line with the *candi* Geblak and Bebrah.

It was actually a compound consisting of a central sanctuary with two small shrines on the north and south. The main shrine had a projection at the centre of each side and faced west (IJzerman 1891: 117). The *cella* of the main temple measured 12 square feet, while the sacred chamber of the secondary shrines was only 6.5 foot square.

In front of each shrine was a hole or pit. According to Brumund, these three holes were undoubtedly tanks for holy water (Brumund 1854: 52). However, IJzerman suggested that they were not tanks but temple pits (IJzerman 1891: 118).

Sculptures:

A bull was found at the site together with a Gaṇeśa and a *yoni* (IJzerman 1891: 118).

¹⁴³ Candi Singo is not mentioned either on the TD map or on the Bakosurtanal maps. I have used both textual information and the map published by IJzerman (1891) to plott its location on the modern 1:25,000 map, taking into consideration the position of the *candi* Tinjon and Gaja and the distance between the latter and Singo.

GAJAH (Geblak, Keblak, Kobla)¹⁴⁴

Administrative localization: Candirejo, Madurejo, Prambanan, Sleman, DIY.

Geographical localization: 07° 46' 39.5" S
110° 29' 04.5" E
Precision: Map.¹⁴⁵
Alt.: 115m

Surroundings: In lowland, on flat ground 400m to the north of Keblak, 450m to the southeast of Watugudig, 500m to the northwest of Semarangan, 700m to the north of Singo and 1,000m to the east of Banyunibo.

Religion: Hindu.

Main features: Single temple; facing west.

State of preservation: No visible remains.

Description:

Some years ago, a dozen temple stones were still visible (*Laporan inventarisasi Madurejo dan Bokoharjo*).

According to Brumund (quoted by IJzerman 1891: 115), the temple had its entrance to the west and measured 20 feet square. In the rear wall of the *cella* was a niche (Krom 1923, I: 253).

Sculptures:

A *yoni* was found here (Verbeek, 1891: 173).

Formerly, there had also been a *lingga* with an inscription (Hoepermans, quoted by Verbeek 1891: 174).

GREMBYANGAN (Grimbyangan)

Administrative localization: Grembyangan, Madurejo, Prambanan, Sleman, DIY.

Geographical localization: 07° 47' 25.9" S
110° 28' 01" E
Precision: Map.¹⁴⁶
Alt.: 110m

¹⁴⁴ As I have followed the modern villagers and Brumund in the case of Keblak, I will also use the name given by Brumund for this temple, although the remains have long since disappeared and no contemporary appellation exists.

¹⁴⁵ The temple does not figure on any map except the one made by IJzerman (1891). I have used the latter, as well as textual information (the distance from Watugudig, the position of Keblak and the *dusun* of Candirejo) to plot Gaja on the 1:25,000 Bakosurtanal map.

¹⁴⁶ Plotted on the Bakosurtanal map according to the sketch by IJzerman (1891).

Surroundings: In lowland, on flat ground along the eastern bank of the Opak River. The site is located 30m to the east of Tanjungtirto.

Religion: Hindu

Main features: Unknown.

State of preservation: No visible remains.

Description:

Temple remains were still visible at the end of the 19th century, but they had vanished by the beginning of the 20th century (Verbeek 1891: 169; Krom 1923, I: 252). The SPSP DIY has found some scattered stones more recently (*Laporan inventarisasi Madurejo dan Bokoharjo* 1994).

Sculptures:

A few sculptures were found here, among others a head of Brahmā (IJzerman, 1891:122).

Fragments of finials (B739a, b), a lion (B739c), an unidentified male divinity (B739e), a *makara* (B739g) and two *yoni* (B739j, k) were found in this area by the SPSP DIY (*Laporan inventarisasi Madurejo dan Bokoharjo* 1994).

NOGOSARI

Administrative localization: Nogosari, Madurejo, Prambanan, Sleman, DIY.

Geographical localization: 07° 47' 50.6" E¹⁴⁷
110° 28' 35.1" S
Precision: 17m
Alt.: 105m

Surroundings: In lowland, on flat ground, 1km east of the Opak River.

Religion: Hindu.

Main features: Unknown.

State of preservation: Scattered stones.

Description:

Described by Brumund as an "oppervlakte van 60 x 40 pas" (Brumund, 1854: 44).

A few temple stones are still visible scattered around the village. Some of them bear decorative sculptures. Nothing seems to be *in situ*.

147 These are the coordinates of the area known to the villagers as 'Candi'. This place is planted with a tree and there are no traces of a temple, except for one carved stone, probably part of a temple roof.

Sculptures:

A lintel representing the goddess Śrī between two elephants was found at the site (Bosch 1915a: 44; now at the Sono Budoyo Museum). A *yoni* was also discovered in the village (IJzerman 1891: 121; Verbeek 1891: 169). According to the SPSP DIY, two *makara* (B737, B738k) and a *bull* (B739) have been found here more recently (*Laporan inventarisasi Madurejo dan Bokoharjo* 1994; *Hasil Pengumpulan Prambanan*).

POLENGAN

Administrative localization: Polengan, Madurejo, Prambanan, Sleman, DIY.

Geographical localization: 07° 47' 17.7" S
110° 29' 26.3" E
Precision: Map.¹⁴⁸
Alt.: 115m

Surroundings: In lowland, on flat ground at the foot of the Gunung Kidul and Mount Ijo, on the western bank of the *kali* Gawe/Sorogeduk. The site is located 800m to the southeast of Singo, 900m to the west-southwest of Gupolo and 1km to the southwest of Tinjon.

Religion: Hindu.

Main features: Single temple.

State of preservation: No visible remains.

Description:

At the end of the 19th century, a temple pit was still visible near the Sorogeduk River (Verbeek 1891: 170). A *yoni* was discovered in this area (B738j; *Laporan inventarisasi Madurejo dan Bokoharjo* 1994).

Inscriptions: Twelve inscriptions were found in the vicinity, and are dated to 873, 876, 877, 878 and 881.

TINJON

Administrative localization: Tinjon, Madurejo, Prambanan, Sleman, DIY.

¹⁴⁸ The site has been plotted on the Bakosurtanal map according to the maps of IJzerman (1891), Verbeek (1891) and Krom (1923).

Geographical localization: 07° 47' 01.7" S
 110° 29' 33.0" E
 Precision: 13m
 Alt.: 200m

Surroundings: In lowland, on the slope of Gunung Kidul, 400m east of the *kali* Gawe/Sorogeduk. From here, one can see the *gunung* Abang (SE), the Yogyakarta plain (E), the Ratu Boko plateau (NE) and Mount Merapi (N).¹⁴⁹ The site is located 200m to the north of Gupolo, 800m to the southeast of Banyunibo, 1km to the northeast of Polengan and 1km to the south of Barong.

Religion: Unknown.

Main features: Single temple; facing west; enclosure wall.

State of preservation: The temple is now reduced to a mere mound, but a short section of wall is still visible on the eastern side.

Description:

This temple was still standing at the beginning of the 19th century, and faced west (Brumund 1854: 53; Verbeek 1891: 171). By 1889, it had already almost completely disappeared (Verbeek 1891: 171). In 1989, the SPSP DIY carried out a plan of prospection. This revealed that although the remains had been badly damaged by the construction of a retaining wall to protect the adjoining road, parts of the structure were still *in situ* (*Laporan identifikasi Tinjon* 1989). Excavations revealed a part of the temple's eastern wall.¹⁵⁰ Traces of an enclosure wall were visible 8m east of the temple base and also in the northern and northeastern parts of the site. The enclosure must have measured approximately 57 x 65m (*Laporan identifikasi Tinjon* 1989: 9).

Today, some parts of the eastern wall and of the enclosure wall are still visible, but the temple body is reduced to a pile of earth mixed with stones.

BARONG (Sari, Sari Sorogeduk, Sari Sorogedug)

Administrative localization: Candisari, Sambirejo, Prambanan, Sleman, DIY.

Geographical localization: 07° 46' 32.3" S
 110° 29' 49.9" E
 Precision: 24m
 Alt.: 200m

149 With fewer trees, Candi Barong might also be visible.

150 The wall was not entirely excavated, so that it is impossible to know the dimensions of the sanctuary. Only the first stones of the base were visible. The moulding was not complete but seems to have been characterized by a high and plain plinth.

Surroundings: In lower middle land, on top of a hill belonging to the Gunung Kidul massif, a hundred meters from the spring of the *kali* Gawe/Sorogeduk. From the path leading to the temple, and from the sanctuary itself, the view is breathtaking. To the north, the summit of Mount Merapi rises above the hills. To the south and southeast, one can see the crescent formed by the range of Gunung Kidul. To the southwest Gunung Abang is clearly visible. To the west, the landscape opens out completely and one can see as far as the Menoreh hills. Banyunibo, Dawangsari and the *pendopo* of Ratu Boko can all be seen from the temple area.¹⁵¹ The site is located 100m to the south of Dawangsari, 450m to the northeast of Candi Banyunibo, 550m to the south of Arca Ganesa, 600m to the south-southeast of Sumberwatu, 800m to the southeast of the *pendopo* of Ratu Boko and 1,000m to the north of Tinjon.

Religion: Hindu (Vaishnava?).

Main features: Sanctuary type 5; organic compound; facing west; square; enclosure walls.

State of preservation: The twin temples have been restored up to the superstructure, but of the buildings of the lower courtyard only foundations remain.

Description: The upper part of the hill has been re-shaped into a terrace; it opens to the west, is reached via a single stairway, and measures 90m (E-W) x 63m (N-S). On the terrace rises an enclosure wall divided into two courtyards. Although the exact height of this wall is now unknown, judging by its thinness, it could not have been very high.¹⁵² The only access to the courtyard is via a *gopura* in the western wall.¹⁵³

The western courtyard measures roughly 41m (E-W) x 46m (N-S) and is occupied by the foundations of various buildings. Their organization is not symmetrical and does not seem to follow any logical pattern.

The southwest quarter of the courtyard shelters the remains of a *pendopo*, measuring 10.60 (E-W) x 11.70m (N-S). This large building had a rectangular plan and was composed of a main room and an antechamber.¹⁵⁴ The main room was supported by ten columns (three on the northern and southern sides, four on the eastern and western sides). Only two columns remain in the antechamber.

151 Unfortunately, Candi Ijo is too high to be visible from here and the trees make it impossible to check if Ijo's "valley shrine" could ever be seen from Barong.

152 It is only one stone thick and might well have been a simple parapet.

153 One should note that the gate is not at the centre of the façade, but slightly to the north, as is also the case for the *gopura* leading to the eastern courtyard. This is linked to the modifications made around the two shrines. See below for further details.

154 Given its shape (long but narrow) and position (facing the temple), the eastern room was probably an antechamber. It might have been a kind of *veranda*, opened to the front, while the main room was closed by wooden panels. Traces of a groove in which to fix wooden walls are indeed visible in the main room. However, as there are no traces of a doorstep, this is only an hypothesis and it is possible – although not highly probable – that the entrance was on the western side of the larger room.

The northwest, northeast and southeast areas of this first courtyard are also occupied by a platform. These platforms are smaller than the one described above.

Directly in front of the *gopura* a paved path leads to another foundation, situated at the rear of the courtyard and on its east-west axis. Its location gives the impression that it was necessary to go through this building (perhaps a kind of open pavilion or simply a terrace for offerings) to gain access to the second courtyard.

In the southwestern part of the first courtyard, stand the remains of four small buildings or altars.

A second *gopura* leads from the western courtyard to the eastern – or rear – courtyard. Its inner space is almost entirely occupied by a huge terrace measuring 22m (E-W) x 36m (N-S) at the top. This rectangular terrace is asymmetrical: it is longer to the south of the *gopura* than north of it. In fact, this was not originally the case; traces of enlargement are still visible on its southern section.¹⁵⁵ The terrace is bordered by an enclosure wall with a single *gopura* (on the west). On the northern, eastern and southern sides of the enclosure, instead of a *gopura*, one finds a false door. Symbolically, the sanctuary is thus opened towards the four directions.

Within the courtyard, stand two small monuments. Their bases are unusually high and the temples have neither stairs nor doors.

They are oriented 269° 29' from due north (Siswoyo, 1996: 7).

The northern structure is commonly known as Candi I, and the southern structure as Candi II. Both are square and built upon a three-storeyed podium (8.40m x 8.40m). The base of each measures 5m x 5m while the temple body is 3.70m x 3.70m. The latter has four niches, one on each side.

Although there is no entrance, both temples do possess an inner space: a central pit extends through both the base and temple body (Santoso 1992: 23).

During the excavation, a layer of river stones was found under the base of Candi I. Under this layer was discovered a sort of huge *peripih*. It measured 3x3m and consisted of 9 cavities directly dug into the ground. The central cavity measured 1.5 x 1.5m, while the 8 holes around its periphery were 1m square. In the southeastern square a stone box was discovered (Santoso 1992: 23).

Under Candi II there was only one huge cavity, directly dug into the earth. It measured 3x3m. Parts of an earlier stone structure were found beneath the present-day Candi II (Santoso 1992: 24).

155 The reasons for this enlargement are obscure. Perhaps the terrace was intended to bear only one temple and its enlargement was necessary when it was decided to build a second or even a third shrine.

Sculptures:

Several sculptures have been found here: three female figures and three male figures (Darmojo, Hartini, Sastra, Soenarto & Tjandrasasmita 1984-1985: 27-29; *Laporan inventarisasi Wukirharjo, Sumberharjo dan Sambirejo* 1994). Among the female figures, one was left unfinished. The two others represent seated women with four arms. Unfortunately, only one of these sculptures is in a satisfactory state of preservation. It was found in the southeastern corner of the central courtyard. In her raised right hand, the woman is holding a flower, while the other right hand is open on her knee. In her raised left hand, she is holding an ear of rice. Her lower left hand is open and lying on her lap. Among the male sculptures, only one has been finished. It is also seated and four-armed, although his attributes cannot be identified. His head is adorned with a high cylindrical headdress. It is highly probable that, given the rice and the cylindrical headdress, these sculptures represent Wiṣṇu and Dewi Śrī. An unfinished four-armed Gaṇeśa was discovered in the vicinity, probably coming from Sumberwatu (*Laporan Inventarisasi Wukirharjo, Sumberharjo dan Sambirejo* 1994).

Miscellaneous archaeological finds/Inscriptions:

Four stone boxes were found within the precinct of the central courtyard.¹⁵⁶ Inside one of them were discovered fragments of gold, silver and copper (Darmojo, Hartini, Sastra, Soenarto & Tjandrasasmita 1984-1985: 29). On one of the silver leaves is an inscription, unfortunately illegible (Setianingsih 2002: BG 1369).

ARCA GANESA (Sumberwatu)

Administrative localization: Dawangsari, Sambirejo, Prambanan, Sleman, DIY.

Geographical localization: 07° 46' 11.4" S
110° 29' 48.7" E
Precision: 10m
Alt.: 240m

Surroundings: In lower middle land, on top of a hill in the northern Gunung Kidul, directly above Sumberwatu and overlooking the Prambanan plain (Mount Merapi, Loro Jonggrang and Sewu are all visible from here). The site is located 450m to the north of Dawangsari and 550m to the north of Barong.

Religion: Hindu.

Main features: Sculpture; facing west.

State of preservation: Intact.

¹⁵⁶ One of them had nine holes (*Laporan inventarisasi Sumberharjo dan Sambirejo*).

Description/Sculpture: This huge Gaṇeśa is carved directly out of the rock. Although badly damaged, eroded and headless, one can still distinguish the massive feet, rounded belly and trunk of the elephant-god, facing west. The statue is 1.75m high without the pedestal, and 2.50m with it.

Inscriptions:

A Hindu inscription dated 856 A.D. was found within the hamlet of Dawangsari (Bernet Kempers 1941-1947: 46). However, it is not clear whether it was found to the north of the village (near Arca Ganesa/Sumberwatu) or to the south (near Dawangsari/Barong).

DAWANGSARI

Administrative localization: Dawangsari, Sambirejo, Prambanan, Sleman, DIY.

Geographical localization: 07° 46' 27.1" S
110° 29' 51.2" E
Precision: 11m
Alt.: 180m

Surroundings: In lowland, on a high hill belonging to the Gunung Kidul massif. The site overlooks the Yogyakarta plain. The position of Dawangsari, to the north of Barong and on slightly lower ground, limits the view from the site: to the west, it is obscured by the Ratu Boko plateau¹⁵⁷ and to the north by a higher hill, so that neither the Yogyakarta plain nor Gunung Merapi are as visible as they are from Barong. The site is located 100m north of Candi Barong, 450m south of Arca Ganesa, 500m to the south-southeast of Sumberwatu and 800m to the east-southeast of the *pendopo* of Ratu Boko.

Religion: Buddhist.

Main features: *Stūpa*.

State of preservation: The base of one *stūpa* is still partly visible.

Description:

According to recent excavations, Dawangsari consisted of at least two large *stūpa* (*Laporan ekskavasi Dawangsari* 2001).

However, their state of preservation is very bad and only one can clearly be identified (Dawangsari I). Among the stones, one can distinguish a square base surmounted by a circular structure carved with lotus petals. To the north of this first *stūpa* is an area of roughly the same dimensions, scattered with stones. This is probably the location of the second *stūpa* (Dawangsari II).

¹⁵⁷ The *pendopo* and pools of Ratu Boko are visible from Dawangsari.

Some restoration work was carried out on Dawangsari I but, as it was begun before the discovery of the second *stūpa*, blocks from both monuments were probably mixed up (*Laporan ekskavasi Dawangsari*, 2001).

Further excavations would be needed to determine if the *stūpa* stood on their own or if they were part of a wider complex.

Inscriptions:

A Hindu inscription dated 856 A.D. was found within the hamlet of Dawangsari (Bernet Kempers 1941-1947: 46). However, it is not clear whether it was found to the north of the village (near Arca Ganesa/Sumberwatu) or to the south (near Dawangsari/Barong).

GUPOLO (Çiva-plateau)

Administrative localization: Groyokan, Sambirejo, Prambanan, Sleman, DIY.

Geographical localization: 07° 47' 09.0" S
110° 29' 53.9" E
Precision: 19m
Alt.: 200m

Surroundings: In lower middle land, in the Gunung Kidul west of Mt Ijo, on a steep slope between two hills with only a limited view. The site is located 200m south of Tinjon and 900m to the east-northeast of Polengan.

Religion: Not religious.

Main features: Stonecarver/sculptor's workshop.

State of preservation: Unfinished sculptures.

Description/Sculptures: Some sculptures and stone blocks have been gathered together around a huge, apparently *in situ* statue of Agastya (B742a), which is the only recognizable sculpture and is approximately 3m high. Other sculptures include a male figure with four arms (B742b) and two seated women (B742e, g).¹⁵⁸ These might have been Buddhist as well as Hindu and appear unfinished. The area was probably a stonemason's workshop. The rough pavement around the Agastya statue suggests that some simple provisions were made for the needs of the cult.¹⁵⁹ The sculptures may have been left there because of some fault in the stone, discovered while working it.

158 The inventory numbers are taken from *Laporan Inventarisasi Wukirharjo, Sumberharjo dan Sambirejo*.

159 This might have been done at a later period or even by the workers themselves.

This site should probably be identified as the “Śiwa-plateau” described by IJzerman (1891: 119-120) and Bosch (1915a: 38). Some 80m to the south is a huge Gaṇeśa.

According to IJzerman, besides a huge Agastya and Gaṇeśa, there was also a Śiwa Mahādewa (2.60m high), *bodhiśakti* and *bodhisattwa*. The Gaṇeśa was placed on top of a pedestal directly carved out of the rock. It faced west and was protected by an enclosure wall of 3.5m x 5m. Including its pedestal, the sculpture was 3m high.

Ijo

Administrative localization: Groyokan, Sambirejo, Prambanan, Sleman, DIY.

Geographical localization:

Lower temple:	Main temple:
07° 47' 03.8" S	07° 47' 01.8" S
110° 30' 39.5" E	110° 30' 42.9" E
Precision: 24m	Precision: 10m
Alt.: 372m	Alt.: 380m

Surroundings: In lower middle land, almost at the top of Mount Ijo, on a steep slope. This impressive complex is located on the upper northwestern slope of Mount Ijo, a 427m high hill that is part of Gunung Kidul. The summit of Mount Ijo, covered with trees, appears just behind the temple, though not exactly on its axis. The location offers a breathtaking view of the Opak plain. From Candi Ijo, the Gunung Kidul hills seem to form a mountainous crescent overlooking the Opak valley, with the Sorogeduk at its feet.

Religion: Hindu

Main features: Terraced compound; sanctuary type 2; facing west; square main shrine; enclosure.

State of preservation: The main temple has been restored up to its superstructure. The secondary shrines facing it are currently under restoration. However, most of the structures on the lower terraces are reduced down to their bases.

Description: Candi Ijo is actually a terraced sanctuary including a main temple, several secondary shrines and some other non-identified structures. The original number of terraces is difficult to determine, as the state of preservation of the lower structures is poor. The SPSP DIY has identified eleven terraces,¹⁶⁰ though not all of them show evidence of classical structures.¹⁶¹

Lowermost terraces.

On terrace n° I, the angle of an enclosure is still visible. In the northern part of terrace n° IV, traces of a stone foundation can be seen.

Terrace V and its sanctuary

The lowermost remaining sanctuary is to be found on terrace n° V. Although its state of preservation is poor, three buildings can still be identified. Their orientation differs slightly from the orientation of the upper buildings. The main temple opens to the west and measures roughly 9.20m (E-W) by 8.40m (N-S) at its base. Its length suggests that the temple once possessed a porch or was preceded by a gate. Of the *cella* itself, only the pit is still visible, while the walls have fallen down and are nowadays limited to a shapeless conglomeration of stones. Nevertheless, among these loose blocks, one can see a number of interesting carvings, such as narrative reliefs,¹⁶² pieces of decorative friezes with garlands and flowers, an ascetic waterspout,¹⁶³ pinnacles and a lion.

Facing the main temple are the remains a smaller shrine. Its staircase is almost touching that of the main shrine. Given its very poor state of preservation, it is not possible to tell if the shrine was square or rectangular, but its front wall is roughly 4m long. On the southern side of the main temple there seems to

160 I will keep the names used by Indonesian archaeologists (the lowermost terraces is therefore n° I, the uppermost n° XI), although archaeological structures are usually numbered from the centre outwards (allowing a continuous numbering in case further structures are found).

161 It is possible that not all of these 11 terraces date back to the Central Javanese period. Most of the retaining walls are made of dry rough stones, a practice that is difficult to date. However, terraces n° I, VIII and XI show the remains of classical walls, made of two faces of cut stones filled with rough stones. The only terraces that bear archaeological structures are terraces n° I, IV, V, VIII, IX and XI.

162 I have personally noticed two narrative reliefs. One is still *in situ* and is part of the outer face of the stairwell. The relief shows the lower portion of two animals (monkeys?), one standing, the other kneeling. The second carving is a loose block showing the back of a warrior holding a shield. Neither of these reliefs are of high artistic value. They both seem rough, particularly in comparison to the finely carved garlands still visible on some stones. They were perhaps intended to be covered by stucco, but it is also possible that they were not carved at the same period as the ornamental reliefs.

163 The stone is triangle-shaped and is carved on two sides, so that it was clearly intended to be seen from different directions and could stand alone, either on the roof or on the base. Through its lower section, the stone is pierced by a small hole so that it might have functioned as a waterspout, perhaps for ritual water. However, an ascetic waterspout is, to my knowledge, something unique, as they are usually *makara*-shaped. Perhaps one should see a link between the motif chosen for the spout and the nature of the temple.

have been a small structure. All the shrines are built on a common, paved terrace, which is large enough to have sustained yet another building to the north of the main temple – though there is presently no identifiable traces of it; this area being covered by dozens of stones that have probably fallen from the main shrine.

Terraces VIII and IX: the middle compound

Terrace n° VIII shelters two sets of buildings separated by a low stone wall. The ground level is slightly different in front of and behind this wall, so that one can also talk about two terraces, VIII-a and VIII-b

Terrace n° VIII-a is delimited to the north, east and south by an enclosure wall.¹⁶⁴ Remains of four structures are visible. Three of these structures are in a north-south line against the eastern wall of the enclosure.

Only the northernmost building was a shrine.¹⁶⁵ Its base is rectangular, measures 5.50m (E-W) x 6.25m (N-S) and has an important projection of 1.90m (E-W) x 5.25m (N-S) on the western side. There are no traces of stairs. The temple body follows the same pattern. It is a rectangle, 3.80 (E-W) x 4.70 (N-S), with niches on the northern, eastern and southern sides, and with a porch on the west. The vestibule opens onto a short corridor leading to the *cella*. The latter is 2m (E-W) x 2.80m (N-S).¹⁶⁶ Against its rear wall there is a 50cm-deep stone bench.¹⁶⁷

In front of this shrine is a stone pavement measuring approximately 5.20m (N-S) x 4.65m (E-W). To the south of this are two stone platforms. Both have roughly the same dimensions: 6m (E-W) x 8m (N-S). The southernmost platform bears traces of 10 pillar bases and may be identified as a covered pavilion or *pendopo*.

Terrace VIII-b is occupied by two shrines, of which only the bases remain. The northern shrine is slightly bigger than the southern one, but they seem to share the same plan. The southern shrine rises in the middle of a small courtyard, whose enclosure wall is partly excavated out of the natural rock.¹⁶⁸ The

164 Unfortunately, the western limits of the northern and southern sections of this wall are not identifiable, so that it is impossible to determine if a fourth wall closed the terrace to the west. One should also note that the eastern wall seems to continue further to the south. It is therefore highly probable that other buildings were initially raised on this terrace.

165 When the fieldwork for this research was carried out, the shrine had been partly dismantled and restoration trials were being conducted by the SPSP DIY. As a result, it was often difficult to distinguish details of the ground plan. Information from fieldwork has therefore been completed on the basis of a plan made by the restoration team in 1998.

166 The whole organization of this temple inevitably recalls the secondary temples of Plaosan Kidul (Prambanan) and Candi Bima (Dieng plateau). The three structures possess this unusually wide vestibule. As is the case at Plaosan Kidul, the mouldings on the temple body are continuous and are also visible inside the vestibule, giving the impression that the latter is a simple addition.

167 The front surface of the bench is divided into three panels by four pilasters. It may have been occupied by small sculptures.

168 An aperture is visible within the southern side of the enclosure wall.

courtyard measures 18m (E-W) x 12.70m (N-S). The temple base is 7.40m square, with a projection on the western side. The porch is at the same level as the base, thus considerably lower than the ground level of the *cella*. A flight of stairs links the porch to the *cella* door.¹⁶⁹ The temple body is a simple square. South of these two temples, there is a levelled area with many dressed stones, some of them possibly *in situ*.

The only structure now visible on terrace n° IX is a pavement measuring roughly 12.50m (E-W) x 16.50m (N-S).¹⁷⁰ Its western border is not clearly identifiable, so that it could have been wider.

Main compound

The uppermost terrace shelters four structures: a main temple turned to the west and a row of three secondary shrines facing it. The base of the main temple is 18.40m², with projecting stairs on its western side.

Its orientation is 269° 09' (Siswoyo, 1996: 7).

To the south of the stairs, within the base, there is a small niche housing a *lingga*; it is placed at the geometrical centre of the sacred enclosure. The temple body is also square, but with a projection for the porch on the western side. It measures 13m x 13m. Its outer walls are interrupted by 11 niches (two on the western side and three on the other sides). The doorway gives access to a corridor leading to the *cella*. The latter is 6.20m square and has one niche in the northern, eastern and southern walls. In the middle of the room there is a huge *yoni*, adorned with a *nāga* and a turtle, and bearing a magnificent *lingga*. The temple pit is not at the exact centre of the *cella*.

In front of the main temple are three small shrines, facing east. The northern and southern shrines have similar ground plans, measuring 5.11m x 5.11m at the base and 3m x 3m at the level of the temple body. On the northern, western and southern outer walls is a niche, while the eastern side is occupied by a slightly projecting entrance. The *cella* measures 2.30m x 2.30m. The central shrine is a bit larger and slightly elongated. It measures 5.50m (E-W) x 6.60m (N-S) at the base.¹⁷¹

The remains of several enclosures bordered by retaining walls were found around the uppermost terrace. The eastern side of the innermost enclosure would have been 6m from the main temple while the outermost would have been 10m away from it.

169 The door giving access to the *cella* is adorned as for an outer door.

170 Two octagonal column bases can be seen on the pavement; it is possible that the terrace was once covered, like a *pendopo*.

171 When my fieldwork was being carried out, the central shrine in front of the main temple was in course of restoration and partly dismantled, so that I was not able to check the dimensions of the temple body and *cella*.

The inner enclosure would have measured approximately 48m x 48m (*Peta Grid Situs Candi Ijo* 1998).

Within the inner courtyard, at the cardinal points, were placed *lingga*-shaped boundary stones. As at Loro Jonggrang, the geometrical centre of the courtyard is located south of the stairwell leading to the main temple.

Sculptures:

A sculpture of Śiwa was found at the site (Bosch 1915a: 40), and a Gaṇeśa was discovered near the main temple (Mundarjito 2002: 84). A Narasiṃha and a Wiṣṇu Triwikrama could also have come from this site (Fontein 1990: 145).¹⁷²

A sculpture of a goddess, identified as Pārwatī and found near the temple, is now in the Prambanan museum.

Inscriptions:

Gold plate inscription of Pāṇduranggabhasmaja (Candi Ijo) dating from the early to mid 9th century (Casparis 1956: 174).

Stone inscription consisting of a single word on the doorjamb of the “secondary shrine of the second row” (Groneman 1889: 317).

Miscellaneous archaeological finds:

The temple pit of the main temple (upper terrace) was excavated in the 19th century (Groneman 1889: 319ff). Although it had already been disturbed before that time, the excavation brought forth some interesting finds. The pit was filled with sand and stone fragments. Among these were found two small deposit boxes in stone and a kind of miniature altar. Mixed in with the sand were also fragments of iron and gold. At the centre of the pit, apparently still *in situ*, was discovered a pillar made of 9 layers of cut stones, with a narrow hole piercing the stones from top to bottom. Between the different layers and in a cavity made at the bottom of the “pillar” were found two metal rings, several gold coins, one ruby, a gold plate and a piece of coral.

MIRI (Miring)

Administrative localization: Nguwot, Sambirejo, Prambanan, Sleman, DIY.

Geographical localization: 07° 46' 18.8" S
110° 30' 27.6" E
Precision: 7m
Alt.: 293m

¹⁷² It is not clear however whether these two statues originate from Candi Ijo, since they are elsewhere reported as having been found at Sumur Bandung, which is a hundred meters to the north.

Surroundings: In lower middle land, near the top of Mount Pegat (322m), with a view of Candi Ijo, the Yogyakarta plain, the Prambanan plain and Mount Merapi.

Religion: Hindu.

Main features: Sanctuary type 2 (?); facing west.

State of preservation: Part of the temple base is still *in situ*.

Description:

The site seems to have been composed of three terraces (*Ekskavasi Miri* 1989: 20), but today only the uppermost is still recognisable.

The main temple stands on the highest and easternmost terrace. It opens towards the west. Only the square base of the temple (9.5m) remains.

Its exact orientation is 279° 45' (*Ikhtisar Temuan Ekskavasi Situs Miri* 1989).

Southeast of the main temple, ruins of another building were found (4.5m square) (*Ekskavasi Miri* 1989: 20). Most of the sacred area is still to be excavated.

On the middle terrace, dressed stones were also found; they might have been part of a paved path leading to the upper terrace (*Ekskavasi Miri* 1989: 23). Fragments of bricks are also visible.

Some 50m to the east of the temple, the remains of a *stūpa* (namely its *yasti* and *padmasana*) were discovered (Soeroso 1985: 3).

Sculptures:

Discovered on the site were three *yoni* of different dimensions (the biggest being 1.05m x 1.05m), a bull (B744c), a Śiwa Mahādewa (B744a; 2,34m), a *dwārapāla* and an Agastya (*Laporan Identifikasi di Nguwot; Laporan inventarisasi Wukirharjo, Sumberharjo dan Sambirejo* 1994).¹⁷³

SUMBERWATU

Administrative localization: Sumberwatu, Sambirejo, Prambanan, Sleman, DIY.

Geographical localization: 07° 46' 06.1" S
110° 29' 47.5" E
Precision: 9m
Alt.: 200m

¹⁷³ The *dwārapāla* (of which only the lower part remains) and two *yoni* are still kept at the site.

Surroundings: In lower middle land, on a hill in the northern part of Gunung Kidul between the Ratu Boko plateau and Mount Pegat. It overlooks the Prambanan plain and offers a magnificent view of Mount Merapi, but also of the *candi* of Loro Jonggrang, Sewu, Sojiwan and Plaosan. It is situated a few dozen meters below Arca Ganesa.

Religion: Buddhist (?).

Main features: Unknown.

State of preservation: Scattered stones.

Description: In the middle of a field, behind some houses, one can see a heap of carved stones. Among these are fragments of mouldings (some with a torus) and a few pieces of *stūpa*-like elements (probably parts of *yasti*) of different dimensions. Dressed stones have been used in the construction of at least two houses and a stable in the *dusun*. A 1.70m long lintel is still lying nearby.

Identification of the site is difficult. It might have been either a compound composed of several *stūpa* and/or a temple. The fact that a lintel is visible in the direct neighbourhood and that the *stūpa*-like elements are numerous and of various dimensions might confirm the temple hypothesis. However, it is also possible that not all the stones belong to the same structure.

Shaiva remains have also been found in the area (several *lingga* and two Gaṇeśa statues; *Laporan Inventarisasi Wukirharjo, Sumberharjo dan Sambirejo* 1994).¹⁷⁴

Sculptures:

Apart from the above-mentioned Hindu sculptures, several other statues have been discovered on the territory of the *dusun* of Sumberwatu, although not directly by the architectural remains. Three unfinished sculptures of seated men, measuring between 1.70m high for the smallest to 2m for the tallest (B743a, b, c), have been found (*Laporan inventarisasi Wukirharjo, Sumberharjo dan Sambirejo* 1994).¹⁷⁵

Miscellaneous archaeological finds:

A *peripih* was discovered in the village. It is a cubic stone (36.5cm x 35.5cm) with a triangle-shape hole in its middle. Around the triangle are carved four attributes (clockwise from the top): a *gada*, an arrow, a spear and a wheel. Between these drawings are four small inscriptions (*Laporan identifikasi di Sumberwatu* 1985: pl. 14).

174 The *lingga* are still in Sumberwatu. They have been gathered together in the grounds of a modern Hindu *pura*.

175 These sculptures are perhaps connected with the site called Arca Ganesa, which is located directly above the village of Sumberwatu. It is possible that, as in the case of Gupolo, there was a stonemason's workshop nearby.

SUMUR BANDUNG

Administrative localization: Groyokan, Sambirejo, Prambanan, Sleman, DIY.

Geographical localization: 07° 46' 57.8" S
110° 30' 43.1" E
Precision: 15m
Alt.: 375m

Surroundings: On a levelled area on the northern slope of Mount Ijo, with a view across the Prambanan plain, some 150m to the north of Ijo.

Religion: Hindu.

Main features: Unknown.

State of preservation: Only one line of stones is still visible.

Description: The area is scattered with several stone blocks. A few of them, in a line, seem to be the remains of an *in situ* wall running N-S.

Sculptures:

In this area, to the north of Candi Ijo, were discovered a sculpture of Narasimha and another of Triwikrama (Santoso 1992: 58).¹⁷⁶

KRAPYAK

Administrative localization: Krapyak, Sumberharjo, Prambanan, Sleman, DIY.

¹⁷⁶ They might come from Candi Ijo, see below.

Geographical localization: 07° 48' 26.7" S
 110° 29' 15.2" E
 Precision: Map¹⁷⁷
 Alt.: 95m

Surroundings: In lowland, on flat ground, roughly 900m west of the *kali* Gawe/Sorogeduk. The site was located 200m south of Polangan.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Brumund described the site as an “oppervlakte van 50 pas” (Brumund, 1854: 44). A few years ago, some temple stones were still visible, together with fragments of a doorway (B746j; *Laporan inventarisasi Wukirharjo, Sumberharjo dan Sambirejo* 1994).

Sculptures:

Some Hindu sculptures were found at the site, e.g. a *yoni*, a Durgā and two bulls (Verbeek 1891: 169; IJzerman 1891: 121; Brumund 1854: 44).

POLANGAN

Administrative localization: Polangan, Sumberharjo, Prambanan, Sleman, DIY.

Geographical localization: 07° 48' 20.1" S
 110° 29' 14.4" E
 Precision: Map¹⁷⁸
 Alt.: 100m

Surroundings: In lowland, on flat ground, roughly 900m west of the *sungai* Gawe/ Sorogeduk. The site was located 200m north of Krapyak.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

¹⁷⁷ The site has been plotted on a Bakosurtanal map from the map given by IJzerman (1891).

¹⁷⁸ The site has been plotted on a Bakosurtanal map from the map given by IJzerman (1891).

Description:

At the end of the 19th century, a couple of stones were still visible (Verbeek 1891: 170). A lintel has been found here more recently (*Hasil pengumpulan Prambanan; Laporan inventarisasi Wukirharjo, Sumberharjo dan Sambirejo* 1994).

Sculptures:

A few sculptures were discovered in the *desa*, among others two *yoni* (B745, B745a)¹⁷⁹ and two fragments of standing statues (B746, B747; *Hasil pengumpulan Prambanan; Laporan inventarisasi Wukirharjo, Sumberharjo dan Sambirejo* 1994).

SAWO (Sawoek)

Administrative localization: Sawo, Sumberharjo, Prambanan, Sleman, DIY.

Geographical localization: 07° 47' 58.9" S
110° 29' 53.8" E¹⁸⁰
Precision: 16m
Alt.: 100m

Surroundings: In lowland, on flat ground but close to the steep western slope of the Gunung Kidul massif, roughly 300m east of the *sungai* Gawe/Sorogeduk.

Religion: Unknown.

Main features: Unknown.

State of preservation: Scattered stones.

Description:

Plain dressed stones as well as antefixes, fragments of mouldings and a *makara* (B741w) have been found at the site (*Laporan inventarisasi Wukirharjo, Sumberharjo dan Sambirejo* 1994). As the antefixes had not yet been carved, it is probable that the temple, like many others, was left unfinished.

Today, only one stone is still visible, along a road heading north.

GROGOL

Administrative localization: Grogol, Margodadi, Seyegan, Sleman, DIY.

179 B745 measures 110cm x 110 cm and is carved with garlands, *bandes à châtons* and a lotus flower at the base of the drainage duct.

180 The coordinates given are those of the stone still visible in the village. However, according to IJzerman's map (1891), it appears that the structure was originally a few dozen meters east of the location of the present-day remains.

Geographical localization: 07° 44' 26.3" S
 110° 18' 08.2" E
 Precision: Map
 Alt.: 145m

Surroundings: In lowland, on flat ground, on the western bank of a tributary of the Krusuk River.

Religion: Hindu.

Main features: *Yoni*.

State of preservation: No visible remains.

Description/sculptures:

A Durgā (B858), a *dwārapāla* (B861) and several *yoni* were once visible in the village (*Hasil pengumpulan Seyegan; Daftar Peninggalan Benda DIY* 1985: 73-74) and might suggest the former presence of a temple.

PLANGGAK

Administrative localization: Planggak, Margokaton, Seyegan, Sleman, DIY.

Geographical localization: 07° 43' 16.8" S
 110° 16' 48.1" E
 Precision: Map
 Alt.: 140m

Surroundings: In lowland, on flat ground.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description/Sculptures:

Some vestiges were found in this village: a *yoni* (B840), an antefix, a Gaṇeśa (B842), a finial and a *dewi* (B844; *Hasil pengumpulan Seyegan; Daftar Peninggalan Benda DIY* 1985: 71).

The presence of sculptures and architectural elements suggests that a temple might once have existed here.

SUSUKAN

Administrative localization: Susukan, Margokaton, Seyegan, Sleman, DIY.

Geographical localization: 07° 42' 49.0" S
110° 17' 16.5" E
Precision: Map¹⁸¹
Alt.: 150m

Surroundings: In lowland, on flat ground.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description/Sculptures:

A few building fragments (e.g. a 193cm long stone) have been found in this village, together with a Gaṇeśa and a *yoni* (*Daftar Peninggalan Benda DIY* 1985: 69-70).

KLACI

Administrative localization: Klaci-lor, Margoluwih, Seyegan, Sleman, DIY.

Geographical localization: 07° 45' 14.8" S
110° 17' 44.0" E
Precision: Map
Alt.: 125m

Surroundings: In low land, on flat ground, on the banks of a tributary of the *kali* Krusuk.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

181 In the absence of more detailed information, the coordinates given are those of the centre of the town formed by the villages of Susukan Satu, Susukan Dua and Susukan Tiga.

Description/Sculptures:

Among other stone blocks were found a four-armed Gaṇeśa (B864), a bull (B865) and an Agastya (B866¹⁸²; *Hasil pengumpulan Seyegan*; *Daftar Peninggalan Benda DIY* 1985:77-78). A little further, a *yoni* and a Durgā were also discovered (*Daftar Peninggalan Benda DIY* 1985: 77).

MALANG

Administrative localization: Malang, Caturharjo, Sleman, Sleman, DIY.

Geographical localization: 07° 41' 23.8" S
110° 19' 41.5" E
Precision: Map
Alt.: 240m

Surroundings: In lower middle land, on flat ground but in an area where the slope of Mt Merapi can already be felt, on the bank of a tributary of the Sangubanyu River.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description/ Sculptures:

Many temple stones were discovered in the village, together with two unfinished Gaṇeśa (B216, B217) and a small *yoni* (B254; *Hasil pengumpulan Sleman* 1980; *Laporan Kegiatan Sleman* 1990).

KARANGTANJUNG

Administrative localization: Karangtanjung, Pendowoharjo, Sleman, Sleman, DIY.

Geographical localization: 07° 42' 29.1" S
110° 22' 06.6" E
Precision: Map
Alt.: 230m

Surroundings: In lower middle land, on the first slopes of Mount Merapi, in an area intersected by small rivers, on the banks of a tributary of the *kali* Winongo.

182 In Margoluwih itself there is a *yoni* (B862) and a Durgā Mahiṣāsuramardīnī (B863) that could actually have come from the same temple; the triad of Gaṇeśa - Durgā - Agastya would then be complete.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Several carved stones were found here, among others a small antefix (B269), an unfinished sculpture (B265h) and a block carved with a medallion and *bande à chatons* (B270; *Hasil pengumpulan Sleman* 1980).

JETIS (Ngadiyono, Jogopaten)

Administrative localization: Jetis, Pendowoharjo, Sleman, Sleman, DIY.

Geographical localization: 07° 41' 43.7" S
110° 22' 36.1" E
Precision: 11m
Alt.: 270m

Surroundings: In lower middle land, on the lower slope of Mount Merapi, with a view of the mountain summit. Now in the Doso River, a tributary of the *kali* Winongo.

Religion: Hindu (?).¹⁸³

Main features: Unknown.

State of preservation: Scattered stones.

Description:

Numerous temple stones were noted here during the 19th century (Verbeek 1891: 163).

Today, only two blocks are still lying in the *kali* Doso. At a nearby modern bathing place, two *kāla* have been used as wall decorations (B265a, B266): Both have paws.

Sculptures:

Formerly, there was also a relief carving of a four-armed god, probably *Wiṣṇu* (B265/BG579;¹⁸⁴ *Hasil pengumpulan Sleman* 1980; *Laporan Kegiatan Sleman* 1990).

WADAS

Administrative localization: Wadas, Tridadi, Sleman, Sleman, DIY.

¹⁸³ On the basis of the discovery of a statue identified as *Wiṣṇu*.

¹⁸⁴ It is now at the office of the SPSP in Bogem.

Geographical localization: 07° 41' 56.3" S
 110° 21' 00" E
 Precision: Map
 Alt.: 235m

Surroundings: In lower middle land, on flat ground although on the first slopes of Mount Merapi, on the western bank of the *kali* Bedog. The site is located some 750m to the southwest of Kepitu.

Religion: Buddhist.

Main features: *Stūpa*.

State of preservation: No visible remains.

Description: This site has furnished many fragments of *stūpa*. The most interesting pieces have been brought to the office of the SPSP DIY in Bogem.

Archaeological excavations conducted in 1993 showed that the fragments belonged to two different *stūpa* (*Laporan penggalian Wadas* 1993). The northernmost structure (*Stūpa* I) was built on a square foundation made of natural stones. This foundation was 2.10m wide and consisted of two levels, the upper one being slightly smaller. The monument was left unfinished: it was not carved.

Stūpa II was smaller than *Stūpa* I. It also rested on a natural stone foundation, even though it only consisted of a single layer of stones. The structure is almost complete and on the square base one could see an *aṇḍa*, *harmikā*, *yasti* and *cattrā*. The total height of *stūpa* II was 2.60m. In contrast to *Stūpa* I, this second monument was richly decorated.

According to the plan drawn by the SPSP DIY, these *stūpa* were not positioned in relation to the cardinal points, but appeared to follow a NW-SE axis. From the existing documentation, it is difficult to determine the relative location of both structures. However they do not seem to have been in a line.

Some meters west of these *stūpa* were the remains of a wall, probably part of an enclosure.

As noted in *Laporan 1993*, this arrangement of two *stūpa* within a single, independent site is rare, if not unique in Java. Usually, this type of monument is only found as part of a larger sanctuary (such as at Plaosan or Sewu). However, such "double *stūpa*" are known from the reliefs of Borobudur (Ib/80).¹⁸⁵

185 Dawangsari might also belong to this category of "double *stūpa*" sanctuaries.

MIRING

Administrative localization: Morangan, Triharjo, Sleman, Sleman, DIY.

Geographical localization: 07° 41' 23.8" S
110° 20' 47.3" E
Precision: Map¹⁸⁶
Alt.: 250m

Surroundings: In lower middle land, on flat ground although on the first slopes of Mount Merapi, between the *kali* Konteng (to the west) and a tributary of the Ngalang River (to the east).

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description:

A *yoni* (B254) was discovered here, together with some plain stone blocks (*Laporan Kegiatan Sleman* 1990).

PANGGERAN

Administrative localization: Panggeran, Triharjo, Sleman, Sleman, DIY.

Geographical localization: 07° 40' 45.6" S
110° 20' 49.7" E
Precision: Map¹⁸⁷
Alt.: 290m

Surroundings: In lower middle land, on the first slopes of Mount Merapi and on the banks of the *kali* Kuning, a tributary of the Konteng River.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

186 In the absence of more detailed information, the coordinates have been taken at the centre of the town formed by the *dusun* of Morangan Tujuh and Morangan Delapan.

187 In the absence of more detailed information, the coordinates have been taken at roughly the centre of the town composed of the hamlets of Panggeran Kulon, Panggeran Wetan and Panggeran Tegal.

Description:

Temple remains were once visible in this area, together with a *lingga* (Verbeek 1891: 162; Hoepermans 1913: 221; Bosch 1915a: 19). More recently, the SPSP DIY was still able to note the presence of a few stones and an antefix (*Laporan Kegiatan Sleman* 1990).

KEPITU

Administrative localization: Kepitu, Trimulyo, Sleman, Sleman, DIY.

Geographical localization: 07° 41' 39.8" S
110° 21' 17.3" E
Precision: Map
Alt.: 250m

Surroundings: In lower middle land, in an area where the slope of Mount Merapi can already be felt, Between the Bedog River (to the west) and one of its tributary (to the east). The site was located some 750m to the northeast of Wadas.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Some temple fragments were found here by the SPSP DIY, such as an antefix, carved stones, finials and pieces of pinnacles (*Hasil pengumpulan Sleman* 1980; *Laporan Kegiatan Sleman* 1990).

Sculptures:

A bull (B256), two *yoni* (B256c, B256a), a *lingga* (B256b) and a Gaṇeśa (B261) all come from this village (*Hasil pengumpulan Sleman* 1980; *Laporan Kegiatan Sleman* 1990).

PLUMBON

Administrative localization: Plumbon, Mororejo, Tempel, Sleman.

Geographical localization: 07° 40' 23.8" S
110° 19' 18.0" E
Precision: Map¹⁸⁸
Alt.: 260m

¹⁸⁸ In the absence of more detailed information, the coordinates given here are roughly those of the centre of the village composed of the hamlets of Plumbon Cilik, Plumbon Lor, Plumbon Tengah and Plumbon Kidul.

Surroundings: In lower middle land, on the first slopes of Mount Merapi, along the *kali* Putih and its tributaries.

Religion: Hindu.

Main features: Single temple.

State of preservation: No visible remains.

Description/Sculptures:

Bosch (1915: 15) noticed traces of a temple base, although there is nothing left today. A bull (B441) and a *yoni* (B442) were also found here by the SPSP DIY (*Hasil pengumpulan Tempel*).

LENGKONG

Administrative localization: Lengkong Lor, Sumberejo, Tempel, Sleman, DIY.

Geographical localization: 07° 40' 23.9" S
110° 17' 34.7" E
Precision: 17m
Alt.: 210m

Surroundings: In lower middle land, on the first slopes of Mount Merapi and within the extended bed of the Krasak River.

Religion: Buddhist.

Main features: *Stūpa*.

State of preservation: Almost intact.

Description: The remains of a *stūpa* are still visible here. The stones were found a dozen meters from their present location, in a field. The base is roughly 1.20m x 1.20 and the superstructure is of a similar diameter.

SOSROKUSUMAN

Administrative localization: Sosrokusuman, Suryatmajan, Danurejan, Kotamadya Yogyakarta, DIY.

Geographical localization: 07° 47' 38.2" S
110° 22' 04.9" E
Precision: Map
Alt.: 110m

Surroundings: In lowland, along the western bank of the *kali* Code.

Religion: Unknown.

Main feature: Single temple; square.

State of preservation: No visible remains.

Description:

A square temple base was discovered here in 1935 (Stutterheim 1931-1935b: 17).

Appendix 3

INVENTORY OF THE TEMPLE REMAINS OF KABUPATEN MAGELANG

GUNUNG (Candi Gunung, Sangubanyu)

Administrative localization: Sangubanyu, Banyuwangi, Bandongan, Magelang, JT.

Geographical localization: 07° 29' 08.2" S
110° 11' 47.3" E
Precision: Map
Alt.: 365m

Surroundings: In lower middle land, on a gentle slope 350m to the east of the *kali* Sibangkong and 750m to the west of the Progo River.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description/Sculptures:

The graveyard of the hamlet was formerly scattered with temple stones. A few sculptures were also discovered at the site, among others, a Gaṇeśa, a bull and a *yoni* (Verbeek 1891: 143; Krom 1914a: 216).

BOROBUDUR

Administrative localization: Borobudur, Borobudur, Borobudur, Magelang, JT.

Geographical localization: 07° 36' 28" S
110° 12' 15" E
Precision: 15m
Alt.: 250m

Surroundings: In lower Middle land, on flat ground.

Religion: Buddhist.

Main features: Organic compound (?); facing east; staggered square.

State of preservation: The stepped pyramid has been restored up to its summit; the remains of secondary structures (mainly terraces) are no longer visible.

Description: The monument has been fully described in (at least) two seminal monographs: N.J. Krom and T. van Erp's *Beschrijving van Barabudur* (1920) and Dumarçay's *Histoire architecturale du Borobudur* (1977). I will thus be very brief and refer the reader to these works for further information.

Borobudur was erected on a natural hill, artificially modelled to serve as the core of a step pyramid. This is made up of nine steps or stages. The six lower terraces have a staggered square ground plan, whereas the three upper terraces are more or less circular.¹⁸⁹ The whole is topped by a *stūpa*. One accesses the monument *via* four axial staircases.

The monument has undergone numerous modifications (see Dumarçay 1977). One of the most intriguing of these changes is the addition of the lowermost staggered square terrace, which is built against the original base of the monument and hides reliefs that had already been carved on the base.

The next five staggered square terraces are separated from the outside world by a high parapet. Both the inner wall of the terraces and the parapet are carved with reliefs. The upper, circular terraces bear a multitude of cloistered *stūpa* sheltering sculptures of the Buddha.

BANON (Brajanalon)

Administrative localization: Jligudan, Borobudur, Borobudur, Magelang, JT.

Geographical localization: 07° 36' 09.5" S
110° 12' 53" E
Precision: Map
Alt.: 235m

Surroundings: In lower middle land, on flat ground along the western bank of the *kali* Progo. It is located roughly 700m to the northwest of Pawon and 750m north of Barepan.

Religion: Hindu.

Main features: Sanctuary type 5 (?); facing west.

State of preservation: No visible remains.

¹⁸⁹ The lowermost of these circular platforms is actually slightly square in shape, while the uppermost is almost a perfect circle.

Description:

According to Krom, there once stood a Hindu temple here, but traces of the building itself had already disappeared by the time of his visit (Krom 1923, I: 328).

According to photographs from the Oudheidkundigen Dienst, there were at least three temples in a north-south line. All the structures were made of brick, with some pieces of stone (doorsills, lintels), and faced west (Knebel 1905-1906: pl. 82).

Some bricks have been found more recently by the Balai Arkeologi (Tjahjono 2002: table 1).

Sculptures:

Numerous sculptures have come from this site, among others, a Śiwa Mahādewa, a bull, an Agastya, a Wiṣṇu on Garuḍa, a Brahmā and a Gaṇeśa (Krom 1923, I: 328). The Wiṣṇu was found *in situ* in the central temple; the Gaṇeśa was discovered at the rear of the southern temple and probably belonged to its *cella* (Knebel 1905-1906: pl. 82).

BRANGKAL

Administrative localization: Brangkal, Candirejo, Borobudur, Magelang, JT.

Geographical localization: 07° 37' 15.6" S
110° 13' 41.5" E
Precision: Map
Alt.: 225m

Surroundings: In lower middle land, on flat ground, on the western bank of the Progo River and 750m east of the *kali* Sileng.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description/Sculptures:

Brick fragments have been found in the village (Tjahjono 2002: table 1).

A bull (J.103), a Gaṇeśa (J.104) and a small *yoni* (J.105) were also discovered here (*Pengumpulan data Magelang* 1997-1998).

KARANGREJO

Administrative localization: Paren, Karangrejo, Borobudur, Magelang, JT.

Geographical localization: 07° 36' 00.8" S
110° 11' 15.6" E
Precision: Map¹⁹⁰
Alt.: 260m

Surroundings: In lower middle land, on flat ground 1km north of the Sileng River and 500m to the west of Kanggan.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Formerly there were fragments of brick dating from the classical period (Tjahjono 2002: table 1).

Sculpture:

Fragments of a statue of Śiwa have been discovered here (Balai arkeologi Yogyakarta, Personal communication 2002).

PAKEM

Administrative localization: Pakem, Majaksini, Borobudur, Magelang, JT.

Geographical localization: 07° 38' 04.5" S
110° 12' 07.4" E
Precision: Map
Alt.: 400m

Surroundings: In lower middle land, on the northern slope of the Menoreh hills.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Traces of a brick structure have been discovered in the village (Tjahjono 2002: table 1)

190 The hamlet of Paren is not mentioned on the Bakosurtanal map, but is marked on the TD map.

DIPAN

Administrative localization: Dipan, Tuksongo, Borobudur, Magelang, JT.

Geographical localization: 07° 37' 09.0" S
110° 12' 35.7" E
Precision: Map¹⁹¹
Alt.: 230m

Surroundings: In lower middle land, on flat ground on the southern bank of the Sileng River. The hamlet of Dipan is located some 700m to the south-southwest of Jowahan.

Religion: Unknown.

Main features: Single temple.

State of preservation: No visible remains.

Description:

According to the Balai Arkeologi, the foundations of a brick temple were found 1.5m beneath ground level. It consisted of a plain square base measuring 5m x 5m and facing east (Tjahjono 2002: table 2).

Earthenware (terracotta?) antefixes and bricks derived from this structure are now in the Borobudur Museum.

BAREPAN

Administrative localization: Barepan, Wanurejo, Borobudur, Magelang, JT.

Geographical localization: 07° 36' 33.3" S
110° 12' 56.3" E
Precision: Map
Alt.: 235m

Surroundings: In lower middle land, on flat ground 900m north of the *kali* Sileng and 650m west of the Progo River. The site is located 600m to the south-west of Pawon, 600m to the north-northeast of Jowohan and 750m to the south of Banon.

Religion: Hindu

Main features: *Yoni*.

State of preservation: No visible remains.

Description: A *yni* was discovered here, and is now conserved at Borobudur.

191 The hamlet of Dipan is not mentioned on Bakosurtanal map, but it is visible on the TD map.

JOWAHAN

Administrative localization: Jowahan, Wanurejo, Borobudur, Magelang, JT.

Geographical localization: 07° 36' 51.4" S
110° 12' 50.5" E
Precision: Map
Alt.: 230m

Surroundings: In lower middle land, on flat ground, on the northern bank of the Sileng River. The site is located 600m to the south-southwest of Barepan, 700m to the north-northeast of Dipan and 1,000m to the south-southwest of Pawon.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Some brick fragments have been found here (Tjahjono 2002: Table 1).

PAWON (Brodjonalan)

Administrative localization: Brojongan, Wanurejo, Borobudur, Magelang, JT.

Geographical localization: 07° 36' 22.0"
110° 13' 1.03"
Precision: 9m
Alt.: 258m

Surroundings: Some 150m west of the Progo River.

Religion: Buddhist.

Main features: Single temple; facing west; staggered square; enclosure.

State of preservation: Restored up to the superstructure.

Description: In fact, the temple faces west-northwest.

Its exact orientation is 287° 59' (Siswoyo 1996: 4).

The temple base is a staggered square measuring 9.30m (E-W) x 9.40m (N-S). The projections are shallow. An additional projection on the western side shelters the staircase. On the platform rises the temple body. It is also a staggered square and measures 5.5m x 5.5m. It has a porch on its western side.¹⁹² A short corridor leads to a 2.60m x 2.60m square *cella*.

Roughly 10.50m from the temple, on all four sides, were found remains of a kind of perimeter. The latter consisted of one layer of brick lying on river stones.

Some 13.20m to the east of the building were discovered the remains of a brick wall running roughly north-south, parallel to the temple. Excavation of this wall revealed traces of a staircase (Knebel 1909: pl. 62).

KANGGAN (Asem)

Administrative localization: Kanggan, Wringin Putih, Borobudur, Magelang, JT.

Geographical localization: 07° 36' 01.0"
110° 11' 32.2"
Precision: 9m
Alt.: 317m

Surroundings: In lower middle land, on flat ground, some 500m to the east of Karangrejo.

Religion: Hindu.

Main features: Single temple (?).

State of preservation: The only visible remains are two *yonis*.

Description: The two *yonis* are still standing at the site. One is a huge stone (1.18m x 1.18m x 1m) adorned with a *nāga*, a turtle and a *garuda*. The other is smaller (68cm x 68cm x 70cm), without any decoration. Two more *yonis* provenanced from here have been brought to the Borobudur Museum.

According to the Balai Arkeologi, there were also some fragments of stone blocks in the vicinity (Tjahjono 2002: Table 1). This observation is confirmed by a photo from the early 20th century (OD no. 2089)

In the nineteenth century, it seems that the main *yonis* was standing on a small earthen mound and could be reached via a staircase (Verbeek 1891: 144).

192 At the level of the temple body, the vestibule does not carry mouldings and seems to be structurally independent from the temple itself.

Sculptures:

A Śiwa and a Gaṇeśa were discovered in the surrounding area (Knebel 1911a: pl. 184; Krom 1914a: 272).

Miscellaneous archaeological finds:

In the neighbourhood, there was a pit where an urn containing precious materials is said to have been found (Krom 1914a: 272).

SIGENTAN

Administrative localization: Sigentan, Wringin Putih, Borobudur, Magelang, JT.

Geographical localization: 07° 35' 19.7" S
110° 11' 32.5" E
Precision: Map
Alt.: 265m

Surroundings: In lower middle land, on flat ground, roughly 1km to the west of the Tangsi River and 1.5km to the east of the *kali* Progo.

Religion: Hindu (?).

Main features: Unknown.

State of preservation: Scattered bricks.

Description: Fragments of ancient bricks are scattered in the village.

According to the inhabitants, a *yoni* was found here (Tjahjono 2002: 15).

GIOMBONG (Gyombong, Gijbong)

Administrative localization: Giombong, Surodadi, Candimulyo, Magelang, JT.

Geographical localization: 07° 27' 56.3" S
110° 18' 40.7" E
Precision: Map
Alt.: 650m

Surroundings: In upper middle land, on the western slope of Mount Merbabu, between the *kali* Katang (to the north) and the *kali* Kecapak (to the south).

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Traces of a brick temple were once visible (Krom 1914a: 221; Krom 1923, I: 408).

ASU (Kuning)

Administrative localization: Candi Pos, Sengi, Dukun, Magelang, JT.

Geographical localization: 07° 31' 38.9"
110° 21' 06.0"
Precision: 8m
Alt.: 665m

Surroundings: In upper middle land, on the western slope of Mount Merapi, 190m north of the *kali* Tlising, 200m east of the Pabelan River and 250m to the northeast of their confluence. From the site, there is a great view of Mount Merapi, Mount Sumbing and the plain of Muntilan. The temple is located 280m to the east-northeast of Candi Lumbung and 190m to the south of Pendem.

Religion: Unknown.

Main features: Single temple; facing west; square.

State of preservation: The base and the lower part of the temple body are preserved.

Description: The temple faces west.

Its exact orientation is 269° 13' (Siswoyo 1996: 4).

Its base is 7.90m x 7.90m square and has a small projection on the western side. The platform is almost non-existing; the temple body is only marginally smaller than the base, leaving no room for circumambulation. The temple body rises above a double foot that measures 5.60m x 5.60m at the bottom. Lightly projecting niches are visible on the northern, eastern and southern walls, while two additional niches flank the entrance. The *cella* is 3m x 3m square. At its centre, there is a pit 1.25m x 1.25m square and at least 4m deep.

LUMBUNG (Kuning)

Administrative localization: Candi Pos, Sengi, Dukun, Magelang, JT.

Geographical localization: 07° 31' 41.9"
110° 20' 57.3"
Precision: 10m
Alt.: 650m

Surroundings: In upper middle land, on the western slope of Mount Merapi, along the northern bank of the *kali* Pabelan. The temple is located 280m to the west-southwest of Candi Asu and 400m to the southwest of Pendem.

Religion: Unknown.

Main features: Single temple; facing west; square.

State of preservation: Only the base and the lower part of the temple body are preserved.

Description: The temple faces west.

Its exact orientation is 267° 09' (Siswoyo 1996: 4).

Its base is 8.66m x 8.66m square, with a small projection on the western side. As at Asu, there is no space on the platform for circumambulation. The temple body has a double foot and is 5.60m x 5.60m square. The northern, eastern and southern sides are interrupted by a niche. Within the *cella*, one can see the temple pit.

PENDEM (Kuning)

Administrative localization: Candi Pos, Sengi, Dukun, Magelang, JT.

Geographical localization: 07° 31' 32.9"
 110° 21' 06.9"
 Precision: 8m
 Alt.: 675m

Surroundings: In upper middle land, on the western slope of Mount Merapi, along the southern bank of the Pabelan River. The site offers a magnificent view of Mounts Merbabu and Merapi. Candi Asu is also visible from here. The temple is located 190m to the north of Asu and 400m to the northeast of Lumbung.

Religion: Unknown.

Main features: Single temple; facing west; staggered square.

State of preservation: Only the base and the foot of the temple body are left.

Description: The temple faces west.

Its exact orientation is 249° 37' (Siswoyo 1996: 3).

Its base is square, measures 12.80m x 12.80m and has a projection on the western side for the staircase. The temple body is a staggered square, although the projections are not at all deep. It measures 7.15m x 7.15m and has niches on the northern, eastern and southern sides. The *cella* was roughly 3.20m x 3.20m square.

Inscriptions:

Roughly 250m to the north of the temple was found an inscribed *lingga*, known as the Śrī Manggala inscription, which is dated 796 śaka (874 A.D.; Sarkar 1971-1972: no. 32).

GUNUNG GONO (Gono)

Administrative localization: Gunung Gono, Banyudono, Dukun, Magelang, JT.

Geographical localization: 07° 33' 10.4"
110° 19' 12.3"
Precision: 25m
Alt.: 535m

Surroundings: In upper middle land, on top of the small *gunung* Gono, a hill that rises on the western slope of Mount Merapi. From the hill one can clearly see Mounts Merapi, Merbabu and Sumbing. At the foot of Gunung Gono, flows one of the sources of the Birun River. To the north of the hill, there is another branch of the same river, while directly south of it flows the *kali* Keji.

Religion: Hindu.

Main features: Unknown.

State of preservation: Scattered stones.

Description/Sculptures: Among the trees and bushes, one can still see a huge *yoni* lying on its side (1.15 x 1.15 x 1m; J.117) surrounded by river stones.¹⁹³ Not far from the *yoni* are fragments of sculpture. A body is recognizable, with a rounded belly and little legs folded underneath. This might well be the Gaṇeśa mentioned by Verbeek (Verbeek 1891: 154). There is no trace however of the stone urn he mentions.

GEDUNGAN (Gondangan, Kalibening Duwur)

Administrative localization: Gedungan, Kalibening, Dukun, Magelang, JT.

Geographical localization: 07° 33' 14.0" S
110° 21' 05.8" E
Precision: Map
Alt.: 635m

¹⁹³ River stones or pebbles are commonly found within the foundations of Javanese temples, whether Buddhist or Hindu. Their presence on top of a hill is certainly not natural and is a good indicator, together with the *yoni*, of the former existence of a shrine.

Surroundings: In upper middle land, on the western slope of Mt Merapi, along the southern bank of the Cacaban River.

Religion: Hindu.

Main features: Single temple.

State of preservation: No visible remains.

Description:

There used to be the remains of a small temple here (Krom 1914a: 246; Aalst 1899: 397).

SUMBER

Administrative localization: Sumber, Sumber, Dukun, Magelang, JT.

Geographical localization: 07° 32' 34.1" S
110° 21' 15.6" E
Precision: Map
Alt.: 675m

Surroundings: In upper middle land, on the western slope of Mount Merapi, between two tributaries of the Keji River (running north and south of the hamlet).

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description/Sculptures:

There were formerly some temple remains, a Gaṇeśa and a *yoni* (Knebel 1911a: 238; Krom 1914a: 247; Verbeek 1891: 153).

WATES

Administrative localization: Kuwajuhan, Wates, Dukun, Magelang, JT.

Geographical localization: 07° 33' 45.2" S
110° 20' 17.3" E
Precision: Map
Alt.: 550m

Surroundings: In upper middle land, on the western slope of Mount Merapi, along a tributary of the Blongkeng River and 300m north of the latter. The hamlet of Wates is located 1km to the north-northwest of Ngampel.

Religion: Hindu.

Main features: Single temple.

State of preservation: No visible remains.

Description:

At the end of the nineteenth century, the base of a temple was still visible. It measured 5.12m x 2.56m and supported a *yoni* (Knebel 1911a: 238; Aalst 1899: 396).

KAPONAN (Keponan, Candi)

Administrative localization: Kaponan, Grabag, Grabag, Magelang, JT.

Geographical localization: 07° 22' 19.7" S
110° 19' 55.9" E
Precision: Map
Alt.: 685m

Surroundings: In upper middle land, on flat ground, but in a hilly area.

Religion: Hindu.

Main features: Single temple.

State of preservation: No visible remains.

Description/Sculptures:

There were once remains of a temple base and a Ganeśa (Krom 1914a: 233).

PLUMBON

Administrative localization: Plumbon, Grabag, Grabag, Magelang, JT.

Geographical localization: 07° 21' 52.2" S
110° 19' 14.7" E
Precision: Map
Alt.: 670m

Surroundings: In upper middle land.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

According to Krom, there were some temple stones on the top of a small hill (Krom 1914a: 230).

KALANGAN

Administrative localization: Puntingan, Grabag, Grabag, Magelang, JT.

Geographical localization: 07° 22' 20.5" S
110° 19' 32.9" E
Precision: Map
Alt.: 685m

Surroundings: In upper middle land, on the slope of a hill.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

A heap of temple stones used to be here (Krom 1914a: 233).

UMBUL (Air Panas, Eijer Panas, Candi Panas)

Administrative localization: Candi Umbul, Kertojarjo, Grabag, Magelang, JT.

Geographical localization: 07° 21' 34.8" S
110° 17' 49.3" E
Precision: 8m
Alt.: 550m

Surroundings: In upper middle land, at the bottom of a small but deep valley surrounded by hills, 50m south of the *kali* Elo.

Religion: Hindu.

Main features: Bathing place.

State of preservation: Both pools are still intact.

Description: The site consists of two pools built over hot springs. The upper pool measures 7.15m (E-W) x 12.50m (N-S). A staircase located on its eastern side gives access to the pool bottom, made of river stones. The second pool is

slightly lower and measures 8.50m x 7m. Its staircase is located on the north. It is linked to the upper pool by a 2m long water duct, so that water can freely flow from the large upper pool to the lower one.

Numerous scattered stones are visible around the pools, among others several *lingga* shaped stones, a *yoni*, numerous mouldings and a miniature temple.

Friederich thought it possible that two temples once stood here, although their bases could not be located (Friederich 1876: 104).

Sculptures: Fragments of seven sculptures with the lower limbs of a bird are still visible. They might have been birds, *kinnari* or *garuḍa*.

Several other sculptures have been discovered here, among others a *lingga*, two *yoni*, two Gaṇeśa, two Durgā and one Agastya (Friederich 1876: 104; Verbeek 1891: 151; Krom 1914a: 228). According to Krom, a *garuḍa* with a human body was also found among the ruins (Krom 1923, I: 409).

BATU RONG (Rong Watu, Selarong)¹⁹⁴

Administrative localization: Duku (?), Ketangi, Kaliangkrik, Magelang, JT.

Geographical localization: 07° 29' 15" S
110° 09' 30" E¹⁹⁵
Precision: Map
Alt.: 500m

Surroundings: In upper middle land, on the slope of Mount Beser.

Religion: Hindu.

Main features: Cave.

State of preservation: Unknown.

Description/Sculptures:

This man-made cave was situated near the village of Trami or Tresmi, close to Paren on Mount Beser. Inside were a *yoni* and a corresponding *lingga* (Friederich 1876: 98; Verbeek 1891: 144).

However, Hoepermans (1913: 156), places it between Gunung Beser and Gunung Tersmi, near the villages of Duku, Paren and Kebon Pating.

¹⁹⁴ I have not been able to find the exact location.

¹⁹⁵ As the exact location is unknown, I have taken the reading midway between Paren and Tresmi.

NAMBANGAN (Ngambangan)

Administrative localization: Candi Nambangan, Rejowinangun Utara, Magelang Selatan, Magelang, JT.

Geographical localization : 07° 28' 54.1" S
110° 13' 42.4" E
Precision: 8m
Alt.: 350m

Surroundings: In lower middle land, on flat ground, though in a hilly area. The site is located within the village graveyard, 150m east of the *kali* Manggis and 550m to the west of the Elo River.

Religion: Hindu.

Main features: Unknown.

State of preservation: Scattered bricks.

Description: One large *yoni* (1.24m x 1.24m x 1m) is still visible in the middle of the graveyard of Nambangan, together with several bricks.

According to the Balai Arkeologi, bricks dating from the classical period used to be numerous here (Tjahjono 2002: Table 1).

PLANDI (Tegal Tjandi)

Administrative localization: Plandi, Pasuruhan, Mertoyudan, Magelang, JT.

Geographical localization: 07° 33' 50.8"
110° 13' 12.2"
Precision: 8m
Alt.: 265m

Surroundings: In lower middle land, on flat ground, 900m to the west of the Elo River.

Religion: Hindu.

Main features: Single temple.

State of preservation: No standing structure.

Description: The site is actually a small mound made of earth and brick fragments in the middle of a rice field. At its centre, one can see the upper part of a huge *yoni* (it was 1.20m x 1.20m square).

This would correspond to the descriptions given by Verbeek and Krom. According to them, there was a huge *yoni* on the Tegal Plandi hill, partly covered with bricks and brick fragments (Verbeek 1891: 148; Krom 1914a: 213).

DAMPIT

Administrative localization: Dampit, Mertoyudan, Mertoyudan, Magelang, JT.

Geographical localization: 07° 30' 48.4" S
110° 13' 47.1" E¹⁹⁶
Precision: 9m
Alt.: 330m

Surroundings: In lower middle land, on flat ground, 800m to the west of a tributary of the Elo River. The site is located approximately 1km to the north-west of Kalimalang.

Religion: Hindu.

Main features: Single temple.

State of preservation: No visible remains.

Description:

According to the Balai Arkeologi, a large number of bricks were found in the middle of a rice field, indicating that a brick structure probably still lies under the earth (Tjahjono 2002: Table 1).

A *yoni* brought from here is now in the museum at Borobudur.

KALIMALANG

Administrative localization: Kalimalang, Mertoyudan, Mertoyudan, Magelang, JT.

Geographical localization: 07° 31' 04.0" S
110° 14' 20.0" E
Precision: 50m
Alt.: 305m

Surroundings: In lower middle land, on flat ground, 120m to the west of a tributary of the Elo River and 300m to the west of the latter. The site is located roughly 1km to the southeast of Dampit.

¹⁹⁶ The coordinates are those of the area indicated by the villagers as the place of discovery of the temple remains.

Religion: Hindu.

Main features: Single temple.

State of preservation: No standing structure is visible at ground level, although traces indicate that there is still something *in situ* under the surface.

Description: Several stones are scattered around the village, among others a stone lintel and a *kāla*. In the backyard of a house, a large number of bricks testifies to the presence of an ancient structure.

According to the Balai Arkeologi, a few years ago a brick structure, of which 11 brick courses remained, was still visible. Several decorated bricks have been found here, together with a *yoni* (Tjahjono 2002: Table 1).

GEDONGAN

Administrative localization: Gedongan, Blondo, Mungkid, Magelang, JT.

Geographical localization: 07° 32' 24.7" S
110° 14' 23.8" E
Precision: Map
Alt.: 280m

Surroundings: In lower middle land, on flat ground, along the western bank of the *kali* Elo.

Religion: Hindu.

Main features: Single temple.

State of preservation: No visible remains.

Description:

There were once remains of a large brick temple and a *lingga* in the village graveyard (Knebel 1911a: 239; Krom 1914a: 253; Aalst 1899: 401).

Sculptures:

Several sculptures were found among the ruins: two *makara* (J.76, J.78), one *lingga* (J.77) and a Gaṇeśa (J.79). The latter is now in the museum at Borobudur (*Pengumpulan benda Magelang* 1997-1998).

KENDAL

Administrative localization: Kendal, Rambeanak, Mungkid, Magelang, JT.

Geographical localization: 07° 34' 57.7"
110° 14' 20.2"¹⁹⁷
Precision: 15m
Alt.: 265m

Surroundings: In lower middle land, on flat ground, 100m to the east of a branch of the Kuning River.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Temple stones are said to have testified to the former existence of a sanctuary (Verbeek 1891: 154). However, Hoepermans saw nothing *in situ* (Hoepermans 1913: 141). Knebel mentions the remains of a brick temple (Knebel 1911a: 239). A few years ago, the Balai Arkeologi still noticed the presence of stones fragments (Tjahjono 2002: Table 1).

Nothing is left of this site today, but villagers still remember a place in the rice fields where they used to go to retrieve stones.

MENDUT

Administrative localization: Mendut, Mendut, Mungkid, Magelang, JT.

Geographical localization: 07° 36' 17.2"
110° 13' 48.8"
Precision: 9m
Alt.: 235m

Surroundings: In lower middle ground, on flat ground roughly 200m to the east of the *kali* Elo and 800m to the north-northeast of the confluence of the latter with the Progo River. The temple is located 700m to the north of Progowati.

Religion: Buddhist.

Main features: Organic compound; facing west; staggered square.

State of preservation: Restored up to the superstructure.

Description: The temple faces west. Its base is a staggered square measuring 25.5m x 25.5m. Its western projection is deeper than on the other sides and a salient staircase is juxtaposed to it. The temple platform is bordered by a balustrade that creates a circumambulation path around the temple body.

¹⁹⁷ The coordinates are those of the place designated by the villagers as the site of the former remains.

The latter is also a staggered square (14.15m x 14.15m), with a deep porch on the western side. A vestibule and then a corridor lead to the *cella*. The inner chamber is a trapezium. Its western side is 7.60m long, its eastern side measures 6.70m while the room is 7.25m deep. At the rear of the *cella*, one can see three pedestals. In the middle of the eastern wall sits the Buddha, while against the lateral walls are two *bodhisattwa*. The front part of the *cella* is empty, but its walls are interrupted by six niches (two in the northern wall, two in the southern wall and two flanking the entrance door).

The temple formerly stood within a courtyard measuring 110m (N-S) x 50m (E-W). Candi Mendut was located approximately 8m from the southern side of the enclosure (Krom 1923, I: 320ff; Bernet Kempers 1976: 212). Unfortunately, the wall was in such a poor state of preservation that it was not possible to determine the location of the entrances (Brandes 1903c: 75-76).

The whole area within the courtyard was covered with several layers of mud alternating with ash, probably from Mount Merapi. Stones originating from the secondary structures were scattered all over the area (Brandes 1903c: 76)

Within the courtyard were other remains. To the north of the temple were the foundations of a small staggered-square stone temple and a cruciform structure, while further north were traces of a wider square base, probably a habitation area for the monks. (Brandes 1903c: pl. 58; Krom 1923, I: 320ff). The northernmost building had dimensions similar to that of the original Candi Mendut. As in the case of the latter, its base was made of brick with some stones placed around the lower section (Brandes 1903c: 76-77, 79-80).

Beneath the ground level dating from the Central Javanese period were found five tanks similar to those still used during the 19th century to prepare mortar (Brandes 1903c: 77-78).

The *candi* visible today constitutes only the last stage of a lengthy building process. It is actually the enlargement of an older temple that was later incorporated into the present structure. During restoration work, brick walls (with mouldings) belonging to the ancient building were found within the temple wall. The first Mendut temple was not destroyed: even its superstructure is preserved under a new cover (Brandes 1903c: pl. 23).

RAMBEANAK (Ramesanak, Rambianak)

Administrative localization: Rambeanak, Rambeanak, Mungkid, Magelang, JT.

Geographical localization: 07° 34' 41.9" S¹⁹⁸
 110° 13' 34.3" E
 Precision: 10m
 Alt.: 255m

Surroundings: In lower middle land, on flat ground, 100m to the west of the *kali* Kujang and 300m to the east of the Elo River. The site is located 650m to the north-northwest of Ngrajek.

Religion: Hindu (?).

Main features: Unknown.

State of preservation: Scattered stones.

Description/Sculptures: Scattered temple stones are to be found behind the village primary school and in the courtyard of a nearby house. Nothing is *in situ*, but there are two dozen stone blocks testifying to the former presence of a building. Some of the blocks have mouldings.

A small *yoni* (J.65) was found in the village (*Pengumpulan benda Magelang* 1997-1998).

Formerly, there were two *yoni*, a Durgā, a Gaṇeśa and a three-headed *nāga* gar-goyle (Knebel 1911a: pl. 183).

NGRAJEK

Administrative localization: Ngrajek, Ngrajek, Mungkid, Magelang, JT.

Geographical localization: 07° 35' 18.3" S
 110° 14' 26.2" E
 Precision: 15m
 Alt.: 260m

Surroundings: In lower middle land, on flat ground, between the *kali* Sunan (150m to the west) and the Kudal River (200m to the east). The site is located 650m to the south-southeast of Rambeanak.

Religion: Unknown.

Main features: Single temple.

State of preservation: Scattered stones.

Description: Nothing remains *in situ*, but several stones confirm the former presence of a temple. Near a garage one can see a rectangular block which, given its shape and decoration (miniature antefixes, mouldings and roof), is prob-

¹⁹⁸ These coordinates were taken in the courtyard where most of the blocks are lying.

ably part of the superstructure of an enclosure door.¹⁹⁹ A little bit further, near the mosque, three miniature *candi* or pinnacles are now being used to support flowerpots. According to villagers, they were found three or four years ago while digging the foundations of a new *pendopo* for the mosque.²⁰⁰ In front of these miniature *candi* there are two rectangular stone boxes (roughly 1m long).²⁰¹

Formerly, the remains of a temple base were visible (Bosch 1920: 78). The lower part of this base can be seen in a photo of the Oudheidkundige Dienst (OD no. 2095). The moulding has no torus.

PROGOWATI²⁰²

Administrative localization: Paren, Progowati, Mungkid, Magelang, JT.

Geographical localization: 07° 36' 40.7" S
110° 13' 51.3" E
Precision: Map
Alt.: 225m

Surroundings: In lower middle land, on flat ground, on the eastern side of the confluence of the Elo and Progo Rivers and roughly 650m to the west of the *kali* Pabelan. The hamlet of Paren is located 700m south of Candi Mendut.

Religion: Unknown.²⁰³

Main features: Unknown.

State of preservation: No visible remains.

Description:

According to the Balai Arkeologi, several temple stones were located in the hamlet (Tjahjono 2002: Table 1).

199 I am thinking here of a door similar to that on the parapet of Candi Ngawen or Sambisari.

200 According to the local inhabitants, other stones were found during the digging, but they have since been re-used for the foundation of the *pendopo*; only those that looked nice were taken out.

201 I have seen this type of "coffin" in several places, among others at Candi Gunung Wukir. They may have been some sort of *peripih*, although their dimensions and shape are quite unusual. They also seem too large to be only deposit boxes for the ashes of the dead. On the other hand, they could have contained a corpse in a foetal position. Unfortunately, I have been unable to gather further information concerning their original location. The only thing that is certain is that they are often found in relation to temples.

202 It is possible, given the localization of the site, that Progowati is the Keparan of the older inventories.

203 If Progowati is indeed the same as Keparan, the site might be Hindu, as a Ganeśa was found at the latter site (Krom 1914a: 261; Aalst 1899: 406).

TIBAN

Administrative localization: Tiban, Bumorejo, Mungkid, Magelang, JT.

Geographical localization: 07° 33' 29.7" S²⁰⁴
 110° 13' 59.9" E
 Precision: 10m
 Alt.: 275m

Surroundings: In lower middle land, on a slope overlooking the Elo River some 100m to the east.

Religion: Hindu.

Main features: *Yoni*.

State of preservation: Good.

Description/Sculptures: Two *yonis* (J.71 and J.72 in *Pengumpulan Benda Magelang 1997-1998*) are still visible in the village. The larger one measures 69 x 69 x 66cm, while the smaller is 39 x 39 x 39cm.

According to the Balai Arkeologi, brick fragments have also been discovered here (Tjahjono 2002: Table1).

KETORAN (Ketaron)

Administrative localization: Ketoran, Tamanagung, Mungkid, Magelang, JT.

Geographical localization: 07° 34' 41.9" S
 110° 16' 18.9" E
 Precision: Map
 Alt.: 325m

Surroundings: In lower middle land, 500m to the southeast of the Pabelan River, along the banks of one of its tributaries.

Religion: Hindu.

Main features: Single temple.

State of preservation: No visible remains.

Description/Sculptures:

A temple base used to be located here and a Ganeśa was also discovered at the site (Knebel 1911a: 238; Aalst 1899: 396).

²⁰⁴ This is the position of the larger *yonis*; the smaller one is in the backyard of a house and is used as a mortar.

GUNUNG LEMAH

Administrative localization: Lemah, Gondosuli, Muntilan, Magelang, JT.

Geographical localization: 07° 33' 27.9" S
110° 17' 00" E
Precision: Map
Alt.: 414m

Surroundings: In lower middle land, on the western slope of Mount Merapi, on top of a small hill. Situated on the northern bank of the Pabelan River.

Religion: Hindu.

Main features: Scattered bricks.

State of preservation: Unknown.²⁰⁵

Description:

According to the Balai Arkeologi, there is a *yoni* (*Pengumpulan Benda Magelang* 1997-1998: J.119) as well as several bricks dating from the classical period (Tjahjono 2002: Table 1).

GUNUNG PRING

Administrative localization: Gunung Pring, Gunung Pring, Muntilan, Magelang, JT.

Geographical localization: 07° 35' 38.6" S
110° 16' 33.3" E
Precision: Map
Alt.: 355m

Surroundings: At the top of the *gunung* Pring, a hill that reaches 358m above sea level. Situated along the southern bank of a tributary of the Progo River and 600m to the northwest of the *kali* Blongkeng.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

²⁰⁵ I have not visited this site. According to information from the Balai Arkeologi, the remains should still be visible.

Description:

According to the Balai Arkeologi, a boundary stone was discovered on top the hill, within the Muslim graveyard (Tjahjono 2002: Table 1). However, I was not able to find it.

JOMBORAN

Administrative localization: Jomboran, Keji, Muntilan, Magelang, JT.

Geographical localization: 07° 35' 49.3" S
110° 15' 54.6" E
Precision: Map
Alt.: 285m

Surroundings: In lower middle land, on flat ground, approximately 300m to the southeast of the Keji River. The village is located 1km to the south of Sidikan.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description:

According to the Balai Arkeologi, some temple stones were found below ground level, together with two small *yoni* (*Pengumpulan Benda Magelang* 1997-1998: J.86, J.87). The latter were brought to the SPSP Jawa Tengah in Prambanan.

SIDIKAN

Administrative localization: Sidikan, Keji, Muntilan, Magelang, JT.

Geographical localization: 07° 35' 15.5" S
110° 15' 49.8" E
Precision: 8m
Alt.: 290m

Surroundings: In lower middle land, on flat ground, along the southern bank of a tributary of the Pabelan River (800m to the northwest) and 350m to the northwest of the *kali* Keji. The site is located 1km to the north of Jomboran.

Religion: Unknown.

Main features: Unknown.

State of preservation: Scattered stones.

Description: Two dozen temple stones can be seen here; some are plain, others have mouldings.

According to the Balai Arkeologi, ancient bricks have also been discovered in this village (Tjahjono 2002: Table 1).

NGANTEN KIDUL

Administrative localization: Nganten, Ngawen, Muntilan, Magelang, JT.

Geographical localization: 07° 36' 28.4" S
110° 16' 06.6" E
Precision: Map
Alt.: 275m

Surroundings: In lower middle land, on flat ground, on the eastern bank of a tributary of the Blongkeng River. The village of Nganten is located roughly 550m to the southwest of Ngawen and 700m to the east-northeast of Gejagan.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

The remains of a temple used to be visible (Krom 1914a: 254; Aalst 1899: 406).

NGAWEN

Administrative localization: Ngawen, Ngawen, Muntilan, Magelang, JT.

Geographical localization: 07° 36' 14.5"²⁰⁶
110° 16' 20.8"
Precision: 9m
Alt.: 285m

Surroundings: In lower middle land, on flat ground, 500m to the west of the Blongkeng River. From here, one can see Mount Merapi, the Menoreh Hills and Gunung Sari. The site is located 550m to the northeast of Nganten.

Religion: Buddhist.

Main features: Sanctuary type 5; facing east; staggered square.

²⁰⁶ These coordinates were taken on the staircase of the rebuilt temple (the 2nd shrine from the north).

State of preservation: The northern main temple has been restored up to its superstructure. The other buildings are now reduced to their bases.

Description: The site is composed of at least five buildings in a north-south line. All of them face east. The two main temples alternate with three secondary shrines.

The northernmost structure (Candi I) is a secondary shrine. Its base is 8.6m x 8.6m square with a single projection on the east for the entrance. The temple platform was bordered by a parapet. The temple body is square, without any projection, and has three niches, one on each side.

Candi II is the largest temple in the compound (and the most complete). Its base is a staggered square with an additional projection on the eastern side. It measures 13.36m x 12.82m. At the top of the staircase, on the platform, stands a *gopura* that is independent from the temple body. The latter is also a staggered square (7.30m x 7.30m), endowed with 12 niches (three on the northern, western and southern sides, and two on the eastern side, flanking the doorway. A short corridor leads to a 4.60m x 4.60m square *cella*.

The *candi* III and V are secondary shrines similar to Candi I, while Candi IV is a main shrine similar to Candi II, though a little smaller (12.88m x 12.82m).

Sculptures: Two statues of the Buddha can be seen at the site (*Pengumpulan Benda Magelang* 1997-1998: J.80 and J.81).

SEMAWE

Administrative localization: Semawe, Sokarini, Muntilan, Magelang, JT.

Geographical localization: 07° 36' 53.8" S
110° 14' 53.0" E
Precision: Map
Alt.: 235m

Surroundings: In lower middle land, on flat ground along the Pundung River.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

According to the Balai Arkeologi, the remains of a brick structure were found in the village (Tjahjono 2002: Table 1).

GEJAGAN

Administrative localization: Gejagan, Sriwedari, Muntilan, Magelang, JT.

Geographical localization: 07° 36' 35.3" S
110° 15' 44.8" E
Precision: Map
Alt.: 265m

Surroundings: In lower middle land, on flat ground along the eastern bank of a tributary of the Progo River. The hamlet of Gejagan is located 700m to the west-southwest of Nganten Kidul.

Religion: Hindu.

Main features: Single temple (?).

State of preservation: No visible remains.

Description/Sculptures:

A temple pit made of brick, as well as a *yoni* and a bull, was once visible (Krom 1914a: 255).

BLABURAN (Kajuran Kidul, Kajoran, Samur)

Administrative localization: Blaburan, Bligo, Ngluwar, Magelang, JT.

Geographical localization: 07° 41' 54.2" S
110° 16' 18.9" E
Precision: Map
Alt.: 140m

Surroundings: In lowland, on flat ground, 350m to the east of the Progo River and 500m west of the *kali* Krasak.

Religion: Unknown.

Main features: Single temple.

State of preservation: No visible remains.

Description:

Formerly, the remains of a temple and a temple pit were still intact (Hoepermans 1913: 141; Aalst 1899: 410; Krom 1914a: 267).

BOBOSAN (Dali, Bedali)

Administrative localization: Bedali, Bobosan, Salam, Magelang, JT.

Geographical localization: 07° 37' 15.6" S
 110° 17' 8.3" E²⁰⁷
 Precision: 10m
 Alt.: 290m

Surroundings: In lower middle land, at the top of Gunung Dali, a small hill that rises in the plain to the south of the *kali* Depok/Gendol. The hill is located along the eastern bank of the *kali* Depok.

Religion: Hindu.

Main features: Single temple.

State of preservation: No visible remains.

Description:

In the early twentieth century, the remains of a brick temple were still visible on top of the hill (Hoepermans 1913: 139; Krom 1914a: 264).

Sculptures:

A Durgā, a Śiwa, a bull, an Agastya, a *yoni* and two *lingga* were reported here (Hoepermans 1913: 139; Krom 1914a: 264; 1923, I: 166).

GUNUNG SARI

Administrative localization: Gunung Sari, Gulon, Salam, Magelang, JT.

Geographical localization: 07° 36' 08.2"
 110° 16' 59.6"
 Precision: 10m
 Alt.: 350m

Surroundings: In lower middle land, at the top of the Gunung Sari hill, 250m to the south of the Blongkeng River and 750m north of the *kali* Putih. Along the eastern side of the hill flows the *sungai* Silukanga/Jlegong, a tributary of the Putih River. From this hilltop there is a magnificent view of the *gunung* Merapi, Wukir, Gendol and Gono. With less vegetation Gunung Sumbing would also be visible.

Religion: Hindu.

Main features: Sanctuary type 3 (?); facing west; square; enclosure wall.

State of preservation: Only the base of the main temple and the foundations of the secondary shrines remain.

²⁰⁷ The coordinates were taken at the top of the small *gunung* Dali.

Description: The site is composed of at least five buildings, but their state of preservation is very poor and only the lower part of their bases can be seen.

The main temple faces west and is roughly 12m x 12m square. It was not built at the centre of the sacred courtyard, but to the northeast of it, as testified by the central *lingga* boundary stone found south of the entrance staircase.

Opposite the main temple is a row of three secondary shrines. To the south of the main temple are the remains of what was probably another secondary shrine. Traces of a brick enclosure are visible 8m to the east of the main temple.

Apart from the central stone, two other boundary stones were found on the temple grounds: one to the east of the main temple and close to the edge of the enclosure, the other in the northeastern corner of the enclosure wall.

Sculptures:

N. J. Krom saw a *yoni* in the vicinity of the temple (Krom 1914a: 265) and a statue of Mahākāla was found more recently during excavation (*Laporan ek-skavasi Gunungsari* 1998: 28).

GUNUNG WUKIR (Kaliduwih, Canggal)

Administrative localization: Canggal, Kaliduwih, Salam, Magelang, JT.

Geographical localization: 07° 38' 03.5"
110° 17' 48.7"
Precision: 7m
Alt.: 336m

Surroundings: In lower middle land, at the top of the *gunung* Wukir. Along the eastern side of the hill flows the *kali* Gandung/Pereng. From this hilltop, one can see Mounts Sumbing, Merapi and the Gendol Hills.

Religion: Hindu.

Main features: Sanctuary type 2; facing east; enclosure.

State of preservation: Only the bases are left intact.

Description: The site consists of one main temple facing east and three square secondary shrines facing west.

The exact orientation of the main temple is 101° 25' (Siswoyo 1996: 5).

The base of the main temple is roughly 14m x 14m square, with a projection on the eastern side for the staircase. Opposite the temple are three secondary shrines in a north-south row. They are all 5m x 5m square.

The remains of a brick enclosure wall were recorded some 17m away from the main temple (Aalst 1899: 407; Stutterheim 1937: 12).

Sculptures: Several *yoni* can be seen among the ruins; one is adorned with a *nāga*. A bull statue is still lying within the central secondary shrine.

A rectangular stone box is noticeable near the main temple. From the outside, it is 1.15m long, 0.85m wide and 0.60m high. The cavity is 0.86m long, 0.55m wide and 0.36m deep.²⁰⁸

Some sculptures have also been found here, among others two Gaṇeśa and one Durgā (Hoepermans 1913: 138; Krom 1923, I: 166).

JLEGONG

Administrative localization: Jlegong, Gulon, Salam, Magelang, JT.

Geographical localization: 07° 36' 13.1" S
110° 17' 25.9" E
Precision: Map
Alt.: 325m

Surroundings: In lower middle land, on flat ground 250m to the north of the *kali* Putih and 700m to the south of the Blongkeng River. The village is located roughly 800m to the east-southeast of Gunung Sari.

Religion: Hindu.

Main features: Single temple.

State of preservation: No visible remains.

Description/Sculptures:

There were once remains of a brick temple together with a *yoni* and a bull (Knebel 1911a: 238; Aalst 1899: 393).

MANTINGAN (Kadiwulih)

Administrative localization: Mantingan, Mantigan, Salam, Magelang, JT.

Geographical localization: 07° 38' 18.6" S
110° 18' 19.9" E
Precision: 12m
Alt.: 305m

208 A lid may once have sealed the box, although I could see no stone fitting it in the vicinity. A similar stone box is to be found on the riverbank at the foot of Gunung Wukir, while another is visible in the village of Ngrajek. For comments on this subject, please see the latter entry.

Surroundings: In lower middle land, on flat ground, a hundred meters west of a tributary of the *kali* Cekel. The site is located 150m to the southeast of Singabarong.

Religion: Hindu.

Main features: *Yoni*.

State of preservation: Good.

Description: The only remaining vestige is a *yon*i (*Pengumpulan Benda Magelang* 1997-1998: J.26) lying beside the road.

Formerly, a second *yon*i (J.27) could be seen here (*Pengumpulan Benda Magelang* 1997-1998).

SINGABARONG (Mantingan)

Administrative localization: Mantingan, Mantingan, Salam, Magelang, JT.

Geographical localization: 07° 38' 17.1" S
110° 18' 13.9" E
Precision: 16m
Alt.: 315m

Surroundings: In lower middle land, at the top of a small hill called Gunung Singabarong. Located on the eastern bank of the *kali* Cekel, 150m to the north-west of Mantingan.

Religion: Hindu.

Main features: Unknown.

State of preservation: Scattered stones.

Description/Sculptures: This small hill rises near the village of Mantingan. At its summit, among dense vegetation, one can see a huge *yon*i (1.26m x 1.26m square; *Pengumpulan Benda Magelang* 1997-1998: J.36) and at least eight column bases (90cm in diameter).

In the nineteenth century, Van Aalst noticed the presence of a large pit measuring 3 by 5m (Aalst 1899: 408). When Krom visited the site he found no temple remains, but was still able to see some sculptures, among others a lion, a Gaṇeśa, a *nāga*, a bull and several *lingga* (Krom 1914a: 263; 1923, I: 166).

SALAKAN

Administrative localization: Salakan, Sirihan, Salam, Magelang, JT.

Geographical localization: 07° 36' 52.5" S
 110° 16' 29.1" E
 Precision: 6m
 Alt.: 270m

Surroundings: In lower middle land, on flat ground along the western bank of the Putih River.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

When Hoepermans visited this site, he was able to see a square surface area of about 6 x 6m that was covered with temple stones (Hoepermans 1913: 140).

According to the Balai Arkeologi, carved stones were still visible a few years ago, within the village graveyard (Tjahjono 2002: Table 1).

GOMBONG

Administrative localization: Gombong, Paripurno, Salaman, Magelang, JT.

Geographical localization: 07° 36' 13.1" S
 110° 08' 39.9" E
 Precision: Map
 Alt.: 315m

Surroundings: In lower middle land, on the first slopes of the Menoreh hills, in the valley of the Blubas River that flows a few hundred meters south of the village.

Religion: Hindu.

Main features: Unknown.

State of preservation: Scattered bricks.

Description: Brick fragments are still visible here.

Sculptures:

Several sculptures, now disappeared, were previously recorded in the hamlet: a bull (J.235), a Gaṇeśa (J.236), an Agastya (J.237), a Pārwatī (J.238) and fragments of the legs of another sculpture (J.234; *Pengumpulan Benda Magelang* 1997-1998).

MULOSARI²⁰⁹

Administrative localization: Mulosari, Kalisalak, Salaman, Magelang, JT.

Geographical localization: 07° 35' 13.5" S
110° 07' 14.4" E
Precision: 22m
Alt.: 320m

Surroundings: In lower middle land, on a gentle slope at the foot of the Menoreh Hills. Near Wurung and Pringapus.

Religion: Hindu.

Main features: Scattered bricks.

State of preservation: No standing structure.

Description/Sculptures: Within the village graveyard there is a small *yoni* (73 x 73 x 80cm; *Pengumpulan Benda Magelang* 1997-1998: J.232) adorned with a flower on each side.²¹⁰

According to the Balai Arkeologi, some brick fragments were found here²¹¹ (Tjahjono 2002: Table 1). A second small *yoni* was also discovered in the village (*Pengumpulan Benda Magelang* 1997-1998: J.233).

PRINGAPUS

Administrative localization: Pringapus, Kalisalak, Salaman, Magelang, JT.

Geographical localization: 07° 35' 22.2" S
110° 07' 11.4" E
Precision: 7m
Alt.: 332m

Surroundings: In lower middle land, on a gentle slope at the foot of the Menoreh hills. Near Mulosari and Candi Wurung.

Religion: Hindu.

Main features: Unknown.

209 According to the localization of this site north of Wurung, near the modern town of Mlanggen, it is possible that Mulosari is the Mlanggen mentioned in the older inventories (Aalst 1899: 411; Krom 1914a: 268).

210 According to former inventories, the remains of a brick temple and several sculptures (a Buddha, *yoni*, bull, Śiwa, Surya etc.) were still visible in the village of Mlanggen (Aalst 1899: 411; Krom 1914a: 268). In regard to the possible association of Mlanggen with Mulosari, see the note above.

211 I was not able to see any bricks dating from the classical period near the *yoni*. It is also possible that the *yoni* comes from the nearby Candi Wurung where, indeed, many bricks are to be found.

State of preservation: Scattered bricks.

Description: An unfinished *yoni* is visible in the middle of a rice field.

According to the Balai Arkeologi, there were also brick fragments here (Tjahjono 2002: Table 1).

WURUNG²¹²

Administrative localization: Candi, Menoreh, Salaman, Magelang, JT.

Geographical localization: 07° 35' 22.2" S
110° 07' 11.4" E
Precision: 7m
Alt.: 332m

Surroundings: In lower middle land, on a gentle slope at the foot of the Menoreh hills. Near Mulosari and Pringapus.

Religion: Hindu.

Main features: Single temple; octagonal.

State of preservation: Only the foundation remains.

Description: Traces of the former presence of a temple are still visible today and, although disturbed, are *in situ*. River stones or pebbles, probably from the temple foundation, are intermixed with bricks and brick fragments.

Excavations conducted after my visit, in the summer 2002, revealed the presence of an octagonal brick structure. Unfortunately, only the western side of the site has been excavated, so that it is still impossible to determine the orientation of the structure (Tjahjono 2002: 31ff).

Sculptures: Three *yoni* are lying on the ground. The biggest is adorned with flowers²¹³ and a lion²¹⁴ (*Pengumpulan Benda Magelang* 1997-1998: J.230 and J.231).

A small Śiva was also found here (J.229), together with an unidentified sculpture (*Pengumpulan Benda Magelang* 1997-1998: J.227; now in the Borobudur museum).

212 It is uncertain whether Wurung is the Candi or Mlanggen of the former inventories. As the modern town of Mlanggen is located to the north of Wurung, it is possible that the Candi of the older inventories refers to Wurung (located in the village of Candi), while Mlanggen could well be Mulosari.

213 These are similar to the flowers carved on the *yoni* of Mulosari. As the two sites are not far from each other, this might confirm that the *yoni* of Mulosari is actually from Candi Wurung.

214 A bull and a *lingga* were once lying at Candi (Verbeek 1891: 144; Aalst 1899: 411; Hoepermans 1913: 147; Krom 1914a: 269).

Formerly, a pedestal in the shape of a cart with seven horses was discovered at the site, together with the head of a male deity and a pillar base in the form of an elephant (Knebel 1911a: pl. 182).

MUNGKIDAN (Mungkiddan)

Administrative localization: Mungkidan, Butuh, Sawangan, Magelang, JT.

Geographical localization: 07° 31' 46.8" S
110° 18' 21.4" E
Precision: Map
Alt.: 460m

Surroundings: In lower middle land, on the western slope of Mount Merapi, on the banks of a tributary of the *kali* Gading.

Religion: Unknown.

Main features: *Pendopo* (?).

State of preservation: No visible remains.

Description:

A foundation measuring 12.80m x 10.60m was once visible in the hamlet of Mungkidan. At the centre of the short sides were two staircases (2.60m wide). This base probably supported a wooden structure. (Aalst 1899: 398-399).

SEKETI (Saketi)

Administrative localization: Saketi, Butuh, Sawangan, Magelang, JT.

Geographical localization: 07° 31' 26.3" S
110° 19' 05.3" E
Precision: Map
Alt.: 535m

Surroundings: In upper middle land, on the western slope of Mount Merapi, between the Manggu and Sigug Rivers (a few hundred meters to the north and south respectively) and close to the spring of a tributary of the *kali* Gading.

Religion: Hindu.

Main features: Single temple.

State of preservation: No visible remains.

Description:

A small temple measuring 3.50 x 2.50m was still evident at the end of the nineteenth century (Aalst 1899: 399).

Sculptures:

A *yoni* and a bull were also discovered among the ruins (Krom 1914a: 248).

SETAN

Administrative localization: Setan, Candiretno, Secang, Magelang, JT.

Geographical localization: 07° 26' 56.7" S
110° 14' 48.9" E
Precision: Map
Alt.: 400m

Surroundings: In lower middle land, in a hilly area, roughly 350m north of the *kali* Pucang. The village of Setan is located 650m to the south-southwest of Tidaran and 800m to the south-southeast of Candi Retno.

Religion: Hindu.

Main features: Sanctuary type 5.

State of preservation: No visible remains.

Description:

According to Krom (1914: 236; 1923, I: 408), there were once the remains of seven temples in a line. At the centre was the main temple (4.85m x 4.85m square), with three smaller shrines on either side. All the temples were raised upon a single rectangular terrace built of brick. (Krom 1914a: 56, 189).

Sculptures:

Fourteen sculptures of Gaṇeśa have been found here. Consequently, Krom believed that the temple was dedicated to the elephant god (Krom 1923, I: 408).

BENGGUNG

Administrative localization: Bengkung, Candiretno, Secang, Magelang.

Geographical localization: 07° 25' 46.6" S
110° 14' 49.6" E
Precision: 8m
Alt.: 410m

Surroundings: In lower middle land, on flat ground, with a view of Mounts Merbabu, Sumbing, Sundoro and Ungaran. Approximately 100m west of the *kali* Nongko and 400m to the east of the Elo River. The site is located 500m to the north-northeast of Candi Retno, 500m to the north-northwest of Cetokan and 750m to the north-northwest of Tidaran.

Religion: Unknown.

Main features: Unknown.

State of preservation: Scattered bricks.

Description: Numerous ancient bricks are concentrated in a *sawah*, among them a few with mouldings and finials.

Sculptures:

A relief of a bird and a statue of a standing male figure were discovered here (Nitihimanoto & Soeroso 1977: 2).

RETNO (Rejo, Candirejo)²¹⁵

Administrative localization: Cetokan, Candiretno, Secang, Magelang, JT.

Geographical localization: 07° 26' 01.7" S
110° 14' 45.2" E
Precision: 11m
Alt.: 400m

Surroundings: In lower middle land, on flat ground 150m east of the *kali* Nongko and 500m east of the Elo River. The site is located 350m to the west of Cetokan, 450m to the northwest of Tidaran, 500m to the south-southwest of Bengkung and 800m to the north-northwest of Setan.

Religion: Hindu.

Main features: Single temple; facing east; square.

State of preservation: Only the base and the foundation of the temple body are still intact.

Description: The temple is made of brick and faces east-southeast.

Its exact orientation is supposed to be 75° (Nitihaminoto & Soeroso 1977: fig.14).

The base is square and measures roughly 11.80m x 11.80m. Only the foundations of the temple body remains. From the ruins, it can be deduced that the body was roughly 5.70m x 5.70m square, while the *cella* measured probably 3.30m x 3.30m. The walls of the temple body were raised upon a foundation consisting of an intricate network of holding walls that delimited 16 compartments (each roughly 80cm x 80cm square inside).

215 The modern village of Candiretno was formerly a hamlet of nearby Candirejo. Nowadays, the administrative divisions have changed and Candiretno is a *desa* on its own. It is therefore probable that the site mentioned by Krom as Candirejo is the same site as Candiretno.

The description of Candirejo given by Krom is slightly different. According to the Dutch scholar, there were remains of a main temple and its secondary shrines. All the constructions were built on a single brick terrace (Krom 1914a: 235; 1923, I: 408). Today, there are no traces of any secondary shrines.

Sculptures: A *yonī* adorned with a *kāla* is still visible near the temple remains. A bull brought from here is now in the Borobudur Museum.

A sculpture of Durgā was found along the northern side of the temple, together with a *hapsari* (Nitihaminoto & Soeroso 1977: fig.14). The feet of a standing figure were also discovered near the stairs (Ibid: fig.15). A sculpture of Agastya is also thought to have come from here (*Pengolahan data candi Retno* 1998: 4).

Sculptures of the guardians of the winds have been found at Candirejo, among others Yāma, Śiwa, two Durgā, one bull, a Wiṣṇu, Indra, Agni, Waruna and Wāyu (Krom 1914a: 235). However, as the association between Candiretno and Candirejo is not absolutely certain, this provenance should be treated with caution.

Miscellaneous archaeological finds:

Two bronze pots, some earthenware pots, a *peripih*, gold and silver beads, copper and Chinese ceramics were found among the ruins during excavation (Nitihaminoto & Soeroso 1977: 11).

CETOKAN (Tjetohan)

Administrative localization: Cetokan, Candiretno, Secang, Magelang, JT.

Geographical localization: 07° 26' 01.1" S
110° 14' 55.8" E
Precision: 8m
Alt.: 415m

Surroundings: In lower middle land, on flat ground, 300m to the east of the Nongko River. The site is located 250m to the north-northwest of Tidaran, 350m to the east of Candi Retno, 500m to the south-southeast of Bengkung and 850m to the north-northeast of Setan.

Religion: Hindu.

Main features: Unknown.

State of preservation: Scattered stones.

Description/Sculptures: A *yonī* measuring 97cm x 98cm x 45cm now lies in a *sawah*, together with two other temple stones.

Formerly, there were 5 temple stones and a bull (Nitihaminoto & Soeroso 1977: 2-3).

TIDARAN (Tidaro)

Administrative localization: Tidaran, Candiretno, Secang, Magelang.

Geographical localization: 07° 26' 09.3" S
110° 14' 59.1" E
Precision: 12m
Alt.: 415m

Surroundings: In lower middle land, on flat ground, 200m to the west of the Pucang River. The site is located 250m to the south-southeast of Cetokan, 450m to the southeast of Candi Retno, 650m to the north-northeast of Setan and 750m to the south-southeast of Bengkung.

Religion: Hindu.

Main features: Single temple (?)

State of preservation: Only two *yoni* remain.

Description: Two *yoni* are still kept in the village. The largest measures 90cm x 90cm x 80cm and is adorned with a *nāga*, a turtle and a lotus flower. The smaller *yoni* is plain and measures 58cm x 58cm x 65cm.

According to the inhabitants, a temple pit made of brick was also once visible (Nitihaminoto & Soeroso 1977: 3-4).

CANDI (Talun, Candisari, Canditalun, Gomblang, Gumbulan)²¹⁶

Administrative localization: Candi, Candisari, Secang, Magelang, JT.

Geographical localization: 07° 24' 12.0" S
110° 15' 30.0" E
Precision: 12m
Alt.: 450m

Surroundings: In lower middle land, at the top of a hill rising at the confluence of the Elo River (300m to the west) with the *kali* Malang (to the south and east).

Religion: Hindu.

Main features: Single temple.

State of preservation: Scattered bricks.

²¹⁶ Candi and Talun are two neighbouring villages. In the territory of Talun, one can find a few scattered stones, but most of the remains are within the administrative limits of the *dusun* Candi.

Description: On top of a hill, in the courtyard of a house, one can see a huge quantity of ancient bricks, together with fragments of pinnacles and a huge stone *yoni* (*Pengumpulan Benda Magelang* 1997-1998: J.202). The latter has an unusually elongated shape: it is 177cm long, 67cm wide and 68cm high.

Knebel and Hoepermans both designated this site as a (brick) temple (Knebel 1911a: 187; Hoepermans 1913: 148).

Sculptures:

According to Hoepermans, a bull was discovered on the site (Verbeek 1891: 151; Hoepermans 1913: 148). Two small *yoni* are also derived from this hamlet (*Pengumpulan Benda Magelang* 1997-1998: J.203, J.204).

KRINCING

Administrative localization: Ngloji, Krincing, Secang, Magelang, JT.

Geographical localization: 07° 23' 18.9" S
110° 15' 14.6" E
Precision: 9m
Alt.: 515m

Surroundings: In upper middle land, on top of a hill, 200m to the north of a tributary of the Elo River.

Religion: Unknown.

Main features: Single temple.

State of preservation: Scattered bricks.

Description: Today, only a few scattered bricks can be seen.

In the early 20th century, the remains were sufficient for Krom to propose the former existence of a small temple (Krom 1914a: 190).

PIRIKAN

Administrative localization: Pirikan, Pirikan, Secang, Magelang, JT.

Geographical localization: 07° 25' 39.9" S
110° 15' 55.5" E
Precision: Map
Alt.: 415m

Surroundings: In lower middle land, on a slope in a hilly area along the northern bank of the *kali* Balong.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description:

According to Knebel, the site was scattered with temple stones (Knebel 1911a: 188).

Sculptures:

A *yoni* and a Gaṇeśa were also found here (Knebel 1911a: 188). A bull and a standing male figure have been discovered more recently in the village (Nitihaminoto & Soeroso 1977: 5).

PUCANGGUNUNG (Sudagaran, Sedagaran, Pucang)

Administrative localization: Pucanggunung, Pucang, Secang, Magelang, JT.

Geographical localization: 07° 25' 02.5" S
110° 15' 34.5" E
Precision: 24m
Alt.: 450m

Surroundings: In lower middle land, at the top of a small hill, bordered to the south and west by the Pucang River and to the east by one of its tributaries, the *kali* Beruk. The site is located 650m to the east of Jeronboto.

Religion: Hindu.

Main features: Unknown.

State of preservation: Scattered stones.

Description: Numerous temple stones, including fragments of pinnacles and antefixes, are gathered on top of a small hill and testify to the former presence of a temple. A large *yoni* (1m x 1m x 1m; *Pengumpulan Benda Magelang* 1997-1998: J.193) can also be seen, while two gargoyles provenanced from here are now in the Borobudur Museum.²¹⁷

Knebel also identified the site as a temple (Knebel 1911a: 187).

Some brick fragments were also discovered here (Nitihaminoto & Soeroso 1977: 3).

Sculptures:

A Gaṇeśa and a bull (*Pengumpulan Benda Magelang* 1997-1998: J.194) were discovered among the remains (Knebel 1911a: 187; Krom 1914a: 237; Nitihaminoto & Soeroso 1977: 3). A *lingga*-shaped boundary stone was also

²¹⁷ These two pieces have a rather unusual iconography. One is adorned with a three-headed *nāga*, while on the other is a carving of an elephant mounted by his driver.

noticed here, as well as a *jaladwara* (*Pengumpulan Benda Magelang* 1997-1998: J.195) adorned with a *makara* and a lion (Nitihaminoto & Soeroso 1977: 3, fig.11). The bull and the *jaladwara* are now in the Borobudur museum.

JERONBOTO

Administrative localization: Kauman, Pucang, Secang, Magelang, JT.

Geographical localization: 07° 25' 1.6" S
110° 15' 14.4" E
Precision: Map
Alt.: 430m

Surroundings: In lower middle land, in a hilly area roughly 400m to the west of the *kali* Pucang. The hamlet of Kauman is located 650m to the west of Pucanggunung.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

According to the Balai Arkeologi, there should be a brick structure under the ground (Tjahjono 2002: table 1).

BRINGIN

Administrative localization: Bringin, Bringin, Srumbung, Magelang, JT.

Geographical localization: 07° 35' 22.2" S
110° 18' 38.2" E
Precision: Map
Alt.: 410m

Surroundings: In lower middle land, on the western slope of Mount Merapi, between two tributaries of the Putih River (the *kali* Polengan to the north and the *kali* Suko to the south).

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description:

According to the Balai Arkeologi, there was a huge *yoni* (Tjahjono 2002: Table 1).

KEMIREN

Administrative localization: Kemiren, Kemiren, Srumbung, Magelang, JT.

Geographical localization: 07° 35' 50.5" S
 110° 21' 50.6" E
 Precision: Map
 Alt.: 670m

Surroundings: In upper middle land, on the western slope of Mount Merapi, 500m to the north of the *kali* Bebeng.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Some temple remains were still visible at the end of the 19th century (Aalst 1899: 411).

NGAMPEL

Administrative localization: Ngampel, Padanretno, Srumbung, Magelang, JT.

Geographical localization: 07° 34' 13.1" S
 110° 20' 34.1" E
 Precision: Map
 Alt.: 570m

Surroundings: In upper middle land, on the western slope of Mount Merapi, along the banks of a tributary of the *kali* Bunut and 500m to the south of the Blongkeng River. The hamlet of Ngampel is located 1km to the south-southeast of Wates.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Twelve temple stones were found here by the Suaka Peninggalan Sejarah dan Purbakala Jawa Tengah (*Pengumpulan data Magelang 1997-1998*).

SOBOROJO (Sarbaja)

Administrative localization: Soborojo, Japan, Tegalrejo, Magelang, JT.

Geographical localization: 07° 26' 25.9" S
110° 17' 18.5" E
Precision: Map
Alt.: 530m

Surroundings: In upper middle land, on the western slope of Mount Merbabu and on the southern bank of the *kali* Gendu.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description/Sculptures:

A hilltop near the hamlet used to be scattered with temple remains and with a few sculptures, among others a Śiwa, two Gaṇeśa and a *lingga* (Krom 1914a: 224; 1923, I: 408).

TUMBU

Administrative localization: Tumbu, Purwodadi, Tegalrejo, Magelang, JT.

Geographical localization: 07° 26' 51.8" S
110° 14' 47.3" E
Precision: Map
Alt.: 400m

Surroundings: In lower middle land, on the western slope of Mount Merbabu, in a hilly area near the spring of the *kali* Plikon and 300m to the south of the Pucang River.

Religion: Hindu.

Main features: Single temple.

State of preservation: No visible remains.

Description:

The remnants of a brick temple, together with a *yoni* and a *lingga* were once to be seen on top of a hill (Krom 1914a: 223; 1923, I: 408).

Inscriptions:

Part of the foundation deposit was found, including an inscribed copper plate dated to 886 A.D. (Krom 1914a: 223).

BOWONGAN

Administrative localization: Bowongan, Ringinamon, Tempuran, Magelang, JT.

Geographical localization: 07° 34' 57" S
110° 10' 53" E²¹⁸
Precision: Balai Arkeologi
Alt.: 255m

Surroundings: In lower middle land, on flat ground, roughly 300m to the west of the Tangsi River. The site is located 900m to the south of Candi.

Religion: Hindu.

Main features: Single temple.

State of preservation: No visible remains.

Description:

According to the Balai Arkeologi, there should be a brick structure beneath the ground (Tjahjono 2002: Table 1).

Sculptures: An Agastya from Bowongan is now in the Borobudur Museum.

SAMBERAN (Candi)

Administrative localization: Candi, Ringinamon, Tempuran, Magelang, JT.

Geographical localization: 07° 34' 30" S
110° 10' 53" E
Precision: Map
Alt.: 265m

Surroundings: In lower middle land, on flat ground, 75m to the west of the *kali* Merawu and 700m to the west-northwest of its confluence with the Tangsi River. The site is located some 600m to the south of Dimajar and 900m to the north of Bowongan.

Religion: Hindu.

Main features: Single temple; facing east.

State of preservation: Parts of the base were unearthed during excavation.

Description: The temple was made of brick.

218 The hamlet of Bowongan does not figure on the general map. The coordinates given here are from the Balai Arkeologi Yogyakarta.

According to data gathered during excavation, the structure would have measured 16.70m (E-W) x 14.70m (N-S). Remains of what was probably the staircase were found on its eastern side. A *yoni* was discovered near the temple pit (Tjahjono 2001: 9-15).

DIMAJAR

Administrative localization: Dimajar, Sumberarum, Tempuran, Magelang, JT.

Geographical localization: 07° 34' 12.3" S
110° 11' 05.7" E
Precision: Map
Alt.: 250m

Surroundings: In lower middle land, on flat ground 400m to the west of the Progo River, 750m to the north of the *kali* Merawu and 750m to the west of their confluence. The hamlet of Dimajar is located some 600m to the north of Samberan.

Religion: Hindu.

Main features: Unknown.

State of preservation: Scattered bricks.

Description: Brick fragments from the classical period are still visible in the village, such as those used as building materials for modern houses and around the mosque.

A *yoni* could formerly be seen in the same mosque (Tjahjono 2002: 16).

TEMPURREJO (Tempurejo)

Administrative localization: Samirejo II, Tempurrejo, Tempuran, Magelang, JT.

Geographical localization: 07° 31' 13.1" S
110° 11' 00" E
Precision: Map
Alt.: 280m

Surroundings: In lower middle land, along the western banks of the *kali* Progo.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

A brick structure of which two walls remained intact was discovered here by villagers. The wall running from north to south measured 2m in length, while the one running east west was still 4m long (Tjahjono 2002: 16)

SELOGRIYO (Selagria, Selagriija, Watu Rumah, Batu Rumah)

Administrative localization: Campurejo, Kembang Kuning, Windusari, Magelang, JT.

Geographical localization: 07° 25' 28.5" S
110° 10' 05.3" E
Precision: 10m
Alt.: 675m

Surroundings: In upper middle land, on the eastern slope of Mount Putih (1,020m), one of the summits of the Giyanti massif. The temple overlooks the steep canyon of the *kali* Selogriyo, a tributary of the Progo River.

Religion: Hindu.

Main features: Single temple; facing east; staggered square; enclosure wall.

State of preservation: The temple has been restored up to the superstructure, but its base is in a very bad state of preservation.

Description:

The temple base is now shapeless, but according to previous descriptions, it was a staggered square and roughly 4m larger than the temple body (Krom 1923, I: 407).

The temple body is a staggered square with a porch on its eastern side. It measures 4.80m x 4.80m (without the projections). At the centre of the northern, western and southern walls is a niche, while two smaller niches flank the entrance door.²¹⁹ The architectural ornamentation was left unfinished.

The *cella* is 2.70m x 2.70m square.

According to older reports, four paths led from the temple to an enclosure wall. In the southwestern and northwestern corners of this enclosure were *lingga*-shaped boundary stones (Friederich 1876: 91).

219 These eastern niches might have been a later addition to the temple. They indeed lack mouldings and are built against the temple body rather than being integrated with it. Furthermore, the mouldings on the temple body seem to continue underneath the projecting wall forming the niches.

Sculptures: In the northern, western and southern niches of the temple body are statues of Durgā, Gaṇeśa and Agastya. On each side of the entrance stands a *dwārapāla*.

Miscellaneous archaeological finds:

Several cylindrical stones were found near the temple. These consist of two parts. The lower (?) part has a shallow circular cavity, with a short tenon in the centre. The upper part has been carved to fit into the cavity and tenon of the lower part. The upper part also displays nine cavities: a circular one at the centre (that fits with the tenon of the lower part of the stone), and eight drop-like holes around it (Knebel 1911a: pl. 23).

BATUR (Selagana, Batu Gono, Candi Gana)

Administrative localization: Ngoboran, Candisari, Windusari, Magelang, JT.

Geographical localization: 07° 24' 32.7" S
110° 09' 59.2" E
Precision: 6m
Alt.: 775m

Surroundings: In upper middle land, at the top of the Sukorini hill on the eastern slope of Mount Damaran, one of the peaks of the Giyanti massif. The top of the hill has been levelled.

Religion: Unknown.

Main features: Organic compound (?).

State of preservation: Only the remains of a staircase and some scattered stones are still visible.

Description/Sculptures: The top of the hill has been levelled to form a wide space. At its eastern edge, facing Mount Sumbing, a small mound of stones and earth can be seen. On the western side of this mound are two huge *makara* from a staircase. It is possible that they are still *in situ*.

To the northeast of the above-mentioned remains, and at a slightly lower level, is another couple of *makara*, though no other stones are lying in the immediate surroundings.

Former reports present a different view of this place. It seems that the site actually consisted of two temples built on different terraces (Friederich 1876: 100-102; Verbeek 1891: 143; Hoepermans 1913: 155-156). The lower temple faced the East. From it, a staircase of 20 steps led up to the summit of the hill, which had been levelled to create a courtyard. This courtyard was surrounded by an enclosure wall (Friederich 1876: 102) and, at its centre, was the main temple

facing West.²²⁰ According to the same authority (Friederich 1876: 102), the latter structure was 63 feet long (E-W) by 40 feet wide (N-S). According to Krom (1923 I: 403), the remains of a third building were visible to the north.

220 However, according to Krom, the upper temple faces east, and the lower temple west.

Appendix 4

INVENTORY OF THE TEMPLE REMAINS OF THE KABUPATEN OF BOYOLALI AND SEMARANG

MANGIS (Manggis)

Administrative localization: Manggis, Winong, Boyolali, Boyolali, JT.

Geographical localization: 07° 31' 21.8" S
110° 33' 29.0" E
Precision: Map
Alt.: 550m

Surroundings: In upper middle land, on the eastern slope of Mount Merapi, on the banks of the *kali* Kalongan.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Hoepermans (1913: 271) thought a temple once stood here. Two huge sculptures, including a *dwārapāla*, were found here (Verbeek 1891: 194).

KUWARIGAN (Kwarigan, Rågã, Candiraga)²²¹

Administrative localization: Kuwaringan, Bakulan, Cepogo, Boyolali, JT.

Geographical localization: 07° 30' 30" S
110° 32' 30" E
Precision: Map
Alt.: 760m

Surroundings: In upper middle land, on the eastern side of Mount Merapi on the slope of the small *gunung* Wijil, between the *kali* Garan and the Kurangdawet River. The hamlet is located 650m to the south-southeast of Cabean Kunti.

221 The site is very close to Cabean Kunti. As Cabean Kunti is not described in the older sources, it is not impossible that both names designate the same place. However, Cabean Kunti is not on Gunung Wijil and is composed of several pools, none of which correspond to the description given by Knebel (1910a: 95-96).

Religion: Unknown.

Main features: Bathing place.

State of preservation: No visible remains.

Description:

The site is said to have been a bathing place (Bosch 1915a: 95). According to an earlier report, the site was actually a 6x6m square water tank collecting water from a spring called Candiraga. The tank was divided into two parts by a wall adorned with mouldings and pilasters. The part used as a pool was further divided into three sections by small walls. (Knebel 1910a: 95-96)

SUMUR SONGO (Krikil, Kidul, Sukuh, Suko, Sindang Prompong, Sendang Songo, Sindang Beji, Bungulan, Lor)²²²

Administrative localization: Candi Kidul, Candi Gatak, Cepogo, Boyolali, JT.

Geographical localization: 07° 29' 54.9" S²²³
 110° 33' 26.0" E
 Precision: 28m
 Alt.: 615m

Surroundings: In upper middle land, on the eastern slope of Mount Merapi. Situated in the canyon of the small *sungai* Jurang, a tributary of the Pule River.

Religion: Hindu.

Main features: Pits.

State of preservation: Seven of the eight pits are still preserved more or less in their original state, although in their upper layers numerous stones have been re-used from other structures. The eighth pit has now been covered by concrete. The temple has since disappeared.

Description: The site is composed of eight pits made of temple stones, scattered along the small *sungai* Jurang.

222 The site, consisting of wells and the remains of a temple, corresponds to the description given by Bosch (1915a: 97), Verbeek (1891: 194) and Van der Vlis (see Krom 1925a: 175). Bosch clearly notes that the site he calls Kidoel (in the district of Ngampel) is also known as Krikil, Samoer Prompong and Samoe Sindang Bedji. The location, in the *desa* of Candi Kidul, is also similar to that of Sumur Songo. However, the description of a relief carving found in a well is strongly reminiscent of Cabean Kunti.

223 The coordinates were taken at the south-eastern pit.

Formerly, the remains of a temple were visible on the hill above the pits, on the western bank of the river. This temple was called Soekoh by Verbeek and Lor by Bosch (Bosch 1915a: 97; Verbeek 1891: 194).

In an earlier description, dated 1841, Van der Vlis mentions the existence of three heaps of stones (two being in a line, with another further to the west). At least one of them would have had an entrance on the western side (Van der Vlis, quoted in Krom 1925a: 175).

The lower layers of these pits have been partly excavated from the natural rock, and partly built. In their upper sections, almost all the pits show a few re-used blocks (mouldings, antefixes etc.).

The easternmost pit is made of river stones and uses temple stones only in its upper part. Most of the temple stones are not in their original position, as they are mouldings or stones with small, uncarved antefixes. It is possible that this particular structure is not ancient.

Some 55m southwest of the first pit, are two other wells. They are roughly on a east-west line, though they are not orientated around the cardinal points. The nearest to the river measures 70 x 70cm, whereas the western structure is slightly wider, measuring 90cm x 90cm. In their upper layers, one can recognize unfinished antefixes, mouldings and even a lintel.

Approximately 60m to the northwest is the only well-preserved pit. None of its stones seem to have been reused. Its outer edge looks like a temple base. The structure is 160m square on the outside, while the pit itself is 95m square.

Some 25m to the north is a smaller pit, measuring 65cm x 78cm. Fragments of mouldings are to be seen in its upper part.

Further to the east, there are still three other wells to be encountered. The first has been entirely covered by concrete. The two other pits have also been renewed, but temple stones are still visible in their lower parts.

Sculptures:

An Agastya was discovered among the remains of the temple, to the west of the pits (Bosch 1915a: 97).

Van der Vlis mentions two male figures, probably of Śaivite character, one female sculpture and numerous carved stones with parrots, birds or tridents. All were found among the remains of the temple called Boengalan/Lor. In one of the pits there is said to have been a relief showing men and women making offerings (Van der Vlis, quoted in Krom 1925a: 175ff).

SARI²²⁴

Administrative localization: Candisari, Gedangan, Cepogo, Boyolali, JT.

Geographical localization: 07° 31' 40.0" S
110° 30' 44.9" E
Precision: 9m
Alt.: 1,000m

Surroundings: In upper middle land, on the eastern side of Mount Merapi, between the *kali* Musuk (75m to the south) and the Gandul River (100m to the north). Situated on top of a hill offering a great view of both Merapi and Merbabu. The site is located 900m to the southwest of Lawang.

Religion: Hindu

Main features: Single temple.

State of preservation: Only the foundation remains.

Description: A foundation of 4.70m x 4.70m is still visible here. Although it is orientated around the cardinal points, it is impossible to determine on which side the entrance was located. Loose stones are scattered across the immediate neighbourhood. Among these stones, one can see mouldings, antefixes and crowning pieces.

Sculptures: A bull, a *yoni* and two *lingga* can still be seen at the site.

LAWANG

Administrative localization: Lawang, Gedangan, Cepogo, Boyolali, JT.

Geographical localization: 07° 31' 24.9" S
110° 31' 11.0" E
Precision: 7m
Alt.: 915m

Surroundings: In upper middle land, on sloping ground on the eastern side of Mount Merapi, 25m to the south of the *kali* Gandul. The site is located 900m to the northeast of Sari.

Religion: Hindu.

Main features: Sanctuary type 3; main temple square; facing west.

²²⁴ These remains are not mentioned in the old inventories. However, a site called Wantil is listed by both Hoepermans (1913: 271) and Bosch (1915a: 94). As this site is described as a mere foundation lying at the top of a hill in the district of Boyolali, it is possible that it is the same as the modern Sari.

State of preservation: Only the bases of the secondary buildings are still visible, but in the case of the main temple, the lower part of the temple body is also partly preserved.

Description: The sanctuary consists of one main temple and two or three secondary buildings.

The main temple has a square base, with a projection on the west for the staircase. It measures 6.40m x 6.40m. The temple body is 5m x 5m square and has a projection on the west. The walls of the *cella* are no longer visible, but the temple pit is preserved. It is roughly 85cm x 85cm square and 3.60m deep.

To the south of the main temple lies a secondary shrine. Its base is 3.35m x 3.35m square, with a projection on the west for the staircase. To the north of the main temple there was probably a similar structure, although only one line of stones can now be seen. In front of the main temple, one finds an elongated structure measuring 12.45m (N-S) x 3.25m (E-W). It has three staircases on its eastern side. At the rear of the main temple is a small rectangular structure. Only the lower wall is left. It measures 2.4m x 1.7m.

Sculptures: A *yonis* is still visible among the remains.

Inscriptions: On the doorjamb is a short inscription.

It reads “*ju thi ka la ma sa tka*” (Sugito 1999-2000: 2), i.e. 861 A.D. (Krom 1923, I: 412).

CANDIPETAK (Candi Peta)

Administrative location: Candipetak, Genting, Cepogo, Boyolali, JT.

Geographical location: 07° 30' 19.7" S
110° 29' 08.2" E
Precision: Map
Alt.: 1,330m

Surroundings: In upper middle land, on a steep slope between the peaks of Mounts Merapi and Merbabu, along the canyon of an intermittent watercourse.

Religion: Unknown.

Main features: Unknown.

State of preservation: No visible remains.

Description:

Van der Vlis reports being told by the local inhabitants that the temple remains were destroyed by mud from Mount Merapi. The Dutchman was himself able to find several sculptures and temple stones in the surroundings (Van der Vlis quoted in Krom 1925a: 181ff).

CABEAN KUNTI (Cabean, Kunti, Sendang lerep, Sendang kunti, Sendang Semboja, Sendang Sida Tapa)

Administrative localization: Cabean, Kunti, Cepogo, Boyolali, JT.

Geographical localization: 07° 30' 12.1" S²²⁵
 110° 32' 20.6" E
 Precision: 21m
 Alt.: 750m

Surroundings: In upper middle land, on the eastern slope of Mount Merapi, on the banks of a *kali* Kunti/Pule. The site is located 650m to the north-northwest of Kuwarigan.

Religion: Hindu (?)

Main features: Bathing place.

State of preservation: Three pools have been restored.

Description: The site is composed of five bathing places scattered along the banks of the *kali* Kunti/Pule.²²⁶ They all share roughly the same layout and dimensions: a rectangular pool measuring 4.70m x 1.50m, bordered on three sides by a wall. None of them is orientated around the cardinal points, neither are they in a line.

Most of the baths were left uncarved, the exception being the second pool to the west. The latter has a niche in the middle of its rear wall and is adorned with relief carvings. The reliefs on the exterior are purely plant-like motifs, while the inner panels are carved with birds and human figures.

Sculptures: A *lingga*, probably a boundary stone, is visible near the eastern bath.

PAHINGAN (Paingan, Pelem and Tampir)

Administrative localization: Karangrejo, Sukorame, Musuk, Boyolali, JT.

²²⁵ The coordinates of Sendang Kunti.

²²⁶ From west to east, the pools are named Sendang Sidotopo, Sendang Lerep, Sendang Kunti (two pools) and Sendang Sembojo.

Geographical localization: 07° 32' 18.4" S
 110° 33' 45.1" E
 Precision: 29m
 Alt.: 575m

Surroundings: In upper middle land, on flat ground on the eastern slope of Mount Merapi, 200m north of the Musuk River and 300m to the south of a tributary of the *kali* Gandul. The site is located 450m to the east of Tampir.

Religion: Hindu.

Main features: Single temple.

State of preservation: Scattered stones.

Description: A few temple stones are still visible behind a house, together with a large *yonī* (100cm x 100cm x 90cm). According to the inhabitants, large bricks were also found at the site.

However, according to the older literature, the site consisted of two temples located on land belonging to the villages of Pelem and Tampir (Verbeek 1891: 194; Bosch 1915a: 94). As the villages of Pelem, Pahingan and Karangrejo border each other, the temple mentioned in Pelem is probably Pahingan.

Sculptures:

Some sculptures were found at the site of Pelem and Tampir, among others a Trimūrti, four Śiwa, one Gaṇeśa and a Durgā (Bosch 1915a: 94; Krom 1925a: 178). However, it is not clear if these sculptures should be associated with Pahingan or with Tampir, as the two temples are considered as a single site in the old inventories.

TAMPIR (Pelem and Tampir)

Administrative localization: Tampir, Sukorame, Musuk, Boyolali, JT.

Geographical localization: 07° 32' 17.5" S
 110° 33' 29.0" E
 Precision: 11m
 Alt.: 600m

Surroundings: In upper middle land, on flat ground on the eastern slope of Mount Merapi, 100m to the south of the *kali* Musuk. The site is located 450m to the west of Pahingan.

Religion: Hindu.

Main features: Unknown.

State of preservation: Scattered stones.

Description: Behind the high school is a small mound of temple stones. Many stones are also scattered in the immediate neighbourhood, being used to build walls in the fields. Among the stones that one can still identify, there are mouldings, an unfinished *makara*, lintels and parts of crowning pieces, as well as one *lingga* boundary stone.

The older literature mentions that the site consisted of two temples located on land belonging to the villages of Pelem and Tampir (Verbeek 1891: 194; Bosch 1915a: 94). Pelem is probably to be identified with Pahingan, which lies a few hundred meters to the southeast.

Sculptures: A *yoni* (90cm x 90cm x 80cm) is still visible at the site.

Some other sculptures were found here, including a Trimūrti, four Śiwa, one Gaṇeśa and a Durgā (Bosch 1915a: 94; Krom 1925a: 178). However, as the older literature does not distinguish one site from another, it is not clear whether the sculptures come from Tampir or from Pahingan.

CANDIREJO

Administrative localization: Candirejo, Kiringan, Tulung, Boyolali, JT.

Geographical localization: 07° 36' 46.0" S
110° 36' 11.5" E
Precision: Map
Alt.: 310m

Surroundings: In lower middle land, on the southeastern side of Mount Merapi, in an area where its slope starts to be felt. Between the *kali* Puluhan Selatan and the *kali* Puluhan Utara.

Religion: Hindu.

Main features: Single temple.

State of preservation: Unknown.

Description:

Traces of a foundation made of river stones were discovered in the village. Furthermore, numerous temple stones have been found under the ground, including fragments of crowning pieces, mouldings, decorative reliefs and a *yoni* (Soekmono 1953: 10, 31, pl. VII and figs. 39-41).

Sculptures:

Reliefs of standing male figures (one is holding a trident) were discovered during excavation, together with a figure of Gaṇeśa (Soekmono 1953: 10, 31 and figs. 40, 43).

PLIMPUNGAN (Plompongan, Plumpungan)²²⁷

Administrative localization: Plimpungan, Kauman Kidul, Sidorejo, Kotamadya Salatiga, JT.

Geographical localization: 07° 18' 27.5" S
110° 30' 54.6" E
Precision: Map
Alt.: 525m

Surroundings: In upper middle land, in a hilly area on the western bank of the *kali* Ajawur.

Religion: Unknown.

Main features: Unknown.

State of preservation: Unknown.

Description:

An inscription and some temple stones were found in the hamlet (Krom 1914: 181; SPSP JT 2002).

GEDONG SONGO

This large organic complex is located on the southern slope of Mount Ungaran. From the temples, one can enjoy a great view of Mounts Telomojo, Merbabu, Merapi, Sumbing and Sundoro. The site dominates the whole Progo valley and is divided into two parts by a 50m deep canyon through which flows water from a sulphurous hot spring. Gedong Songo I, II and III are located on the eastern side of the canyon, while the other temple groups are situated on the western side.

In addition to the groups described below there were once two other foundations, known as Gedong Songo VIII and Gedong Songo IX; located respectively to the west-northwest of Gedong Songo IV and to the west-northwest of Gedong Songo V (Krom 1923, I: 235, 238).

²²⁷ I have not visited this site.

GEDONG SONGO I (Candi Ratna)

Administrative localization: Darum, Candi, Ambarawa, Semarang, JT.

Geographical localization: 07° 12' 29.3" S
110° 20' 30.3" E
Precision: 10m
Alt.: 1,265m

Surroundings: In upper middle land, on the southern slope of Mount Ungaran. The temple is located on the eastern side of the canyon, 370m to the south-southeast of Gedong Songo II.

Religion: Hindu.

Main features: Single temple; facing west; square.

State of preservation: Restored up to its superstructure.

Description: The temple base is 8.70m x 8.70m square, with a projection for the staircase on the western side.

Its exact orientation is 269° 21' (Siswoyo 1996: 5).

The platform was bordered by a low parapet, of which only a few blocks remain. The temple body is 5m x 5m and has a niche at the centre of its northern, eastern and southern sides. On the western side, a small projection shelters the entrance door. A small corridor leads to a 2m square *cella*. The *cella* walls are interrupted by eleven niches (three in the northern, eastern and southern walls, with two flanking the entrance). The centre of the room is occupied by a *yoni*.

Sculptures:

A *lingga* was found 5m away from the temple (Verbeek 1891: 91).

GEDONG SONGO II

Administrative localization: Darum, Candi, Ambarawa, Semarang, JT.

Geographical localization: 07° 12' 17.6" S
110° 20' 25.6" E
Precision: 8m
Alt.: 1,350m

Surroundings: In upper middle land, on the southern slope of Mount Ungaran. The temple is located on the eastern side of the canyon, 370m to the north-northwest of Gedong Songo I and 110m to the south-southeast of Gedong Songo III.

Religion: Hindu.

Main features: Sanctuary type 1; facing west; staggered square.

State of preservation: The main temple has been restored up to its superstructure. Of the secondary building, only parts of the base remain intact.

Description: Gedong Songo II is composed of two buildings facing each other: a main temple facing west and a secondary structure facing east.

The main temple has a rectangular base measuring 6.30m (E-W) x 5.80m (N-S), with a projection on the western side for the staircase.

Its exact orientation is 263° 08' (Siswoyo 1996: 5).

The temple body is a staggered square of 4.10m x 4.10m and has a porch on its western side. A corridor leads to a 1.75m x 1.75m square *cella*. Niches are visible at the centre of the northern, eastern and southern walls.

The base of the secondary structure is 2.60m (E-W) x 4m (N-S). There are no remains of the upper walls.

The base of a third structure was formerly visible to the south-west of the main temple (Stein Callenfels 1916: 12)

Sculptures: A relief fragment of a four-horse cart is still to be seen near the temple.

Two *yoni* were once visible close to the temple and an Agastya was also noted (Verbeek 1891: 91; Brumund, 1868; Friederich 1876: 79).

During excavation, sculptures of Nandiśvara, Mahākāla, Durgā and Gaṇeśa were discovered at the foot of the temple, on the western, northern and eastern sides respectively (Krom 1923, I: 231).

GEDONG SONGO III

Administrative localization: Kenteng, Ambarawa, Semarang, JT.

Geographical localization: 07° 12' 14.0" S
110° 20' 24.8" E
Precision: 10m
Alt.: 1,375m

Surroundings: In upper middle land, on the southern slope of Mount Ungaran. The temple is located on the eastern side of the canyon, 110m to the north-northwest of Gedong Songo II.

Religion: Hindu.

Main features: Sanctuary; facing west; square.

State of preservation: The three buildings have been restored up to the superstructure.

Description: This sanctuary consists of three buildings: one main temple with a secondary shrine (in a line facing west) and a third, smaller building opposite the main temple and facing east. The main temple has a rectangular base (6m x 5.5m), with a projection for the staircase on the western side. The temple body is 4m x 4m square with a projecting porch on the west. The northern, eastern and southern walls are each interrupted by a niche, while the entrance is flanked by two niches. A corridor leads to a 1.7m x 1.7m square *cella*.

The northern secondary shrine has a similar rectangular base (4.5m x 4m), with a projection on the west for the staircase. The base has the peculiarity of having three niches (on the north, east and south). The temple body is 3m x 3m square, with a porch on the western side. Salient niches are visible on the northern, eastern and southern outer walls. Two additional niches are visible inside the porch, on each side of the corridor. The *cella* is 1.3m x 1.3m square.

The third structure, opposite the main temple, is a small rectangular building measuring 2.25m (E-W) x 3.3m (N-S). The base and body are closely integrated with one another.

Traces of a pavement are still visible in places around the temples.

Formerly, the remains of a sustaining wall were also noticed. As the latter was made of re-used blocks, it was almost certainly of later date and should probably be associated with the occupation of the site during the Diponegoro revolt (Verbeek 1891: 15; Bosch 1916: 40; Krom 1923, I: 231).

Traces of a fourth building were once visible to the southeast of the main temple (Krom 1923, I: 231).

Sculptures: Within the niches on the outer walls of the main temple, one can see two *dwārapāla*, Durgā (north), Gaṇeśa (east) and Agastya (south). In the southern niche of the base of the northern secondary shrine is a small kneeling elephant.²²⁸

Further sculptures were discovered around the temples: two four-horse carts, a four-headed Brahmā, an Agastya, a lion, two bulls and various other fragments (Brumund 1868: 150; Verbeek 1891: 91; Stein Callenfels 1908: XX; Knebel 1910b: 228; Krom 1923, I: 233).

GEDONG SONGO IV (Gedong Songo V, Gedong Tjina)

Administrative localization: Jubelan, Sumowono, Semarang, JT.

228 The sculpture was actually found at the foot of the niche (Stein Callenfels 1916: 15; Krom 1923, I: 233).

Geographical localization: 07° 12' 13.3" S
 110° 20' 17.2" E
 Precision: 12m
 Alt.: 1,375m

Surroundings: In upper middle land, on the southern slope of Mount Ungaran. The temple group is situated on the western side of the canyon, in a levelled area. The temple group is located 85m to the southwest of Gedong Songo VI and 200m to the north of Gedong Songo V.

Religion: Hindu.

Main features: Sanctuary; facing west; square; porch.

State of preservation: The main temple has been restored up to its superstructure. The other buildings are now mere bases.

Description: The sanctuary consists of nine buildings: a main temple flanked by four secondary shrines in a line; a row of three secondary buildings facing the main temple; and the remains of a ninth construction at the rear of the main temple.

The base of the main temple is a rectangle measuring 6.20m (E-W) x 5.5m (N-S). The staircase is on the western side.

Its exact orientation is 282° 52' (Siswoyo 1996: 3).

Its body is 4.10m x 4.10m square, with a projecting porch on its western side. There are niches at the centre of the northern, eastern and southern sides, as well as near the entrance door. A corridor leads to a plain *cella* of 1.7m x 1.7m square.

To the north and south of the main temple, on the same line, are the remains of two pairs of buildings. All have their entrance on the west. The structure directly to the north of the main temple measures 2.50m (E-W) x 2.05m (N-S), while the northernmost building is 2.75m x 2.75m square. The base directly to the south of the main temple is a rectangle of 2.50m (E-W) x 2.20m (N-S). The southernmost building measures 3.25m (E-W) x 2.80m (N-S). At the rear of the main temple are the remains of another building. It faces and is roughly 2.70m x 2.70m square.

In front of the main temple rises another structure. Its rectangular base measures 2.80m (E-W) x 3.20m (N-S). It bears no trace of a staircase. To the south one finds another large building. Its base measures 4.6m (E-W) x 4m (N-S), with a projection for the staircase on the east. Parts of the foot of the temple body are still recognizable. According to this evidence, the temple body was a staggered square with projecting niches on the northern, western and southern sides. The eastern side was occupied by a salient porch. It was probably around 2.5m x 2.8m in size.

The northernmost temple of this western row is a small structure measuring 3.3m (E-W) x 3.10m (N-S) and facing east.

Sculptures: In the southern niche of the main temple is a sculpture of Agastya.

A *yoni* was found near the same building (Verbeek 1891: 92).

Among the remains of this temple group were discovered a *kala* with lower jaw and arms, a bull, a Mahākāla, a Durgā, a Gaṇeśa, two pedestals and fragments of a sculpture representing a couple holding hands beneath a trident (Brumund 1868: 151; Bosch 1916: 80; Krom 1923, I: 238)

GEDONG SONGO V (Gedong Songo IV)

Administrative localization: Jubelan, Sumowono, Semarang, JT.

Geographical localization: 07° 12' 19.8" S
110° 20' 16.5" E
Precision: 10m
Alt.: 1,380m

Surroundings: In upper middle land, on the southern slope of Mount Ungaran. The temple group is located on the western side of the canyon, at the top of a levelled hill. The temple group is located 200m to the south of Gedong Songo IV.

Religion: Hindu.

Main features: Sanctuary; facing west; square.

State of preservation: The main temple has been restored up to its superstructure. Of the secondary shrine just to the north of it, both the base and parts of the temple body are preserved. The other structures are reduced down to their bases.

Description: The group consists of six buildings, all of them facing west. The four northern buildings are in a row and on an upper terrace, while the two southern ones are not in a line with the others and are situated at a slightly lower level.

Northern group

The northern group is composed of one main temple and three secondary buildings. The main temple has a rectangular base measuring 6.1m (E-W) x 5.5m (N-S), with a staircase on the west.

Its exact orientation is 283° 09' (Siswoyo 1996: 3).

The temple body is 4.1m x 4.1m square, with a projecting porch on the west. Niches have been placed at the centre of the northern, eastern and southern walls. A small corridor leads to the 1.65m x 1.65m square *cella*.

To the north of the main temple lies a base measuring 4.55m (E-W) x 4m (N-S), while to the south are the remains of another structure of roughly 4.4m (E-W) x 3.6m (N-S). Further south is a base measuring 3.5m (E-W) x 3.3m (N-S).

Southern group

Even further south there are two bases, although they are not in line with the preceding four structures. The northern one measures 3.7m (E-W) x 3.3m (N-S), while the other is 3.7m x 3.2m.

Sculptures:

Various sculptures were once visible near the main temple, among others an Agastya, a Durgā, a Mahādewa, a Wiṣṇu and two bulls.

Near the northern secondary shrine of the northern group were discovered a Gaṇeśa, two *dwārapāla* and one *yoni*.

Among the remains of the shrine directly to the south of the main temple were found a bull, a Gaṇeśa, an Agastya and a head of Brahmā (Brumund 1868: 152-153; Krom 1923, I: 235-236)

In the neighbourhood of the southern groups was a Gaṇeśa (Brumund 1868: 153).

Other sculptures have been found within the temple grounds of Gedong Songo V, although their exact provenance is unknown. This is the case for at least one Durgā and a *lingga* (Krom 1923, I: 236).

GEDONG SONGO VI

Administrative localization: Jubelan, Sumowono, Semarang, JT.

Geographical localization: 07° 12' 11.6" E
110° 20' 20.0" S
Precision: 10m
Alt.: 1,373m

Surroundings: In upper middle land, on the southern slope of Mount Ungaran. The temple group is located on the western side of the canyon and 85m to the northeast of Gedong Songo IV.

Religion: Hindu.

Main features: Sanctuary type 5; facing east; staggered square.

State of preservation: The bases and parts of the temple body are still visible.

Description: Two temples in a row, orientated around the cardinal points and looking east. The base is 2.80m x 2.80m square. According to the remains, the temple body was probably a staggered square, with projecting niches on the northern, western and southern sides.

On old plans, the group is composed of three buildings in a row (Lulius van Goor 1919: plan)

GEDONG SONGO VII²²⁹

Administrative localization: Jubelan, Sumowono, Semarang, JT.

Geographical localization: 07° 12' 12.5" S
110° 20' 17.7" E
Precision: 7m
Alt.: 1,376m

Surroundings: In upper middle land, on the southern slope of Mount Ungaran. The temple group is located on the western side of the canyon and a few meters to the north of Gedong Songo IV.

Religion: Hindu.

Main features: Sanctuary type 5; facing west.

State of preservation: Only the bases of two buildings are still clearly recognizable.

Description: Today, only two bases in a line are visible. The southern base is 2.80m x 2.80m square, with remains of a staircase on the western side. The northern one is roughly 2.45m x 2.45m square and also faces west.

On older maps, the group was composed of four structures in a line (Lulius van Goor 1919: plan; Krom 1923, I: 238).

BUTAK WETAN

Administrative localization: Jubelan, Ambarawa, Semarang, JT.

Geographical localization: 07° 11' 00.8" S
110° 20' 53.8" E
Precision: Map
Alt.: 2,031m

229 This group has no modern official number. In the former inventories, it is usually referred to as part of Gedong Songo V. As the structures are not in line with the buildings of the latter group, I have preferred to give it a distinct number.

Surroundings: In high land at the top of Mount Butak Wetan, one of the summits of Mount Ungaran.

Religion: Unknown.

Main features: Single temple, facing east.

State of preservation: No visible remains.

Description:

The remains of a temple were once visible on Gunung Butak Wetan. Verbeek was still able to see part of the staircase and determine that the entrance was on the east (Verbeek 1891: 90).

The temple was destroyed by the Topographische Dienst (Krom 1923, I: 222).

NGAMPIN

Administrative localization: Ngampin Ngentak, Ngampin Kulon, Ambarawa, Semarang, JT.

Geographical localization: 07° 15' 55.1" S
110° 23' 01.7" E
Precision: 13m
Alt.: 480m

Surroundings: In lower middle land, on a gentle slope, with a view of Mounts Ungaran and Telomojo. The site is located a few dozen meters east of the *kali* Kulon/Suko.

Religion: Unknown.

Main features: Single temple; facing west.

State of preservation: Scattered bricks.

Description: Numerous bricks and river stones in the backyard of a house testify to the former presence of a building.

Excavations were carried out in the 1980's and remains of a brick base were found. The structure measured roughly 6m x 6m square and faced west. Its foundation was made of river stones. Numerous fragments of architectural ceramics were found, some with plant-like ornamentation (Dwiyanto, Nitihaminoto & Pinardi 1980-1981: 16).

Miscellaneous archaeological finds:

Foreign ceramics sherds from various periods were found during excavation, including Chinese ceramics from the Ming era (14th-17th c.), as well as Thai pottery from the 15th-16th c. (Dwiyanto, Nitihaminoto & Pinardi 1980-1981: 18).

KALIKLOTOK (Doplang)

Administrative localization: Klotok, Doplang, Bawen, Semarang, JT.

Geographical localization: 07° 14' 06.1" S
110° 24' 15.0" E
Precision: 8m
Alt.: 585m

Surroundings: In upper middle land, on the slope at the foot of Gunung Kendalidoso. The rice fields in the area are scattered with hot springs. The site is located at a spring called Reco, one of the sources of the *kali* Panjang.

Religion: Hindu.

Main features: Bathing place (?).

State of preservation: Scattered stones.

Description: Within the spring called Reco are several temple stones, including two carved pediments (adorned with two birds looking towards the centre of each pediment).

Krom and Verbeek thought the site could have been a temple or bathing place (Verbeek 1891: 93; Krom 1914a: 173; 1923, I: 223).

Sculptures:

Two Ganeśa have been discovered at this site (Verbeek 1891: 93; Krom 1914a: 173; 1923, I: 223).

SIDOMUKTI (Siddhomoekti, Cobleng)

Administrative localization: Sidamukti, Sidamukti, Bawen, Semarang, JT.

Geographical localization: 07° 12' 16.4" S
110° 22' 53.0" E
Precision: Map²³⁰
Alt.: 850m

Surroundings: In upper middle land, on the southeastern slope of Mount Ungaran, near one of the sources of the *kali* Wonoboyo.

Religion: Hindu.

Main features: Organic compound; single temple; bathing place.

²³⁰ According to Krom, the remains were on the grounds of the *desa* Sidomukti, but on the border with *desa* Cobleng. As the site has now disappeared, the coordinates given here are those of the border between both hamlets, at a place along the bank of the *kali* Wonoboyo.

State of preservation: No visible remains.

Description:

There was once a bathing place and a hilltop temple (Friederich 1870: 505; 1876: 75). The temple had already disappeared by the end of the nineteenth century, but the remains of the bathing place were still clearly visible, together with the sculptures (Verbeek 1891: 90).

The bath consisted of two pools. From a small upper pool, the water flowed down to a larger one (Krom 1923, I: 224).

Sculptures:

Around the pools were a Gaṇeśa and an Agastya, while a second Gaṇeśa was found lying within the small pool (according to Krom, one of these Gaṇeśa originated from the temple). Two stone rams²³¹ were once visible within the large pool (Krom 1914a: 173; 1923, I: 223).

DUKUH (Banyubiru, Brawijaya)

Administrative localization: Brawijaya, Rowoboni, Banyubiru, Semarang, JT.

Geographical localization: 07° 18' 40.9" S
110° 25' 34.2" E
Precision: 9m
Alt.: 496m

Surroundings: In lower middle land, at the top of a small hill overlooking the Rawapening Lake and backed by Mounts Telomojo and Merbabu. To the west, Mount Ungaran is clearly visible. Further down the hill are two hot springs.

Religion: Hindu.

Main features: Single temple; facing east; staggered square; enclosure.

State of preservation: Only the base of the building remains.

Description: The temple base is square and measures 5.80m x 5.80m. Its eastern face is unfortunately badly damaged and it is no longer possible to confirm the existence of a stair on this side.

The temple body would have been a slightly staggered square facing east (Friederich 1876: 75).

When Friederich visited the site, traces of an enclosure wall were still visible near the structure (apparently quite close to the temple itself, like the enclosure of Candi Arjuna on the Dieng plateau; Friederich 1876: 75).

²³¹ According to Verbeek (1891: 90), these sculptures were simply two bulls.

Sculptures:

Several sculptures were found in the immediate surroundings, among others a Gaṇeśa, a bull, three *lingga*, one Agastya, a *yoni* and a Durgā (Friederich 1876: 76; Verbeek 1891: 94; Krom 1914a: 175).

ARCA GANESA BESAR (Sikunir, Bergas Lor, Sawah Redarjo, Beji)

Administrative localization: Sikunir, Bergas Lor, Bergas, Semarang, JT.

Geographical localization: 07° 10' 47.6" S
110° 25' 07.4" E
Precision: 10m
Alt.: 490m

Surroundings: In lower middle land, on flat ground, 400m to the north of the *kali* Lulung. The site is located 1km to the east-northeast of Wujil.

Religion: Hindu.

Main features: Single temple (?).

State of preservation: Only a huge Gaṇeśa sculpture remains.

Description:

Friederich is said to have been able to see some temple remains (quoted by Verbeek 1891: 89).

Sculpture: A huge, almost 2m high, sculpture of Gaṇeśa is all that remains from the site.

Krom and Verbeek thought that the sculpture, given its height, could have been the central sculpture of the ancient temple (Verbeek 1891: 89; Krom 1923, I: 222). Krom mentions that, apart from temple stones and the huge Gaṇeśa, four smaller Gaṇeśa sculptures were found here (Krom 1914a: 177). In the neighbourhood of the village, a *yoni*, a bull, two relief carvings and other temple stones were also discovered (Krom 1914a: 177).

WUJIL (Kalitaman, Sindang Beji, Wijil)²³²

Administrative localization: Wujil, Wujil, Bergas, Semarang, JT.

²³² The name and approximate location is reminiscent of the place that Hoepermans calls Candi Gunung. He indeed mentions two other names for this *candi*: Bedsi and Kali Alang. Bedsi and Beji are quite close to each other, while 'kali' seems to indicate the presence of a river nearby. Hoepermans saw the temple remains on top of a hill (Hoepermans 1913: 200).

Geographical localization: 07° 10' 53.0" S
 110° 24' 34.7" E
 Precision: 7m
 Alt.: 525m

Surroundings: In upper middle land, at the top of a hill named Gunung Sukorini, 600m to the north of the *kali* Lulung and 900m to the east of the Garong River, with a nice view of Mounts Ungaran, Telomojo and Merbabu.

Religion: Hindu.

Main features: Bathing place and single temple.

State of preservation: Scattered stones.

Description: At the top of the hill, a few scattered stones, some fragments of crowning pieces and an unfinished *yoni* can be seen. The area has been levelled and traces of cutting are visible on the natural rock surface.

In the nineteenth century, a temple base was still visible (Friedrich 1870: 507; Verbeek 1891: 89)

At the foot of the hill is a cold spring called Kalitaman. No ancient vestiges are visible there today.

However, carved stones were found there and the site was usually thought to be an ancient bathing place. Two or three temples would formerly have stood in front of the bath (Friederich 1876: 73). Around the spring there used to be a few *lingga* and *yoni* (Verbeek 1891: 89).

Sculptures:

A Ganeśa was found here in 1827 and sent to Leiden by Domis (Krom 1923, I: 222). Two *lingga* and a *yoni* used to be located near the bath (Friederich 1870: 506; Krom 1914a: 177).

RENTENG (Renteng)

Administrative localization: Pandean Lor, Pandean, Getasan, Semarang, JT.

Geographical localization: 07° 22' 32.5" S
 110° 23' 21.4" E
 Precision: Map
 Alt.: 1,200m

Surroundings: In upper middle land, on the southern slope of Mount Telomojo, surrounded by the peaks of Mounts Telomojo, Andong and Merbabu.

Religion: Hindu.

Main features: Unknown.

State of preservation: No visible remains.

Description/Sculptures:

Scattered stones were still visible at the end of the 19th century, together with a *lingga*, three *yoni*, one bull and a Durgā (Friederich 1876: 106; Verbeek 1891: 152; Hoepermans 1913: 149; Krom 1914a: 238; 1923, I: 409).

BEDONO (Bedana, Mawar, Yoni Besar)

Administrative localization: Lendoh Atas, Bedono, Jambu, Semarang, JT.

Geographical localization: 07° 18' 27.5" S
110° 20' 55.5" E
Precision: 12m
Alt.: 705m

Surroundings: In upper middle land, at the top of a hill that is part of the Telomojo massif.

Religion: Hindu.

Main features: Unknown.

State of preservation: Scattered stones, *yoni*.

Description: Numerous scattered stones can be found here, some of them with mouldings and eroded relief carving. One octagonal column base can also be seen, as well as a huge *yoni*. The latter is 1.22m x 1.22m x 1.05m and is adorned with a *nāga* and a lotus flower.

NGEMPON (Muncul)

Administrative localization: Ngempon, Ngempon, Klepu, Semarang, JT.

Geographical localization: 07° 11' 40.3" S
110° 26' 21.0" E
Precision: 7m
Alt.: 405m

Surroundings: In lower middle land, on a slope almost at the bottom of a small valley. It is located near hot springs 50m north of the Lulung/Kedungdowo River and 150m to the northeast of the confluence of the *kali* Lulung and the *kali* Wonoboyo.

Religion: Unknown.

Main features: Sanctuary type 3; facing east; square; enclosure wall.

State of preservation: Mainly bases remain; parts of the temple body of the main temple are also visible.

Description: Candi Ngempon is composed of at least eight buildings. Five of these buildings are enclosed by a wall of river stones, while the three others are located outside the enclosure.

Inner courtyard

The five inner buildings are gathered into two rows. To the west, one finds the main temple and, to the north of it, a secondary shrine. Facing these constructions is a row of three secondary buildings.

The base of the main temple measures 3.80m (N-S) x 4m (E-W). The staircase is on the eastern side. The body must have been 2.10m x 2.10m square, with a short porch on the east. On the northern, western and southern walls is a niche. The *cella* is roughly 1.30m x 1.30m square.

The secondary building located north of the main temple has a 2.80m x 2.80m square base. Its body should have been more or less 1.70m x 1.70m square and the *cella* 0.80m x 0.80m. In front of the main temple is a base measuring 2.70m x 2.70m. To the north and south of it are the visible remains of a secondary building of roughly the same size.

To the south of the main temple there were once ruins of an unidentified structure (Soekmono 1951-1952: fig. 69).

Enclosure wall

Around the above-mentioned buildings runs an enclosure wall. It would have been a thick wall, of which only the foot now remains, and is built of river stones. It is roughly 13.5m x 13.5m square on the inside, and 14m x 14m square on the outside. Remains of gates are still visible at the centre of the southern and northern sides, as well as slightly in the southern half of the eastern and western walls. Near the northeastern corner of the enclosure, piercing the wall, there is a *jaladwara*.

Outer structures

To the east, outside the enclosure, is a row of three buildings. The southernmost construction is 2.45m x 2.45m square. The central building measures 1.95m x 1.95m and has stairs on its western side. The northernmost shrine is barely recognizable. It is noticeable that although the northernmost structure is more or less in a line with the main temple, the two other bases are not aligned with the buildings of the inner courtyard.

To the north are the remains of a well.

Sculptures:

A Gaṇeśa, a Durgā and a seated male figure holding a rosary were found among the ruins (Soekmono 1951-1952: figs. 34, 36, 37).

Miscellaneous archaeological finds:

A square *peripih* was discovered in one of the secondary shrines. It contained several jewels, glass beads, quartz and metal strips (Soekmono 1953: figs. 33-34; Soediman 1980: 163).

NGENTAK (Klero, Klera)

Administrative localization: Ngentak, Klero, Tengaran, Semarang, JT.

Geographical localization: 07° 24' 42.3" S
 110° 31' 08.2" E
 Precision: Map
 Alt.: 735m

Surroundings: In upper middle land, on flat ground, between the *kali* Ngentak (N) and the *kali* Tanggi (S).

Religion: Hindu.

Main features: Single temple.

State of preservation: Rebuilt up to the superstructure.

Description/Sculptures:

The base is square (12 x 12m), with a small projection for the staircase. The temple body is staggered square. On the terrace, surrounding the temple body, are visible 12 square pillar bases similar to those found at Sambisari and Kedulan. The temple was left unfinished.

A yoni and a bull were found here (Krom 1914a:183).

SANJAYA (Kali Sanjaya, Tegal Wetan, Lali Sendjaga, Tingkir)²³³

Administrative localization: Jebug, Tegal Waton, Tengaran, Semarang, JT.

²³³ Sanjaya is located a few hundred meters to the south of Tingkir. It is highly probable that the latter name, when used by Stutterheim (1937: 26; 1940: 16), refers to Sanjaya: not only are the hamlets of Jebug and Tingkir close neighbours, but Stutterheim mentions that Tingkir is near the source of the *kali* Sanjaya, as is Sanjaya itself.

Geographical localization: 07° 22' 27.1" S
110° 31' 32.6" E
Precision: 50m
Alt.: 685m

Surroundings: In upper middle land, at the bottom of a small valley between hills, lies the cold spring of the *kali* Sanjaya. It is now a modern waterworks.

Religion: Hindu.

Main features: Bathing place and temple.

State of preservation: Scattered stones.

Description: The site shelters numerous temple stones, scattered around the concrete pools of the waterworks. A large number of blocks are gathered near the southern pool. Some of them may be *in situ*. Among the stones can be seen mouldings, antefixes and fragments of cornices. Given the present state of preservation, it is impossible to identify the nature of the site.

However, Friederich was of the opinion that the site probably sheltered a bathing place and a temple (Friederich 1876: 72).

Sculptures: A badly damaged Gaṇeśa is still to be seen.

Formerly, a *kāla* head was also lying in the surroundings (Friederich 1876: 72; Verbeek 1891: 96-97).

A relief sculpture depicting a mythic being, half dog - half lion, was discovered among the stones (Stutterheim 1937: 26).

Appendix 5

LIST OF CENTRAL JAVANESE TEMPLE REMAINS OUTSIDE THE SCOPE OF THE INVENTORY

BANJARKULON

Administrative localization: Banjarkulon, Banjarkulon, Banjarmangu, Banjarnegara, JT.

Religion: Hindu.

Description: some 500m north of Karanggondang. There are two *yoni* made of limestone (both 1m square), one of them still partly beneath the ground (Tjahjono 2000: 33).

KARANGGONDANG

Administrative localization: Karanggondang, Banjarkulon, Banjarmangu, Banjarnegara, JT.

Religion: Hindu.

Description: Some 20m to the north of the *sungai* Wadas. Two bulls (1 x 0.5 x 0.23m and 1.1 x 0.55 x 0.32m), one *lingga*-boundary stone and one pedestal (Tjahjono 2000: 33)

CONDONG

Administrative localization: Condong, Condong, Karangobar, Banjarnegara, JT.

Religion: Hindu.

Description: A *lingga* and rough stones on a hill (Krom 1914a: 123).

CANDIAGUNG (Batu Kenteng, Kenteng Wetan)

Administrative localization: Kentengwetan, Kenteng, Madukoro, Banjarnegara, JT.

Religion: Hindu.

Description: A *yoni* (0.95 x 0.95 x 0.7m), an andesite block with a moulding, a corner stone with a moulding, a *batu lumpang*, and a fragment of staircase; everything made from andesite (Tjahjono 2000: 33-34).

KROMONG

Administrative localization: Kromong, Kadangwangi, Wanadadi, Banjarnegara, JT.

Religion: Unknown.

Description: A doorsill 1.4m long, together with a temple stone, both made from andesite. According to the villagers, there used to be other stones and bricks (Tjahjono 2000: 34).

KARANGPUCUNG

Administrative localization: Karangpucung, Kasilib, Wanadadi, Banjarnegara, JT.

Religion: Hindu.

Description: One *yoni* (1 x 1 x 0.73m) and ten small pillar bases, all made from andesite (Tjahjono 2000: 34-35)

KALIBENING (Dawuhan, Dawuhan Wetan)

Administrative localization: Mangli, Kalisupe, Banyumas, Banyumas, JT.

Religion: Unknown.

Description: In the graveyard are 11 *batu lumpang*, temple stones and construction elements (Tjahjono 2000: 30).

BANYUMUDAL

Administrative localization: Banyumudal, Sokawera, Cilongok, Banyumas, JT.

Religion: Buddhist?

Description: Stones (andesite). According to the inhabitants, there used to be a *stūpa* here (Tjahjono 2000: 26)

KALIDUREN

Administrative localization: Kaliduren, Gunungwetan, Jatilawang, Banyumas, JT.

Religion: Hindu.

Description: According to informants, a Gaṇeśa and remains of a brick structure were found here (Tjahjono 2000: 28).

KALIENCIT

Administrative localization: Kaliencit, Pajerukan, Kalibagor, Banyumas, JT.

Religion: Hindu.

Description: Andesite blocks are still visible. Formerly, ancient bricks and a stone with relief carving were found in the village, but they have since disappeared. One hundred meters away from the stone was a headless bull (now moved to Kandepdikbud). Two jars were also discovered.

KRAMAT

Administrative localization: Kramat, Kramat, Kembaran, Banyumas, JT.

Religion: Hindu.

Description: A small bull (50cm x 20cm) was discovered here. 100m away a *yoni* was found (Tjahjono 2000: 27)

CANDINEGARA

Administrative localization: Candinegara, Candinegara, Pekuncen, Banyumas, JT.

Religion: Hindu.

Description: At the top of a small hill, a small Gaṇeśa (40cm) was discovered. It has been removed and is now in the hamlet of Legok (Pekuncen, Pekuncen, Banyumas, JT). At the place of discovery, there were also fragments of ancient bricks and andesite stones (Tjahjono 2000: 26).

ARCAWINANGUN

Administrative localization: Arcawinangun, Arcawinangun, Purwokerto Timur, Banyumas, JT.

Religion: Unknown.

Description: 14 pillar bases and 16 temple stones were discovered in the graveyard. According to villagers there was also a water duct cut in the rock (Tjahjono 2000: 29)

LEMBU AYU

Administrative localization: Lembu Ayu, Susukan, Sumbang, Banyumas, JT.

Religion: Hindu.

Description: Two small *yoni*, one bull, stones and other construction elements (Tjahjono 2000: 28)

TUGU

Administrative localization: Tugu, Sanggreman, Rawalo, Banyumas, JT.

Religion: Hindu?

Description: In 1974 a bronze sculpture was found here (now transferred to the Semarang museum). On the same site were stone fragments (perhaps from a *lingga*) and three pillar bases (Tjahjono 2000: 29).

KECEPIT

Administrative localization: Kecepit, Deles, Bawang, Batang, JT.

Religion: Unknown.

Description: 1.50m long temple stone, doorsill and crowning element (Tjahjono 2000: 40)

BENDOSARI

Administrative localization: Bendosari, Sidorejo, Gringsing, Batang, JT.

Religion: Unknown.

Description: Temple stones and *nāga* around a spring; perhaps an ancient bathing place (Tjahjono 2000: 40).

KAUMAN

Administrative localization: Kauman, Tersono, Tersono, Batang, JT.

Religion: Hindu.

Description: Doorsill and bull (Tjahjono 2000: 39)

SIMANGLI

Administrative localization: Simangli, Silurah, Wonotunggal, Batang, JT.

Religion: Hindu.

Description: A 1.75m high Gaṇeśa, together with a 1m high, unidentified sculpture and pillar bases (Tjahjono 2000: 37-38).

KARANGDAWA (Laren, Candi Kuda)

Administrative localization: Karangdawa, Laren, Bumiayu, Brebes, JT.

Religion: Hindu.

Description: Remains of a brick temple; a small *yoni*, a bull, three pillar bases and a crowing stone (Tjahjono 2000: 48; Krom 1914a: 153).

KRIKIL (Wanatirta, Kedawung, Angonrejo)

Administrative localization: Krikil, Wanatirta, Paguyungan, Brebes, JT.

Religion: Hindu.

Description: Several sculptures (Agastya, Kuwera, Gaṇeśa, Durgā), together with a few temple stones (Krom 1914a: 153; Tjahjono 2000: 48)

KEMIJING

Administrative localization: Kemijing, Sumberdadi, Kebumen, Kebumen, JT.

Religion: Hindu.

Description: Two *yoni*, one pillar base and scattered bricks (Tjahjono 2000: 22)

BATU KALBUT

Administrative localization: Kalbut, Ayah, Ayah, Kebumen, JT.

Religion: Hindu (?)

Description: Fragments of a stone urn adorned with a *nāga* head and bearing Old Javanese script (1.8m x 0.5m x 0.62m), a boundary stone, fragments of a *batu lumpang*, other stone fragments (everything made from andesite), a *lingga* and a headless Gaṇeśa (made of limestone; Tjahjono 2000: 24)

PENGILON

Administrative localization: Pengilon, Pengilon, Permasan/Boja, Boja, Kendal, JT.

Religion: Hindu.

Description: Temple remains near a spring (Verbeek 1891: 89). According to Krom, there were remnants of two buildings. A staircase led from the temple grounds to a lower bathing place where a *nāga* was found. A Gaṇeśa, a lion and an elephant were discovered around the temples (Krom 1914a: 189).

GANAWERTI WETAN (Ganarati)

Administrative localization: Unknown, but probably between Medini and Pengilon, on Mount Ungaran (Pengilon, Boja, Kendal, JT).

Religion: Hindu.

Description: Remains of a small temple and a Gaṇeśa (Krom 1914a: 189).

GUNUNG GENTONG

Administrative localization: Unknown (Pengilon, Boja, Kendal?).

Religion: Unknown.

Description: A temple was supposed to be situated on one of the summits of Mount Ungaran (Krom 1914a: 190).

JUMBLENG

Administrative localization: Jumbleng, Trisobo, Boja, Kendal, JT.

Religion: Hindu.

Description: Numerous temple stones, as well as fragments of a staircase, a *yoni* and part of a female figure (probably Durgā), were found in the village (*Daftar inventaris Semarang* 1976).

KRINCING

Administrative localization: Krincing, Boja, Kendal, JT (on Mount Ungaran).

Religion: Unknown.

Description: Remains of a small temple (Krom 1914a: 190).

NGLIMUT (Segono, Argakusuma)

Administrative localization: Nglimut, Gonoharjo, Limbangan, Kendal, JT.

Religion: Hindu.

Description: Around the villages of Gono and Nglimut were found numerous temple stones and antefixes, a *yoni* (1m x 1m x 1.15m), a *peripih* and a *lingga* boundarystone (Tjahjono 1998: 10; 2000: 35-36; *Daftar inventaris Semarang* 1976).

The site seems to have been known earlier as “Argakusuma”. Verbeek indeed describes Argakusuma as located to the north-northeast of Medini, not far from a village called Kloerak or Kloewak, near a hot spring (Verbeek 1891: 88). In fact, Kluwak is located 800m to the north-northeast of Nglimut and just above it is a hot spring.

According to the Verbeek, two temples were visible near the hot spring. The first one measured 7m x 8m and faced north, while the second building was 6m x 7m. Above these temples, three other buildings were said to have been standing, but they were not visited by either Verbeek or Friederich (Friederich 1870: 512; Verbeek 1891: 88).

Krom mentions the existence of two temples and, slightly lower, traces of two other temples. Higher on the hill were supposed to be the remains of three further buildings that he did not visit (Krom 1914a: 189).

Sculptures: According to Krom, several sculptures were found among the remains of Candi Argakusuma: a lion, a bull, two Gaṇeśa, one Kālī, a *ṛṣi* and a *rākṣasa* (Krom 1914a: 189).

SEGONO

Administrative localization: Segono, Gonoharjo, Limbangan, Kendal, JT.

Religion: Hindu.

Description: Two Gaṇeśa, a Kālī (Durgā?), an Agastya, a *dwarapāla*, a *lingga* and a Śiwa were found in the neighborhood (Friederich: 1870; Krom 1914a: 189; *Daftar inventaris Semarang* 1976; Tjahjono 1998: 10; 2000: 36).

KENTENGSARI

Administrative localization: Kentengsari, Purwosari, Sukorejo, Kendal, JT.

Religion: Hindu (?).

Description: Temple stones, a *jaladwara*, a *makara* and a 1.80m high Agastya were noticed in the village (Tjahjono 2000:36). This may be the Jambean or Selokaton mentioned by Krom (1914a: 189)

NGRESEP

Administrative localization: Ngresep, Sumurboto, Banyumanik, Kotamadya Semarang.

Religion: Hindu (?).

Main features: Unknown.

Description/Sculptures: Numerous temple stones dating from the Majapahit period were found here, together with a sculpture of Durgā (Krom 1914a: 168).

CANDI

Administrative localization: Candi Subuh, Candi, Candi Sari, Kotamadya Semarang, JT.

Religion: Unknown.

Main features: Unknown.

Description: A few temple stones were found in the area (ROD, 1914: 531; *Daftar inventaris Semarang* 1976).

DUDUHAN (Mijen)

Administrative localization: Duduhan, Mijen, Mijen, Kotamadya Semarang, JT.

Religion: Hindu.

Main features: Unknown.

Description/Sculptures: Several temple stones and sculptures were found in the village, among others a Gaṇeśa, a bull, five *lingga* boundary stones and one head of Durgā (*Daftar inventaris Semarang* 1976; Sujatmi Satari 1978).

KANGKUNG

Administrative localization: Kalikangkung, Gondorio, Ngaliyan, Kotamadya Semarang, JT.

Religion: Hindu.

Main features: Single temple.

Description/Sculptures: Remains of a brick temple, together with antefixes, pinnacles, a Durgā and a Gaṇeśa (Sujatmi Satari 1978).

TUGUREJO (Tugu, Kjahi Toegoe)

Administrative localization: Tugurejo, Tugurejo, Tugu, Kotamadya Semrang, JT.

Religion: Unknown.

Main features: Unknown.

Description: Remains of a square foundation were found here, together with a (boundary?) pillar and a pinnacle. The pillar was 2.30m high and the pinnacle 1.10m (Verbeek 1891: 88; Stutterheim 1936: 9).

PRAWATA

Administrative localization: Sewanagaran, Prawata, Undaan, Kudus, JT.

Religion: Hindu.

Description: A *yoni*, the remains of a *gopura* and heaps of brick (Krom 1914a: 205).

BARON SEKEBER (Kaom, Gunung Garamanik)

Administrative localization: Kaom, Rogoselo, Doro, Pekalongan, JT.

Religion: Unknown.

Description: A series of five terraces shaped from the *gunung* Garamanik. In the lower part of the complex are to be seen six menhir and one *dwarapāla* (1.56m x 1.20m), while in the upper part there is a *yoni* (0.80m) and two pillar bases (Tjahjono 2000: 41).

At the beginning of the 20th century two *dwarapāla* were still visible, as well as six pillar bases (Krom 1914a: 132).

PLAWANGAN

Administrative localization: Plawangan, Lawangrejo, Pemalang, Pemalang, JT.

Religion: Unknown.

Description: Brick fragments, a couple of stones, one pillar (3.75m) and a doorsill (1.60m; Tjahjono 2000: 43).

BANYUMUDAL (Sigaleh)

Administrative localization: Banyumudal, Banyumudal, Moga, Pemalang, JT.

Religion: Hindu.

Description: A small Gaṇeśa and five temple stones (Krom 1914a: 161; Tjahjono 2000: 44).

BRENGKOL (Gumuk Pesanggrahan)

Administrative localization: Brangkol, Pengalusan, Mrebet, Purbalingga, JT.

Religion: Hindu.

Description: Near the Bacok spring, a source of the *sungai* Pejaranan. A big limestone *yoni* was left unfinished (1m x 1m x 0.9m). Some 200m from the *yoni*, there are several pillar bases and *batu lumpang* (Tjahjono 2000: 32).

MENDANG KEMULAN

Administrative localization: Mendang Kemulan, Grobogan, Purwodadi, JT.

Religion: Unknown.

Description: Some heaps of stones and ancient bricks were formerly noted here (Krom 1914: 198).

GUA SILUMBU (Kaliwarah)

Administrative localization: Silumbu, Kaliglagah, Kemiri, Purworejo, JT.

Religion: Hindu.

Description: A *lingga-yoni* within a man-made cave (Tjahjono 2000: 21)

GUA GONG (Kalitepus)

Administrative localization: Kalitepus, Kesawen, Pituruh, Purworejo, JT.

Religion: Hindu.

Description: Fragments of a *lingga*, together with a *yoni* carved from the natural rock. The eastern side of the *yoni* is against the wall of the cave. The duct for lustral water is turned to the north (Tjahjono 2000: 21).

BANTARSARI (Bumijawa, Candi Lingga)

Administrative localization: Bantarsari, Bumijawa, Bumijawa, Tegal, JT.

Religion: Hindu.

Description: On the slope of the Tenjamaya Hill (on the northern side of Mount Slamet) are the remains of an andesite temple, together with two *yoni*, one *lingga* boundary stone, four bell-shaped stones, two crowning elements and two *jaladwara* (Krom 1914a: 149; Tjahjono 2000: 47).

MUNCANG LARANG (Candi Karang Golok)

Administrative localization: Muncang Larang, Keseran, Bumijawa, Tegal, JT.

Religion: Hindu.

Description: Two Gaṇeśa, one *lingga* and a crowning stone (Krom 1914a: 149).

GONDOSULI (Candi)

Administrative localization: Gondosuli, Gondosuli, Bulu, Temanggung, JT.

Geographical localization: 07° 18' 05.7" S
110° 06' 19.0" E
Precision: 10m
Alt.: 860m

Surroundings: On the northern slope of Mount Sumbing, 200m to the east of the *kali* Sumbang/Kedu.

Religion: Hindu.

Main features: Unknown.

State of preservation: Unknown.

Description: Hundreds of temple stones but none *in situ*. A bull, a huge *yoni* and nine stone bases are still visible at the site, as well as the inscription of Gondosuli, dated to 827 A.D.

According to Krom, a Gaṇeśa and a *lingga* were once also evident (Krom 1914a: n° 983).

ARGAPURA (Gedong)

Administrative localization: Lempuyang, Candiroto, Temanggung, JT.

Religion: Hindu.

Description: The remains of an east-facing temple: The foundation is *in situ*. A pedestal was also found here (Hoepermans 1913: 170).

Two *rākṣasa* and two lions are recorded from this site (Verbeek 1891: n° 234), together with a bull, a Gaṇeśa and an inscription dated 863 A.D. (Krom 1914a: n° 989).

KEDUNGLO

Administrative localization: Kedunglo, Gandulan, Kaloran, Temanggung, JT.

Religion: Unknown.

Description: The ruins of a temple and a few sculptures. The sculptures from Pakunden, Gawanu and Plikon may actually come from here (Verbeek 1891: n° 232).

PLIKON (Gandulan)

Administrative localization: Plikon, Gandulan, Kaloran, Temanggung, JT.

Religion: Hindu.

Description: The remains of two temples. Near the first, located within the village, were a Gaṇeśa and seven stone bases. The second building was of brick. A *lingga* and a bull were found in the surrounding rice fields (Krom 1914a: n° 928).

NGABEAN (Ngabjean)

Administrative localization: Ngabean, Tegowanuh, Kaloran, Temanggung, JT.

Religion: Unknown.

Description: A temple pit and stones (Krom 1914a: 284).

GUNUNG PERTAPAN (Bagusan)

Administrative localization: Gunung Pertapan, Bagusan, Ngadirejo, Temanggung, JT.

Religion: Unknown.

Description: Traces of the foundations of a temple (Verbeek 1891: n° 244).

BUTUH

Administrative localization: Butuh, Banjarsari, Ngadirejo, Temanggung, JT.

Religion: Hindu.

Description: Several temple stones have been found here, some of them with decoration (garlands with birds, *kāla*, plant-like designs, etc.). Two *lingga* have also been discovered here (Dwiyanto, Nitihaminoto & Pinardi 1981: 12).

NGLARANGAN (Larangan)

Administrative localization: Nglarangan, Katakan, Ngadirejo, Temanggung, JT.

Religion: Hindu.

Description:

A 1.35m high Gaṇeśa, two stone bases, a bull and fragments of a doorjamb have been found here (Dwiyanto, Nitihaminoto & Pinardi 1981: 10-12).

According to Krom, numerous loose bricks and two *lingga* were once visible here (Krom 1914a: n° 935).

PEROT

Administrative localization: Candi, Pringapus, Ngadirejo, Temanggung, JT.

Religion: Hindu.

Description:

A square base facing east (Hoepermans 1913: 160). Relief carvings of Durgā and Gaṇeśa were visible on the outer walls (Krom 1914a: n° 959).

An inscription dated 850 A.D. was discovered here and transferred to the museum in Batavia (Verbeek 1891: n° 239).

PRINGAPUS

Administrative localization: Candi, Pringapus, Ngadirejo, Temanggung, JT.

Geographical localization: 07° 14' 53.2" S
110° 03' 06.3" E
Precision: 9m
Alt.: 956m

Surroundings: On the northeastern slope of Mount Sundoro, near Perot, in an area rich in springs.

Religion: Hindu.

Main features: Single temple, facing west.

State of preservation: Restored up to the superstructure.

Description:

This small temple is a plain rectangle measuring 4.35m from east to west, and 4.85m from north to south. The *cella* (2.10m x 2.56m) houses a huge bull (1.44m long).

Given its shape and the presence of the bull, it is possible that Candi Pringapus was functioning as a secondary temple to a more important foundation. It perhaps shared a single compound with the now disappeared Candi Perot.

JAMUS (Kramat, Mudal)

Administrative localization: Jamus, Tegalorejo, Ngadirejo, Temanggung, JT.

Religion: Hindu.

Description: Temple stones, four *yoni* and a bull with a sleeping female figure (Verbeek 1891: n° 238).

TRAJI (Tradsie)

Administrative localization: Traji, Traji, Ngadirejo, Temanggung, JT.

Religion: Hindu.

Description: Temple stones, a pedestal and a *lingga* were found here (Verbeek 1891: n° 242).

BONGKOL (Candi Sari)

Administrative localization: Bongkol, Candisari, Parakan, Temanggung, JT.

Religion: Hindu.

Description:

Hoepermans, although he did not see stones *in situ*, was of the opinion that a temple once stood here. He noticed the presence of numerous sculptures, among others a *yoni* and a bull (Hoepermans 1913: 171).

Verbeek confirmed the presence of a “geheel vervallen” temple and of a huge 1.30m square *yoni*. He also mentions an inscription that was transferred to Magelang (Verbeek 1891: n° 237).

Temple stones were still visible in recent times, including antefixes, a temple crowning piece and fragments of a *makara* (Dwiyanto, Nitihaminoto & Pinardi 1981: 15).

BUMEN (Kebumen)

Administrative localization: Bumen, Candisari, Parakan, Temanggung, JT.

Religion: Unknown.

Description: The ruins of a temple with a staircase on the eastern side. A pedestal was found in the surroundings (Verbeek 1891: n° 236).

CANDI

Administrative localization: Candi, Candisari, Parakan, Temanggung, JT.

Religion: Hindu.

Description: Most probably a collection of artefacts gathered from the surroundings sites of Bongkol, Bumen and Gunung Kembang. The collection includes an unfinished *kāla*, a *yoni*, two reliefs of *gana*, two door guardians, a small Śiwa (55cm high), a *jaladwara* and numerous other stones (Dwiyanto, Nitihaminoto & Pinardi 1981: 16-17).

GUNUNG KEMBANG

Administrative localization: Candi, Candisari, Parakan, Temanggung, JT.

Religion: Hindu.

Description: Numerous temple stones, together with three *kāla*, one bull, a Gaṇeśa, a 1.95cm x 1.95cm square *yoni* and a double *yoni* (92 x 55 x 30cm; Dwiyanto, Nitihaminoto & Pinardi 1981: 18).

KARANGBENDO (Tegalroso)

Administrative localization: Karangbendo, Tegalroso, Parakan, Temanggung, JT.

Religion: Hindu?

Description: A niche sheltering a kneeling ṛṣi (Krom 1914a: n° 969).

TLAHAB (Telahap)

Administrative localization: Tlahab, Tlahab, Parakan, Temanggung, JT.

Religion: Hindu?

Description: Some 89 steps of a stone staircase leading to Wonosobo were discovered following a landslide. An inscription was also found in the area (Krom 1914a: n° 950).

NGEPOH

Administrative localization: Ngepoh, Klepu, Pringsurat, Temanggung, JT.

Religion: Hindu.

Description: Temple remains on a hill, including a *yoni* and *lingga* (Krom 1914a: n° 944).

PIATAK

Administrative localization: Piatak, Nglorog, Pringsurat, Temanggung, JT.

Religion: Unknown.

Description: Some bricks from the classical period (Krom 1914a: n° 936).

PIKATAN

Administrative localization: Pikatan, Mudal, Temanggung, Temanggung, JT.

Religion: Hindu.

Description:

Traces of a temple foundation (Krom 1914a: n° 906).

Temple stones are said to be still visible within a pool near the *kali* Jambe. Numerous stones were found in the vicinity, together with a *yoni* (Siagan 2002: 54).

BRONGKOL

Administrative localization: Brongkol, Purworejo, Temanggung, Temanggung.

Religion: Unknown.

Description: The base of the local mosque is built with temple stones that may have been taken from Wonokerso (Verbeek 1891: n° 252 and 256).

WONOKERSO

Administrative localization: Wonokerso, Wonokerso, Tembarak, Temanggung, JT.

Religion: Unknown.

Description:

The remains of two temples standing on top of two small hills (Verbeek 1891: n° 256).

In the neighbourhood, statues of two bulls and a Buddha were discovered (Krom 1914a: n° 901).

CANDI BOGANG (Selomerto)

Administrative localization: Selomerto, Selomerto, Selomerto, Wonosobo, JT.

Geographical localization: 07° 24.457' S
109° 53.256' E
Precision: 9m
Alt.: 635m

Religion: Buddhist

Main features: (?)

State of preservation: Scattered stones and sculptures.

Description: Three huge Buddhist sculptures, a dozen plain temple stones and river stones testify to the former presence of a temple.

Excavations have brought to light one Buddha and two *bodhisattwa* statues (Wajrapāni and supposedly Awalokiteśwara), together with fragments of a Gaṇeśa relief. A gold leaf bearing an inscription in Javanese script and Sanskrit language has also been discovered (Dwiyanto 1984).

KARANGSARI

Administrative localization: Karang Sari, Sawangan, Wonosobo, Wonosobo, JT.

Religion: Hindu.

Description: Temple remains were once visible here, together with a Gaṇeśa (Krom 1914a: n° 1103).

BONGKOTTAN

Administrative localization: Bongkottan, Wonosobo, Wonosobo, JT.

Religion: Unknown.

Description: Square base (Krom 1914a: n° 1104).

CANDI (Roenting, Boenting)

Administrative localization: Candi, Roenting, Garung, Wonosobo, JT.

Religion: Unknown.

Description: Temple remains were once visible (Krom 1914a: n° 1116).

DIENG

Administrative localization: Dieng Kulon, Dieng Kulon, Batur, Banjarnegara, JT.

Surroundings: On a high plateau (2,000m) surrounded by volcano peaks, near the source of the Tulis River.

Religion: Hindu.

State of preservation: The temples of the Arjuna group, as well as the *candi* Dwarawati, Gatokaca and Bima have all been restored. Very little is left of the other structures.

Description: The plateau is scattered with remains. They may be divided into six geographical units: the Arjuna group (at the centre), the northeastern temple group, the eastern temple group, the southern temple group, the western temple group and the structures to the north of the Arjuna group.

The Arjuna group

The group is composed of four main temples, all facing west and built more or less in a north-south line, with four secondary structures.

The first shrine to the north is Candi Arjuna. The temple has a square base and a square temple body, with a projecting porch. In front, linked to the main temple by a short stone path, stands Candi Semar. It is a rectangular structure, the walls of which are pierced by small windows. The *candi* Arjuna and Semar are surrounded by an enclosure wall. Access to the temple was possible *via* two doors, placed at the centre of the northern and southern sides of the enclosure. It is possible that a third door (or a false door) existed along the western side.

Directly to the south of Candi Arjuna stands Candi Srikandi. Both its base and its temple body are square, with a projection for the entrance. The remains of a structure similar to Candi Semar can be seen in front of the temple and traces of an enclosure wall have also been identified.

South of Srikandi stands Candi Puntadewa. The temple base and body are square with a projection to the west, but the temple body has projecting niches as well. The foundations of a rectangular structure have also been found in front of it, while traces of a second, slightly wider rectangular structure are still visible to the east. These three structures - **the main shrine and the two secondary buildings** – were surrounded by an enclosure wall.

The last and southernmost temple of the group is Candi Sembodro; a small staggered square structure.

The northeastern temple group

To the northeast of the Arjuna group, and already on the slopes of Mount Prahū, were several structures that were still visible in the 19th and 20th centuries. Between the eastern temple group and Candi Dwarawati, Krom (1923, I: 187) mentions four small structures, while Junghun (1854: 286-292) counted six temple remains.

Today, the only standing structure is Candi Dwarawati. The temple has a square base with a projection on the western side. The temple body is a staggered square with a porch.

The eastern temple group

At least nine mounds of earth and stone were still visible in the early 20th century on the eastern side of the plateau, namely Candi Magersari (four structures), Wachtkamer, Pandu, Abyasa and Dwarawati (two structures; Krom 1923, I: 187)

The southern temple group

The southern temple group comprised five structures: the main temple (Candi Bima) and four secondary buildings that stood at its four corners (Krom 1923, I: 181). Only Candi Bima remains today. Its base was octagonal (Krom 1923, I: 181). The temple body is a staggered square, with a projecting vestibule on the eastern side.

The western temple group

The group was composed, from north to south, of the *candi* Sentyaki, Ontorejo, Petruk, Nalagareng, Nakula Sadewa and Gatokaca. Only the last is still standing today.

Candi Sentyaki was a square structure crowned by an octagonal, then circular superstructure. It faced southeast (Brumund 1868: 158-159).

Candi Onto Rejo had already almost vanished by the 19th century (Brumund 1868: 158-159).

Candi Petruk (also known as Petro and Sombo) was a bit wider than Sentyaki and opened to the east. Three bulls and a *yoni* were discovered in the temple grounds (Brumund 1868: 158-159; Krom 1923, I: 177-178).

Candi Nalagareng (or Bagong) faced east (Brumund 1868: 158-159).

Candi Nakula Sadewa was composed of two small shrines most probably facing west (Brumund 1868: 158-159; Krom 1923, I: 177-178).

Candi Gatokaca is slightly better known, as it is still visible today and its temple body is relatively well preserved. The temple stood on a rectangular platform that served as a basis for a second temple – now completely vanished. The temple body is a staggered square, with a projecting porch on the western side.

The northern group

The northern group lies directly to the north and west of the Arjuna group. It includes temple remains as well as stone terraces.

ADDENDA TO THE INVENTORY

Since the fieldwork on which this book is based took place, at least two temples have been discovered in the area, namely Candi Kimpulan and Candi Losari.

CANDI KIMPULAN

Administrative localization: Kimpulan, Umbulmartani, Ngemplak, Sleman, DIY.

Religion: Hindu

Main features: Sanctuary type 1 or 2; facing east.

State of preservation: Up to the temple body.

Description/sculptures: Up to now, two structures have been excavated: the main temple and the secondary shrine facing it

The main temple is a square base topped by a parapet. It faces east, but no staircase has been found. At the centre of the terrace stands a yoni with its lingga and, to the west, a Ganesha still in situ is visible. The yoni is surrounded by a series of 7 round pillar bases (3 one each side, except to the east, where is the Ganesha). Between this first set of pillars and the parapet, a second series of 12 pillar bases has been excavated (4 on each side). Two additional pillars were placed in the northwestern and southwestern corners, between the two series of bases. The whole terrace was thus most probably covered by a roof in light materials.

A rectangular building face the main temple. It has the same structure, i.e. a terrace topped by a parapet with no traces of a staircase. It was also most probably covered by a thatch roof supported by 8 pillars. On the terrace, in a line from north to south, were discovered a lingga-yni, a square pedestal, a bull, a second square pedestal and a pit.

CANDI LOSARI

Administrative localization: Losari, Salam, Salam, Magelang, JT.

Religion: Unknown.

State of preservation: Up to the temple body.

Description: A small square temple, c. 3m x 3m.

Plate 1 Location map of the temple remains in the kabupaten of Sleman (DIY)

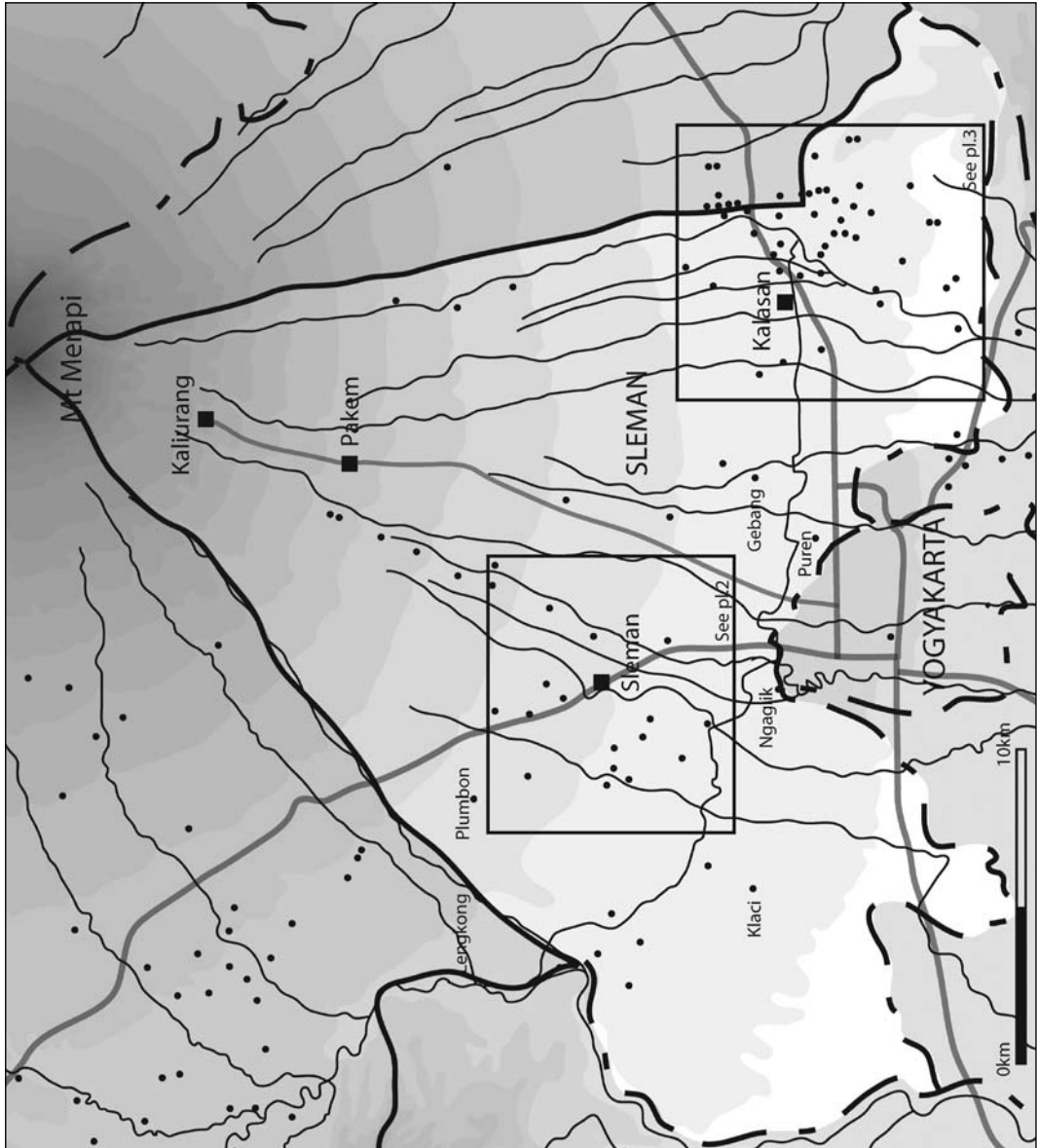


Plate 2 Temple remains around Sleman (DIY)

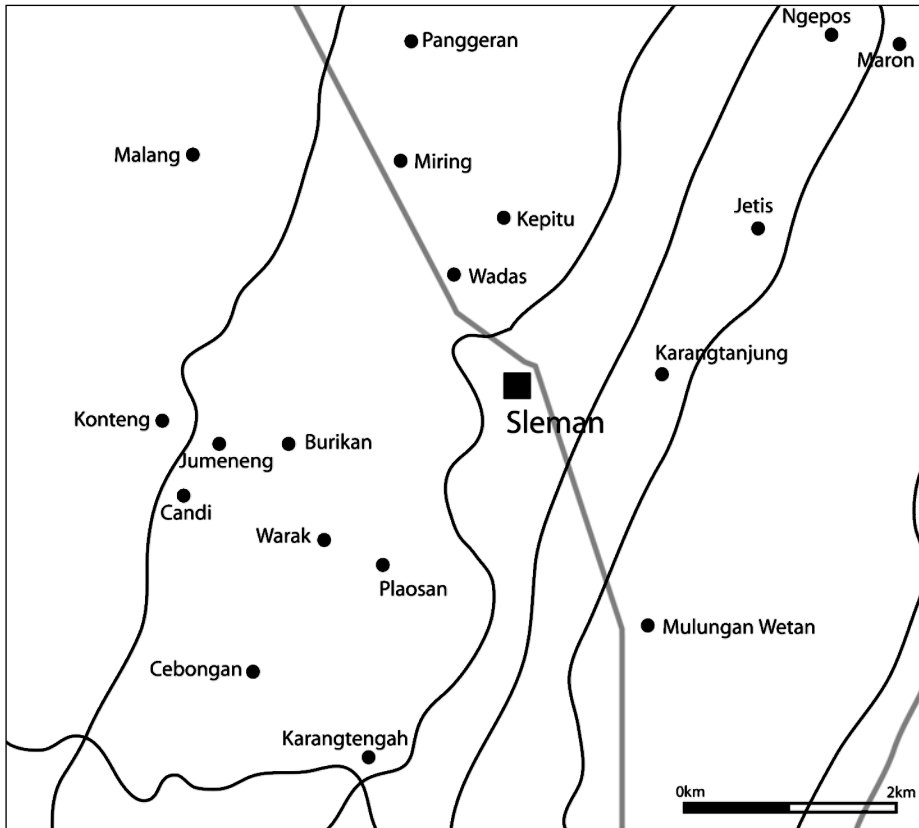


Plate 3 Temple remains around Prambanan (DIY – Klaten)

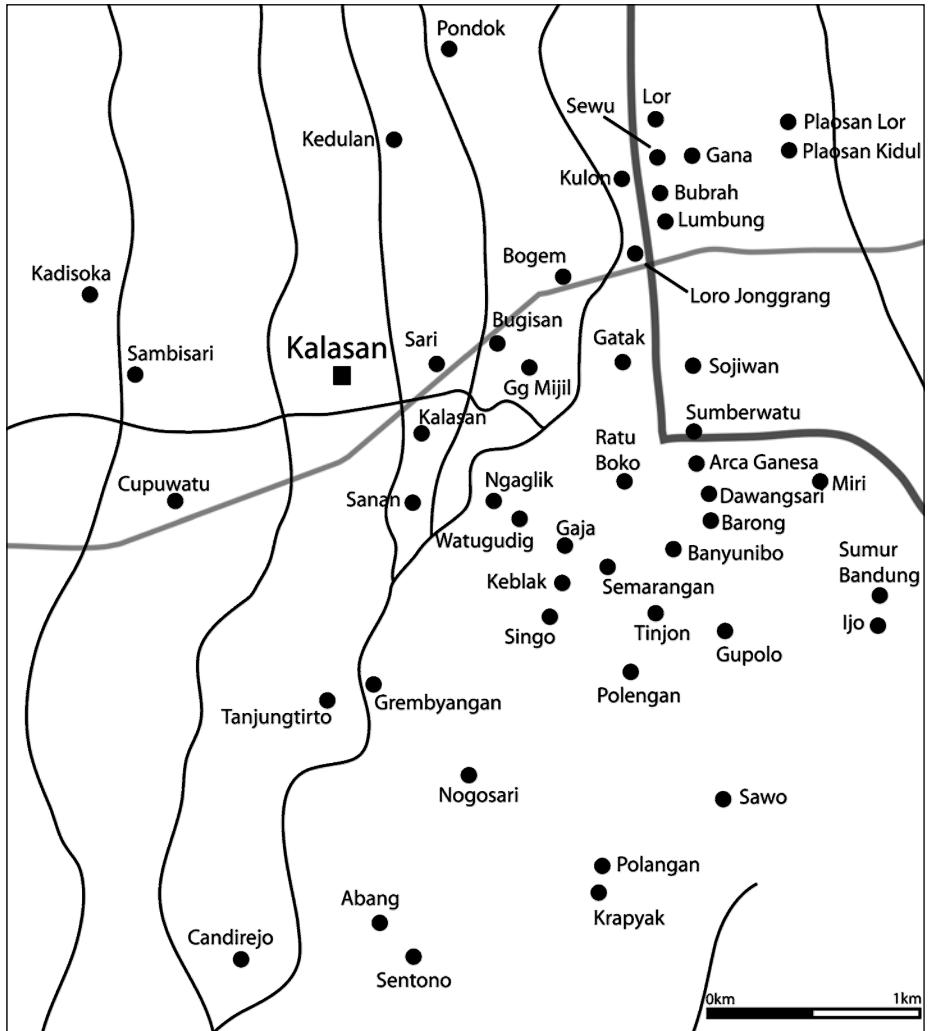


Plate 4 Location map of the temple remains in the kabupaten of Bantul (DIY)

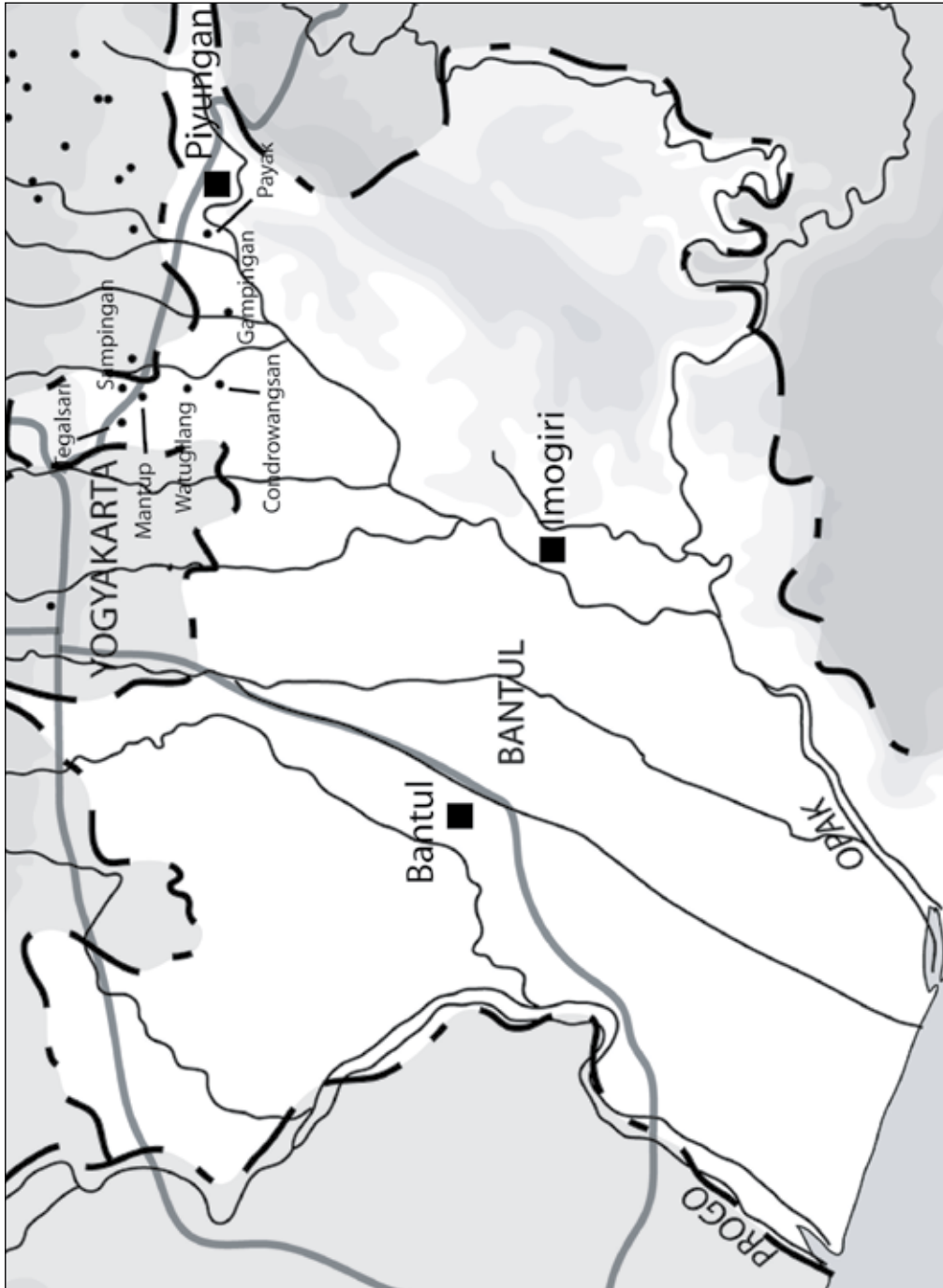


Plate 5 Location map of the temple remains in the kabupaten of Kulon Progo (DIY)

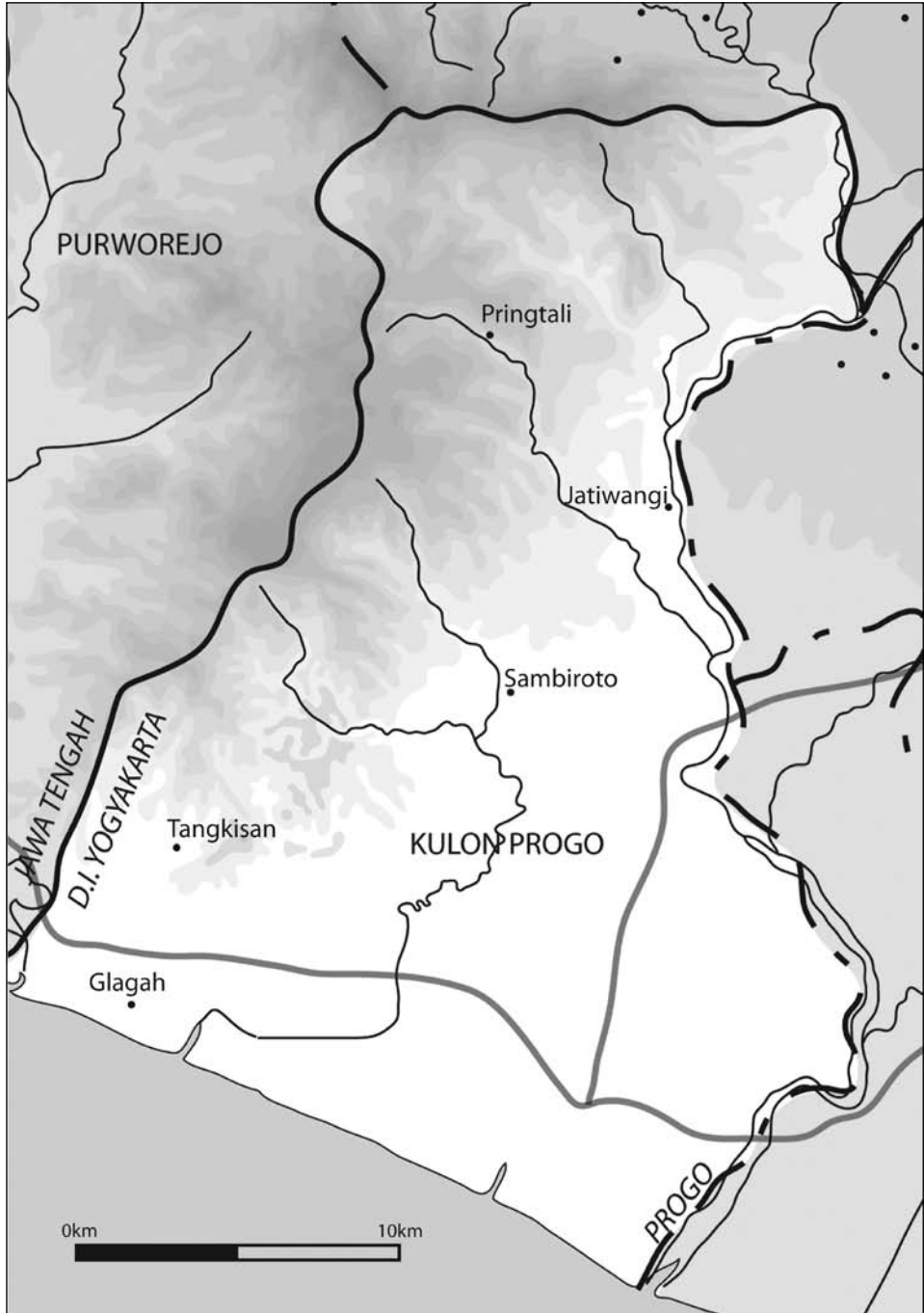


Plate 6 Location map of the temple remains in the kabupaten of Magelang (Jawa Tengah)

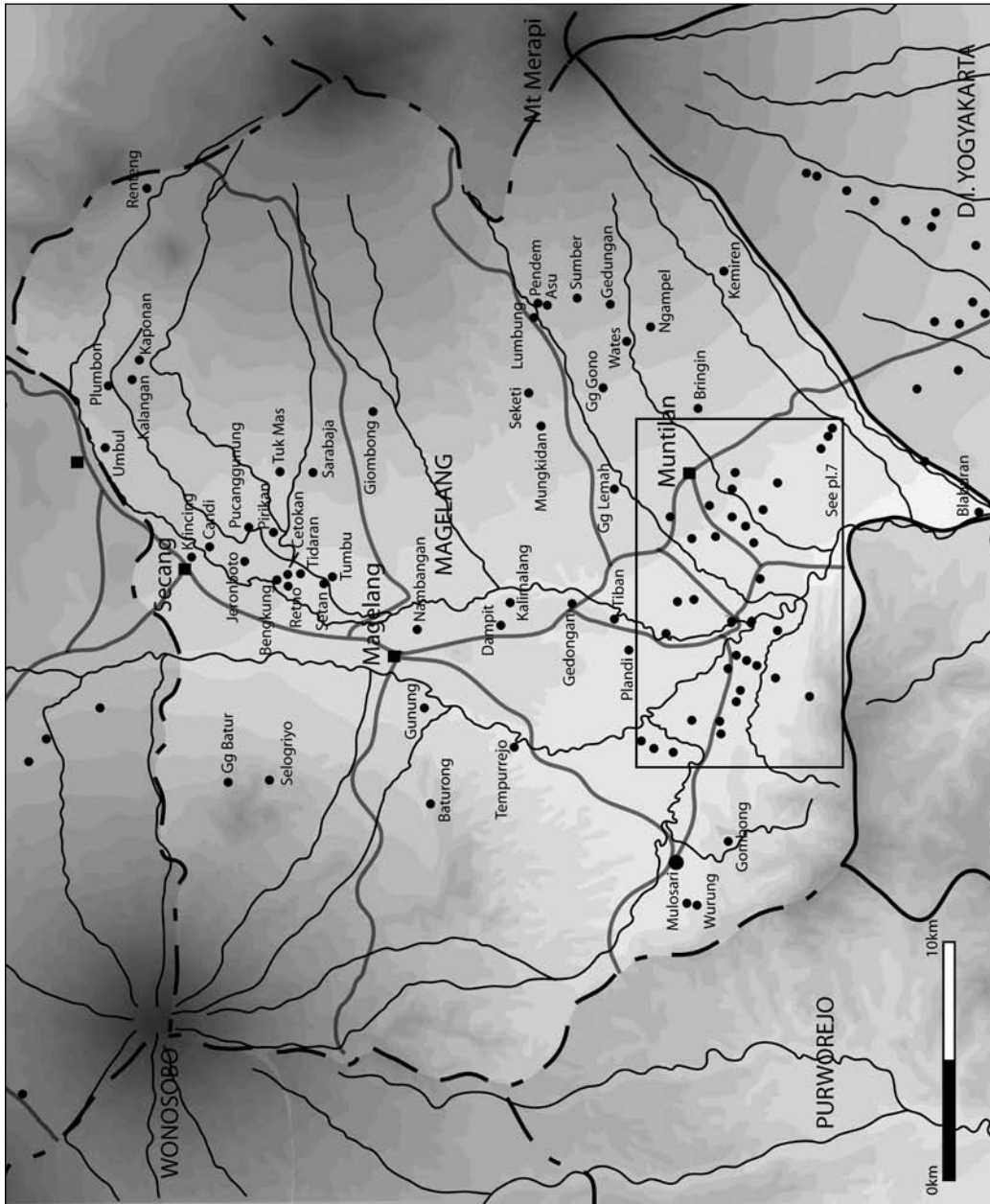


Plate 7 Temple remains around Borobudur (Magelang, Jawa Tengah)

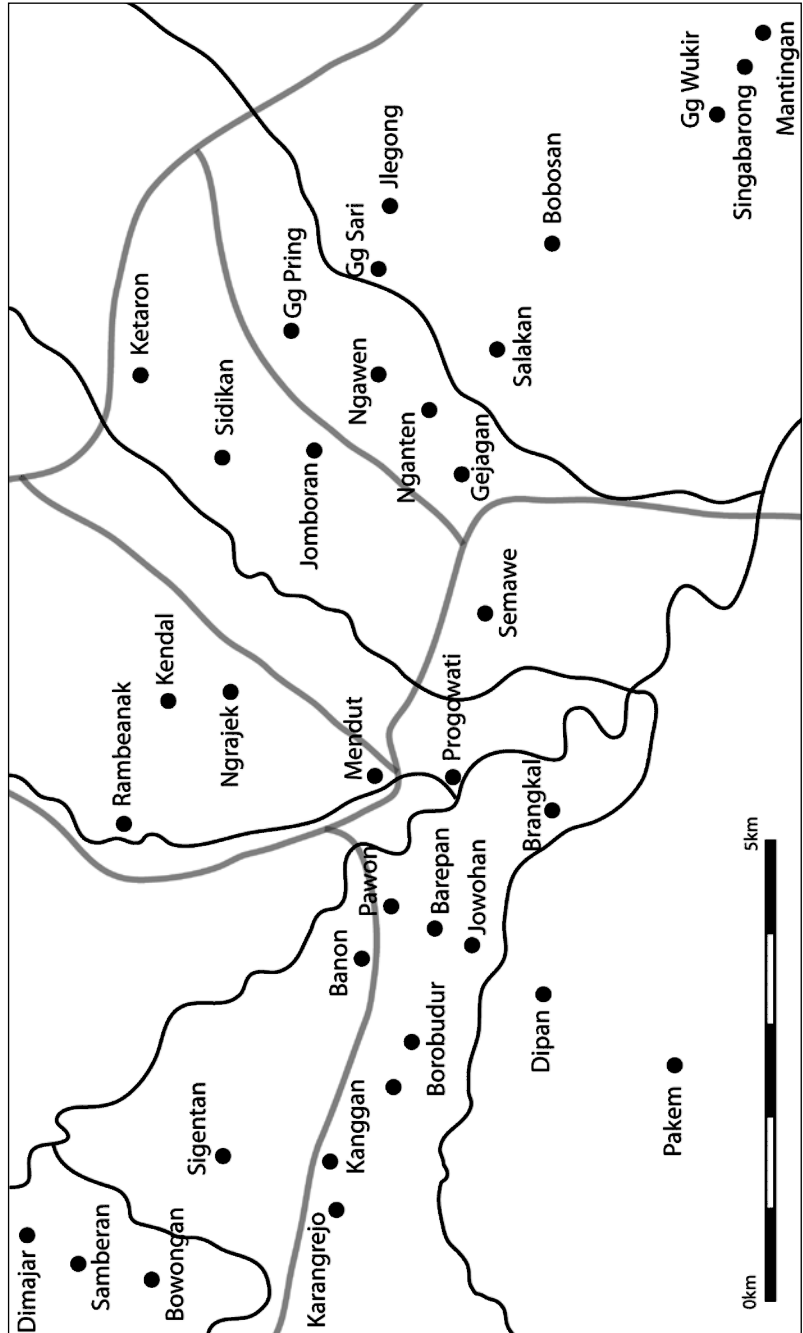


Plate 8 Location map of the temple remains in the kabupaten of Semarang, Boyolali, Salatiga and Klaten (Jawa Tengah)

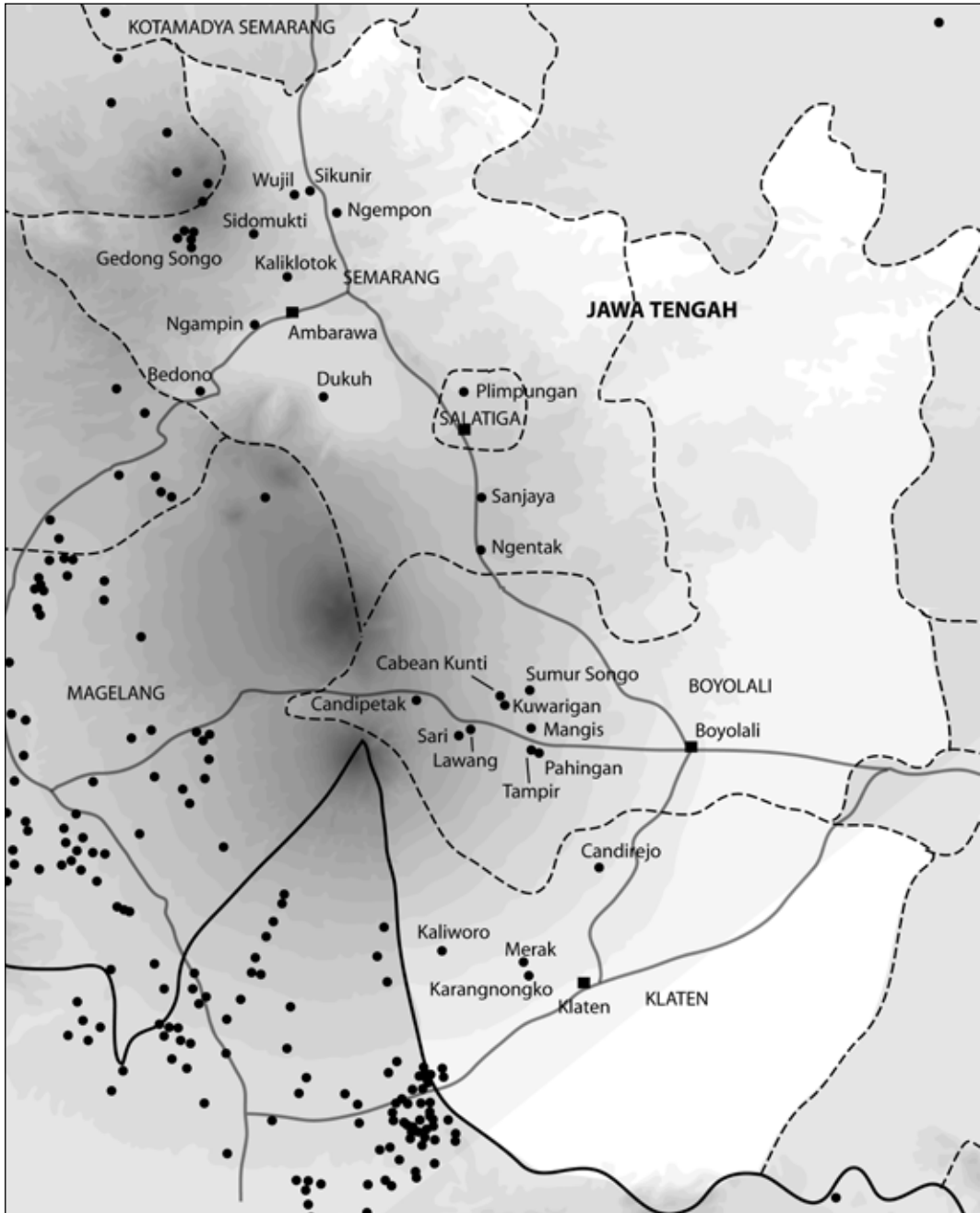
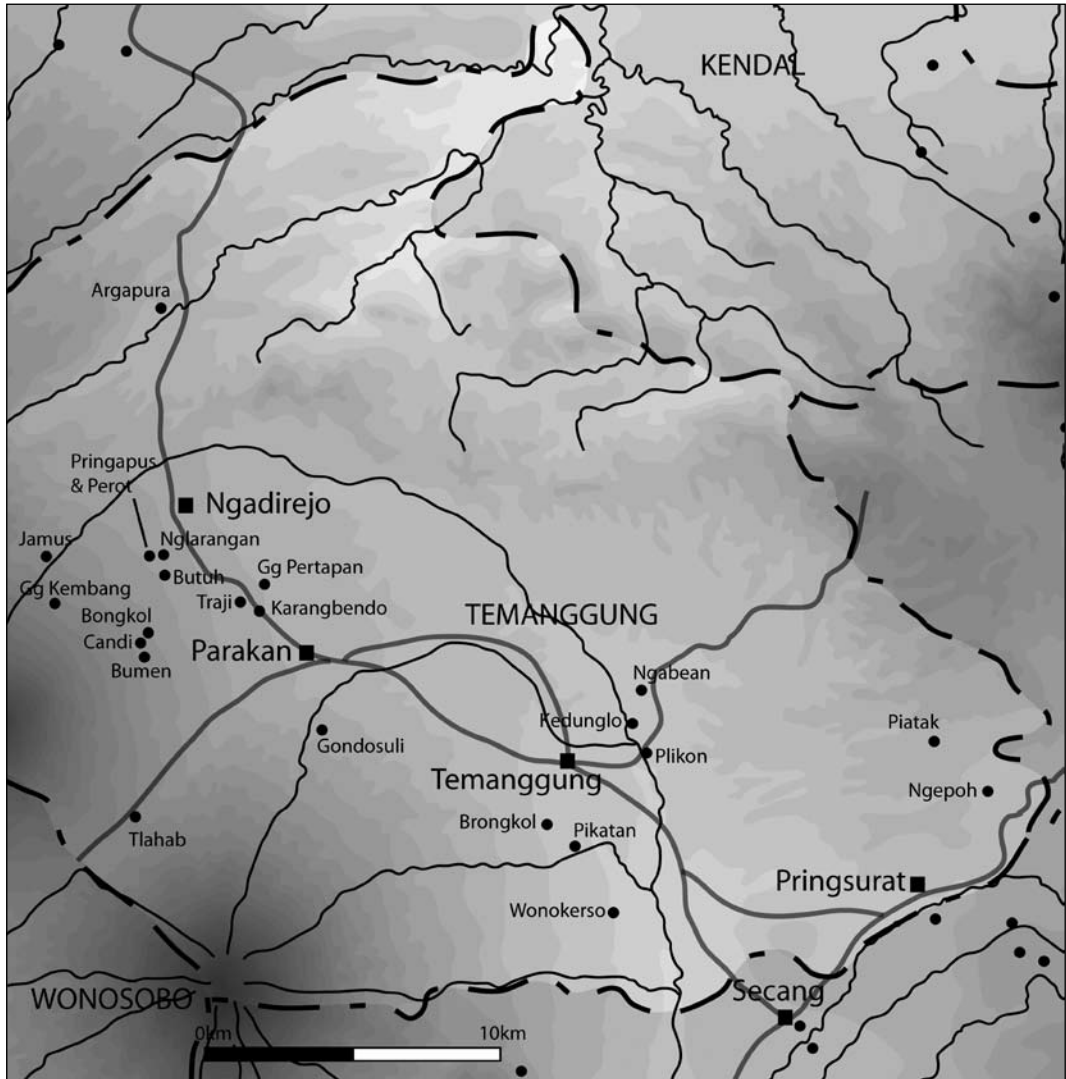


Plate 9 Location map of the temple remains in the kabupaten of Temanggung (Jawa Tengah)



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SAMENVATTING

Candi, ruimte en landschap - Een onderzoek naar de distributie, oriëntatie en ruimtelijke ordening van overblijfselen van tempels op Midden-Java

Tempels op Midden-Java werden niet willekeurig ergens gebouwd, integendeel: hun positie in het landschap en hun architectonische plan waren bepaald door een aantal sociaal-culturele, religieuze en economische factoren. Het uitgangspunt van dit boek was, dat een analyse van de mogelijke verbanden tussen de distributie van de tempels, hun natuurlijke omgeving en architectonische plan waardevolle inzichten zou kunnen verschaffen over hoe de bevolking van Midden-Java de ruimtelijke omgeving ordende, welke factoren deze ordening beïnvloedden en hoe het religieuze landschap dat op die manier werd gecreëerd zich ontwikkelde.

Het onderzoek dat hier wordt gepresenteerd werd in drie stappen uitgevoerd: het verzamelen van gegevens (door middel van literatuur(onderzoek) en veldwerk), het tekenen van archeologische kaarten en analyse van de data. Eerst verzamelde ik data uit oude Nederlandse inventarissen en moderne Indonesische lijsten. Vervolgens vulde ik deze informatie aan door het lezen van verschillende archeologische rapporten, met een nadruk op de rapporten die gedurende de tweede helft van de 20^{ste} eeuw verschenen. Op grond van deze gedrukte bronnen maakte ik een voorlopige lijst van tempel overblijfselen, inclusief lokalisering en beschrijving (indien beschikbaar).

Om de nauwkeurigheid van de data en informatie uit de geschreven bronnen te controleren, heb ik veldwerk gedaan in the districten Yogyakarta, Magelang, Semarang en Boyolali. Ik bezocht alle dorpen waar zich volgens de rapporten tempelstenen hadden bevonden, ook als die stenen in latere rapporten als vermist waren opgegeven. In het eerste trimester van 2004 maakte ik op grond van de gedrukte informatie en de veldwerk gegevens een nieuwe beschrijvende inventaris van de Midden-Javaanse tempel ruïnes en tekende ik archeologische kaarten. Deze kaarten werden ingevoerd in MapInfo, een eenvoudig geografisch informatie systeem, waardoor op verschillende niveaus ruimtelijke informatie opgevraagd kan worden.

Deze geografische data vormden het uitgangspunt van overwegingen over de fysieke structuur van het Midden-Javaanse grondgebied (hoofdstukken 4-5), en een schatting van de reikwijdte van de hindoe-boeddhistische invloedssfeer in de aangrenzende gebieden van Java (hoofdstuk 4). Bovendien heeft de analyse van de correlaties tussen de tempel distributie patronen, ecologische zones en topografie, verrijkt met data van secundaire bronnen, mij in staat gesteld om de voornaamste kenmerken van het bewonen van het land te reconstrueren. Het

grondgebied van het oude Midden-Java blijkt te zijn gestructureerd rond een kernlandbouwgebied (dat zich uitstrekte van Prambanan tot Muntilan), een reeks secundaire centra (bij Secang, Ngadirejo en Boyolali) en verschillende religieuze centra – soms relatief geïsoleerd (hoofdstukken 4-5).

Het patroon van de distributie van de tempels laat zien dat tempels deel uitmaakten van een communicatie netwerk dat de rijke landbouw vlakten van het zuiden verbond met de noordkust, via twee hoofdroutes: één volgde de Progo rivier en de ander liep rond de oostelijke voet van het Merapi-Merbabu massief (hoofdstuk 5). Het bestaan van dergelijke routes bevestigt dat de economie van Midden-Java geen gesloten economie gebaseerd op geïsoleerde gemeenschappen was, maar juist het tegenovergestelde; gebaseerd op een uitgebreid handelsnetwerk, zoals al is gesteld door Jan Wisseman Christie op basis van inscripties (Wisseman Christie 2004).

Behalve tempels gerelateerd aan plaatsen van economisch belang, bezat Midden-Java een aantal religieuze centra die niet waren verbonden met wegen of nederzettingen (hoofdstuk 4). Dit is het geval bij de tempels van Dieng en Gedong Songo, en ook met de bouwwerken op de Pegat-Ijo berg. Verder hebben we aangetoond dat de dicht op elkaar staande ruïnes rond Prambanan niet moeten worden geïnterpreteerd als een grootschalige nederzetting; de scherpe toename van tempeldichtheid in het oosten van Prambanan kan beter worden verklaard door het bestaan van een belangrijk religieus centrum, in het oostelijke gedeelte van het Midden-Javaanse rijk, en onderbouwt niet de hypothese van een bruisend economisch centrum.

Ongeacht het feit of de tempels waren gebouwd in vruchtbare vlakten of op hoge grond, de keuze van de ligging situering werd beïnvloed door specifieke kenmerken van het landschap, zoals rivieren, samenvloeiingen van waterwegen, bronnen, geïsoleerde heuveltoppen, zwavelbronnen en overgangszones (hoofdstuk 5). Soms speelden markante plekken in het landschap een rol in de keuze van de ligging, maar had dit geen verdere invloed op de constructie. Soms, vooral in het zuiden van Midden-Java, waren de tempels georiënteerd in relatie tot specifieke kenmerken van het landschap, met hun achterzijde gericht naar een rivier of heuveltop.

Behalve de vraagstukken van grondgebied en landschap, geeft deze studie ook inzicht in de structuur van de gebouwde ruimte, en de mogelijke relatie met geconceptualiseerde ruimte. Wat betreft dit onderwerp hebben architectonische en epigrafische data de invloed van belangrijke Indiase begrippen aangetoond, maar ook hun beperkingen. De westwaartse oriëntatie van veel tempels, de rol die soms wordt gespeeld door markante plekken in het landschap bij deze oriëntatie, het idee van een ruimte gestructureerd rond twee assen en de heiligheid van de achterzijde, zijn allemaal elementen die aantonen dat de kunst van Midden-Java niet langer meer kan worden beschreven als “verbonden met feiten die elders bekend zijn” (dat wil zeggen uit India; Bernet Kempers 1959).

De analyse van tempelplattegronden en ruimtelijke ordening heeft verder aangetoond dat er een duidelijke boeddhistische architectonische traditie was op Midden-Java. Deze traditie werd gekenmerkt door het systematische gebruik van trapsgewijze vierkante of rechthoekige plattegronden en een neiging tot een concentrische structuur - in ieder geval in de grotere tempelcomplexen. De bestudering van architectonische lijsten heeft deze hypothese bevestigd, omdat zij aantoont dat de aanwezigheid van een torus niet gerelateerd was aan stilistische evolutie – zoals aanvankelijk werd aangenomen door Soekmono (1979) en Williams (1981) – maar was verbonden aan een aparte traditie: de torus geassocieerd met boeddhistische architectuur, zoals Dumarçay (1981) al had voorzien.

Door middel van dit proefschrift hoop ik te hebben aangetoond dat het architectonische landschap van Midden-Java het resultaat is van een complex sociaal-cultureel proces. De distributie, oriëntatie en structuur van Midden-Javaanse tempels was bepaald – op verschillende niveaus – door economische, politieke en religieuze factoren. Zij onthullen de veelvuldige aard van de relatie tussen heiligdommen, land bewoning, natuurlijke omgeving, geconceptualiseerde ruimte en bouwkundige tradities.

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