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Continuity and Change on Javanese Mosques

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Abstract: The study was based on field surveys of traditional and contemporary mosques of Java-Indonesia. The article discusses the typology of mosques, which consist of historical and contemporary ones. Though, there are several diversities of spatial patterns and architectural characteristics, which are required for ritual and other religious activities in mosques, there are common physical features manifested in the following:

- The existence of sensitive issues related to spatial, social and temporal contexts.
- Different utilization and symbolic meanings cause the diversity in space configuration.
- The only essential boundary is the wall facing the worshippers (Qibla).

Some lessons could be learned from this research, as follows:

- The continuity and change in mosque planning and design should emerge from "core culture" demands. While the physical manifestations change according to context.
- The sensitivity of social, spatial, and temporal contexts is vital in weaving mosques into the surrounding environment.
- In the new planning and design of mosques, there is an urgent need to incorporate the mosque into the community fabric.

Introduction

The study is based on an on-going research on identification of architectural characteristics of traditional and contemporary mosques in Java. The research itself aimed at (1) identifying architectural characteristics of traditional mosques in Java, (2) identifying architectural characteristics of contemporary mosques in Java, and (3) comparing the sameness and the differences of architectural attributes between different types of Javanese mosques. The description of similarities and differences of Javanese mosques through the architectural attributes is aimed to identify general characteristics of Javanese mosques. On the other hand, the description of specific things on each case being studied is aimed to show the plurality of Javanese mosques. As the research is still going on by the time this paper was written, the samples being taken were still limited to several representative mosques of Central Java.

Indonesian mosques have several characteristics that are more-or-less the same as mosques of South East Asia. [1-7] They were usually described as "walled enclosures with central pyramidal roof construction" (see Frishman and Khan, 1994). More specifically, Javanese mosques was O'Neill (1994) who stated that "the South East Asian mosque lies within the

strong Java-centered tradition of tall, multi-roofed, open halls with timber columns as structural supports".

It would be interesting to see that Javanese mosques are unique, complicated, and varied. No simple typology can describe the whole varieties. On the other hand, there are some attributes or common things that always exist in every mosque. As type involves certain iconographic properties, type in architecture is a kind of architectural operation which qualifies and at the same time realizes the existence of an architectural work. Morris (1980) subject architectural type to divisions based on (1) functional or programmatic taxonomy, (2) formal or configural taxonomy, and (3) imagerial or iconic taxonomy.

The imagerial or iconic taxonomy of traditional and contemporary mosques of Java is chosen for the research, as it suited best to the purpose of the study. From the classification, it could be said that there are traditional mosques that consist of royal mosques, community mosques, and contemporary mosques that consist of historical mosques, modern mosques, typical prototype design, and pan-Islamic mosques. [8-9] The study is being conducted within the frame that could be presented as a matrix as follow, while the paper would present the highlights from the research.

Table 1: The Frame of the Study

Type of Mosque Architectural Characteristics Analysis		**Traditional Mosque**		**Contemporary Mosque**			
		Community Mosque	Urban Monument Mosque	Historical Mosque	Modern Style Mosque	Typical Mosque	Pan Islamic Mosque
Space	Centrality						
	Directionality						
	Boundary						
Form	Meeting the Sky						
	Articulation						
	Meeting the Ground						
Function	Utilitarian						
	Climatic Control						
	Tectonic						
Context	Social						
	Temporal						
	Spatial						
Meaning	Cosmological						
	Symbolic						
	Behavioral						

Typology

The real meaning of "traditional" is "being handed down from generation to generation", and on the other hand, the real meaning of "contemporary" is "living or occurring during the same period of time". Throughout the paper, the term traditional and contemporary would be used in popular term, as "traditional mosques" connote "older mosques, that have been

handed down from generation to generation", and "contemporary mosques" are "the new mosques that are built during this period of time."

The traditional mosques consist of Community Mosque, and Urban Monument Mosque. Community mosques are usually located at the heart of a certain community (a village, an Islamic community, or an educational compound). While urban monument mosque is usually placed by Javanese tradition as one element of four main elements of the city, it also acted as a large state mosque or major landmark structure. The examples of these traditional mosques could be seen on figures 1-10.

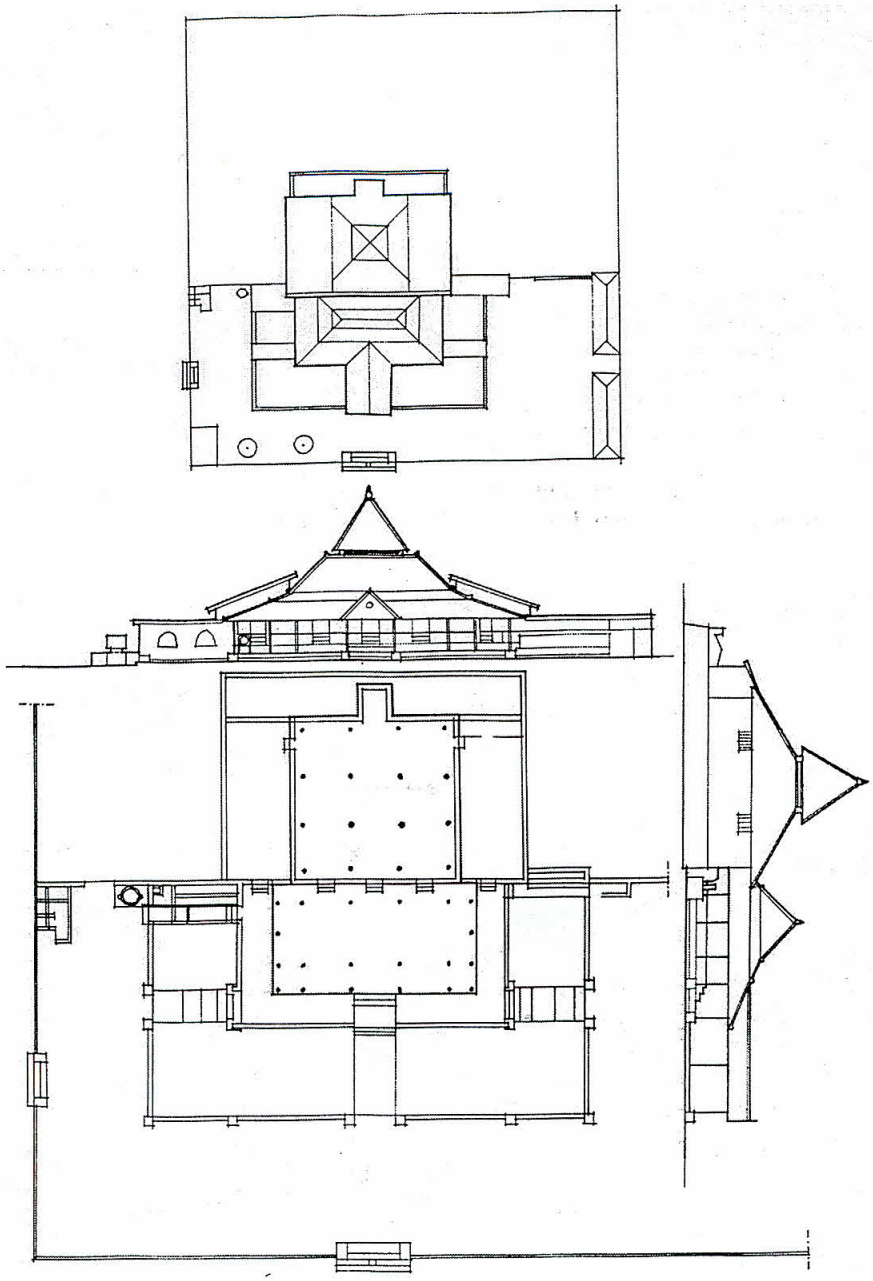


Fig. 1: Community Mosque 1, Pathok Nagari Mosque (redrawn by Henri Setiawan from reconstruction drawing. Sudibyo, Slamet, 1997).



Fig. 2: Community Mosque 2, Kampung Naga Mosque and Settlement Pattern (redrawn by Henri Setiawan from reconstruction drawing Hatmoko, Adi, 1998).

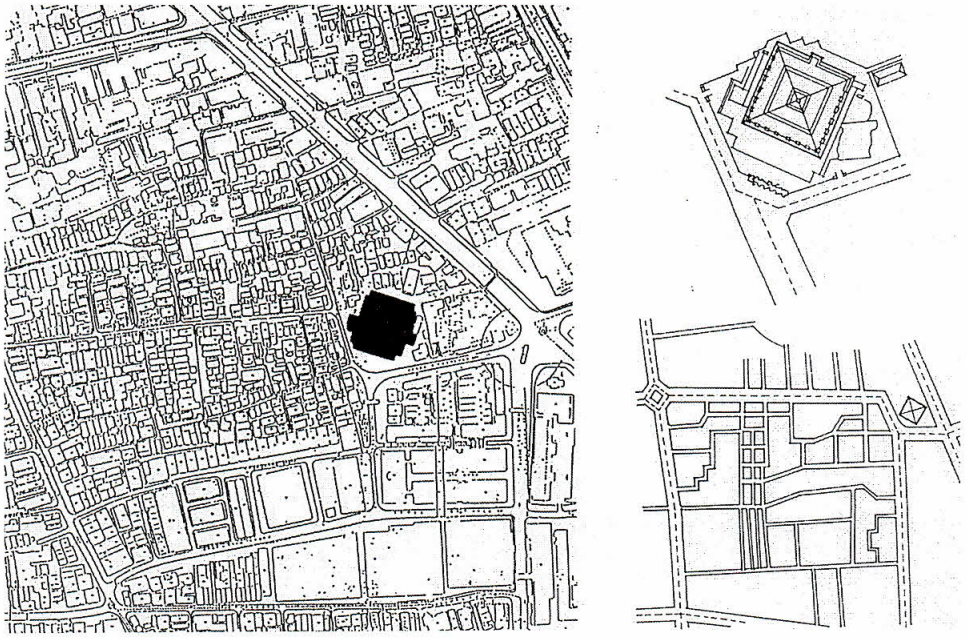


Fig. 3: Urban Monument Mosque 1, Site Plan and the Location of the Jami. Mosque at Kauman Semarang (redrawn by Henri Setiawan from Gufron, 1996). Settlement Surrounding Jami' Mosque at Kauman- Semaranag (redrawn by Cipta Karya, 1993).

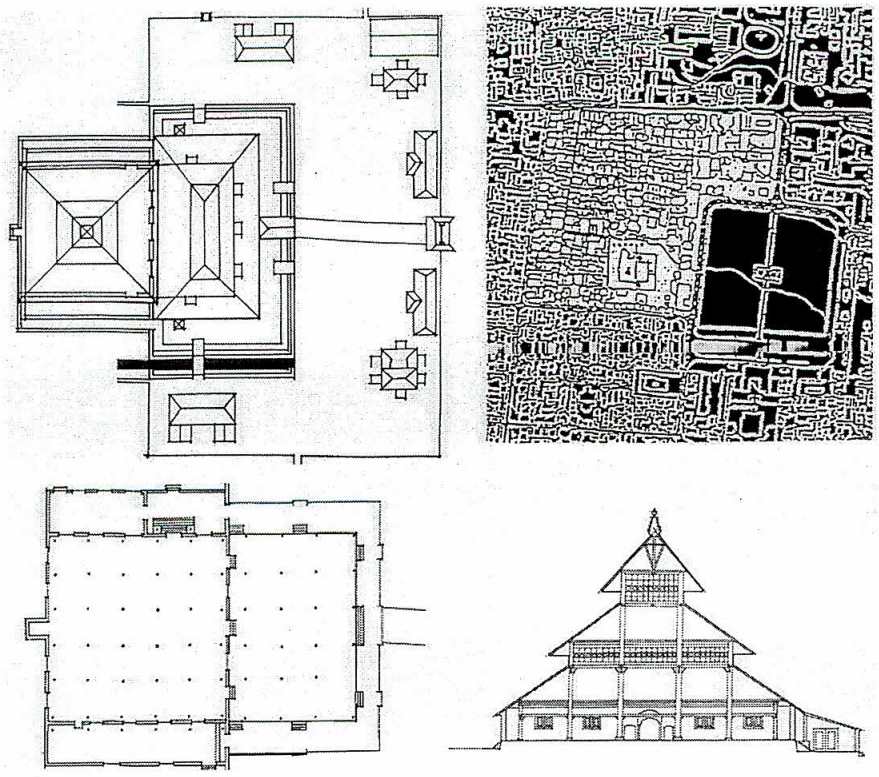


Fig. 4: Urban Monument Mosque 2, Yogyakarta Mosque. Site Plan of Yogyakarta Great Mosque (redrawn by Henri Setiawan from Gufron, 1996). The Plan of Yogyakarta Great Mosque (redrawn by Henri Setiawan from santosa, Revianto B. 1997). Cross-Section Yogyakarta Great Mosque (redrawn by Henri Setiawan from Santosa, revianto B. 1997).

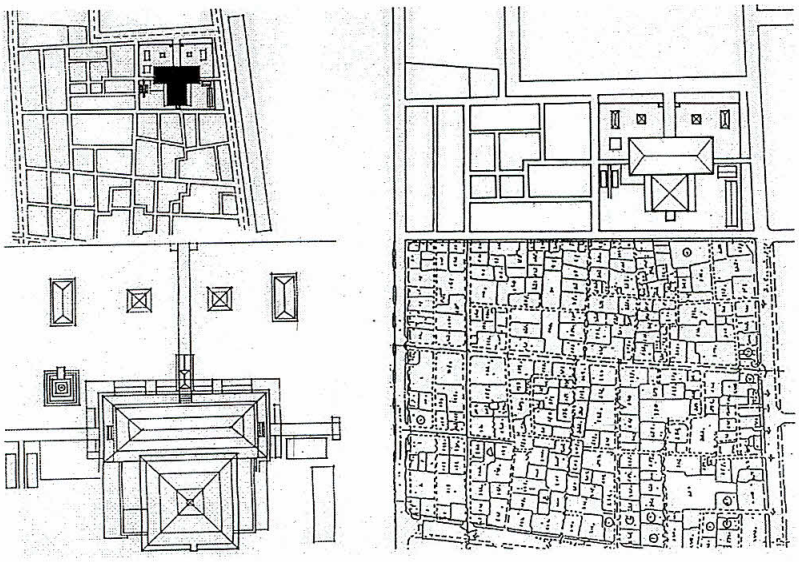


Fig. 5: Urban Monument Mosque 3, Surakarta Mosque Site Plan and Location of Surakarta Great Mosque complex at Kauman Surakarta, redrawn by Henri Setiawan from Gufron, 1996. Settlement Surrounding Surakarta Great Mosque, Cipta Karya, 1992.

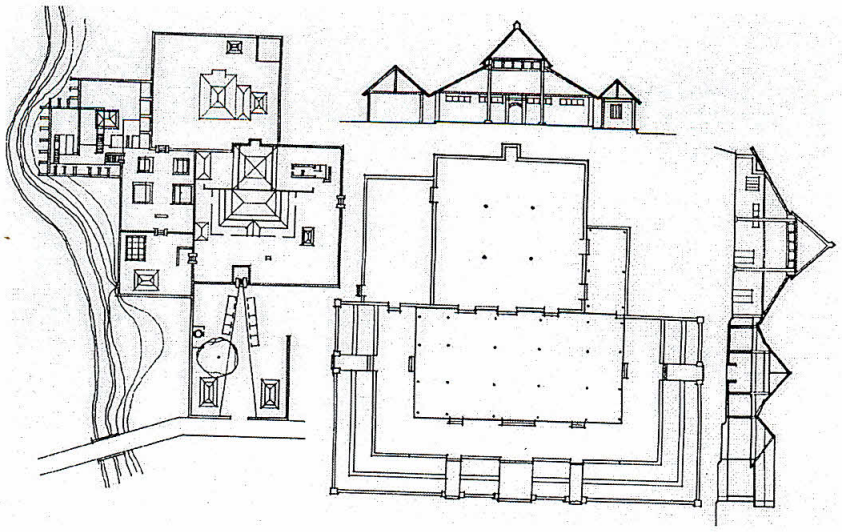


Fig. 6: Urban Monument Mosque 4, Kotagede Mosque (Cross Section and Plan of Mataram-Kotagede Mosque are redrawn by Henri Setiawan from Hatmoko, adi, Laporan Kawasan Cagar Budaya Jagalan-Banguntapan, 1996, Site Plan of Mataram Kotagede Complex are redrawn by Henri Setiawan from Wiryomartono, Bagoes, Seni Bangunan dan Seni Bina Kota di Indonesia, 1995).

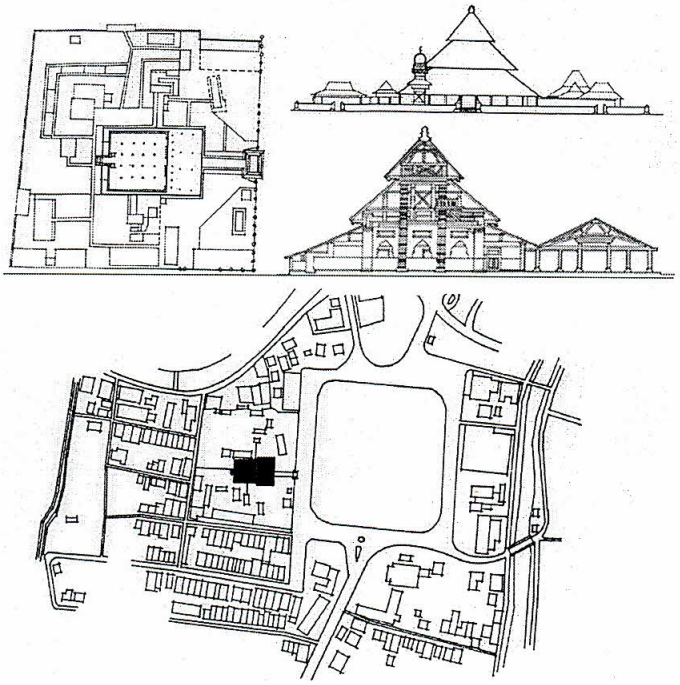


Fig. 7: Urban Monument Mosque 5, Demak Mosque (Site Plan of Masjid Agung Demak, redrawn by Henri Setiawan from Frishman, Martin, the Mosque History, Architectural Development and Regional Diversity, 1994. Settlement Pattern Surrounding Masjid Agung Demak, Laporan Pemugaran Masjid Agung Demal: Proyek Pemugaran Pemeliharaan Masjid Agung Demak, Yogyakarta are redrawn by KR Offset, 1985-1986).

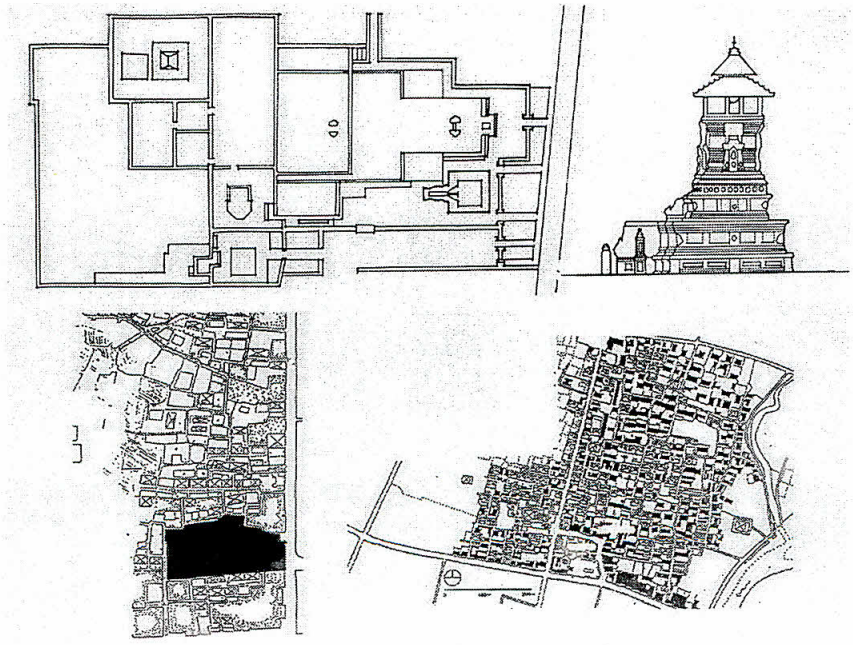


Fig. 8: Urban Monument Mosque 6, Kudus Mosque (Site Plan of Kudus Mosque Complex, showing the location of tower (A) within the enclosed area, redrawn by Henri Setiawan from Frishman, Martin. The Mosque History, Architectural Development and Regional Diversity, 1994. Cross-section of the Tower at Kudus. The Traditional Bedug (drum) Housed in the Upper Pavillion, redrawn by Henri Setiawan from Frishman, Martin, The Mosque History, Architectural Development and Regional Diversity, 1994. Settlement Pattern Surrounding Kudus Mosque Complex, Wikantari Ria, Field Survey, 1997).

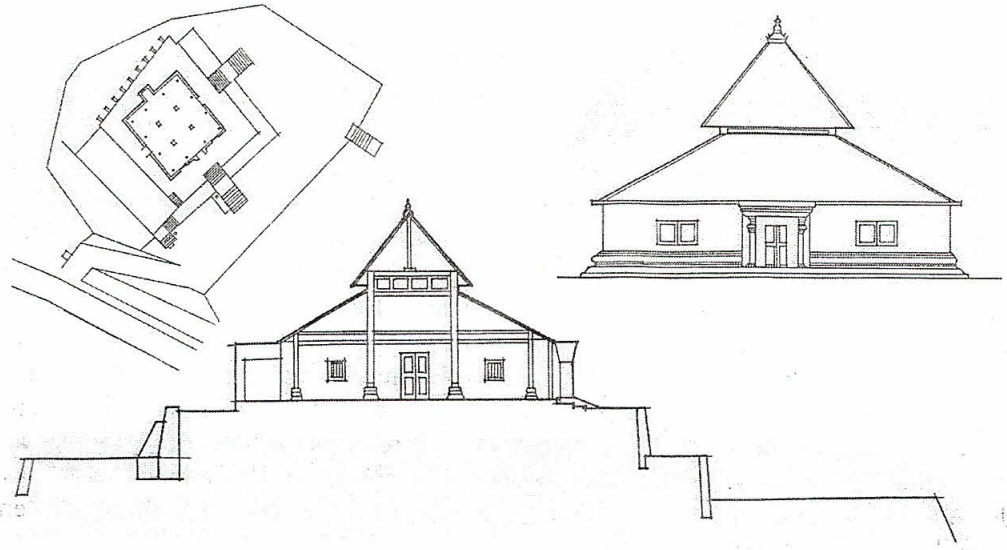


Fig. 9: Bayat Mosque. Gala Mosque-Bayat, redrawn by Henri Setiawan from Masjid Gala, Bayat dan Pemugarannya, Romli Inayati Adrisiyanti, 1993.

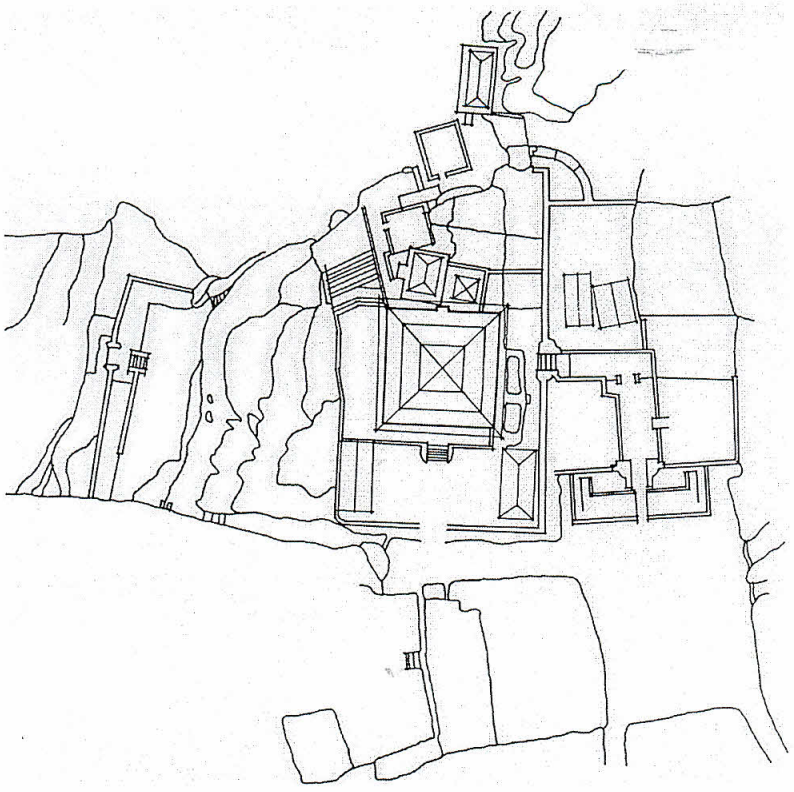


Fig. 10: Sendang Duwur Mosque 2 (Site Plan of Sendang Duwur Mosque, redrawn by Henri Setiawan from Islamic Antiquities of Sendang Duwur, The Archaeological Foundation, Uka Candrasasmita, Jakarta Djambatan, 1975).

The contemporary mosques are consist of Historical Mosque, Modern Style Mosque, Typical Mosque, and Pan Islamic Mosque. Some contemporary mosques are still use historic idioms, to achieve historic continuity that makes people easily associate the new form as mosque. [10-11] The most often used idioms are roof form, spatial configuration, and certain shapes for articulation of vertical elements (from pointed arch to calligraphic bands). On the other hand, some other contemporary mosques (i.e. the modern style mosques) even reject the historic idioms, insisting that every era have its own characteristics and imageries. The typical mosque examples are the Yayasan Amal Bakti Muslim Pancasila mosques. The government-sponsored foundation Yayasan Amal Bakti Muslim Pancasila offers communities a building of standard design for mosque. The buildings have a basic plan and are available in 15m, 17m, or 19m square, enclosed beneath triple *tajug* roof. There are also another type of contemporary mosques that share certain languages -the pan-Islamic mosques-, as on certain era or certain communities, there is an urging need to feel as a part of global Islamic community. Here, the symbol of mosque and Islamic world as garlic shaped dome and pointed arches are usually used. The examples of these contemporary mosques could be seen on Figures (11-21).

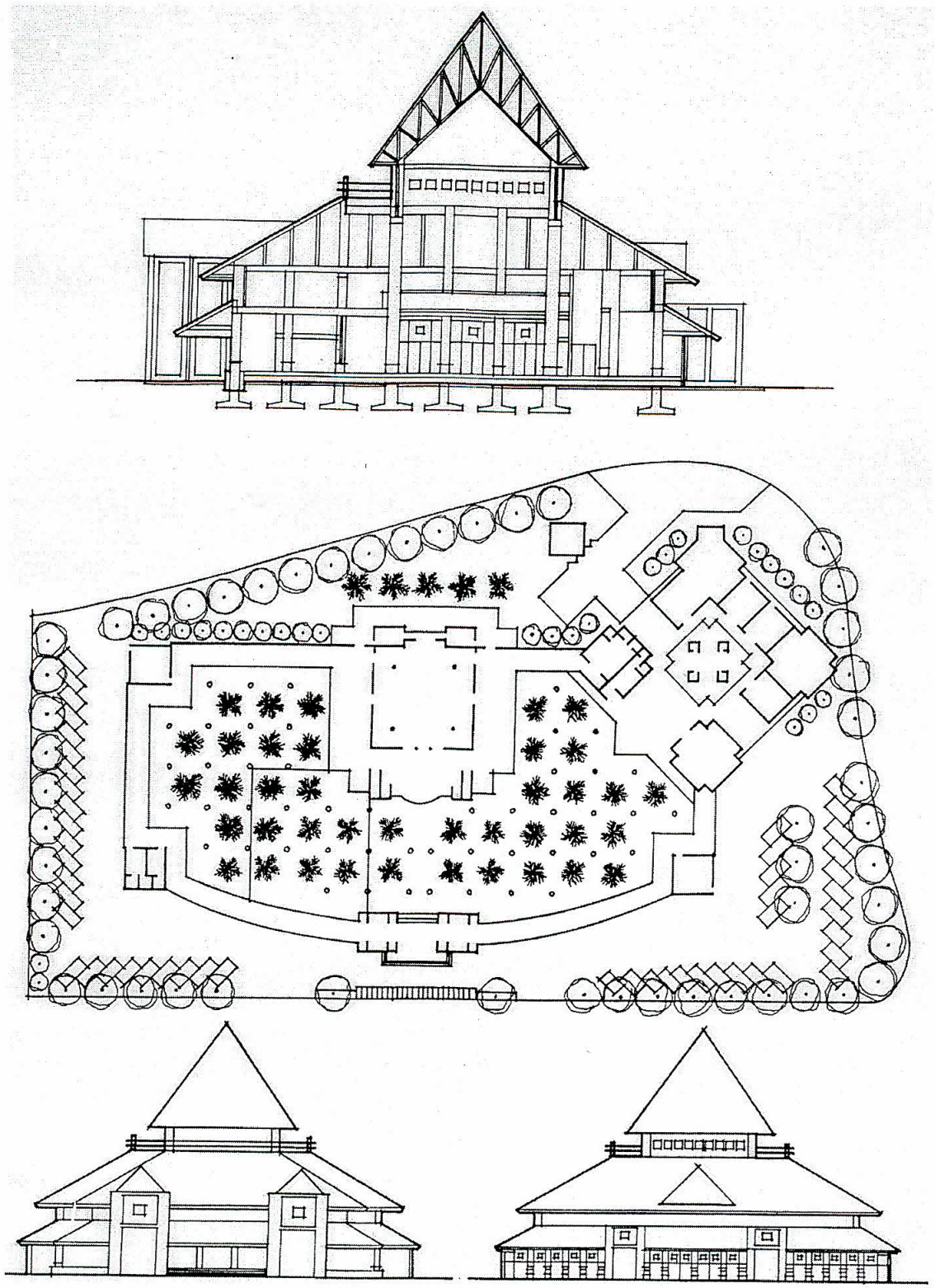


Fig. 11: Historical Mosque 1, Gadjah Mada University Mosque, Gadjah Mada University Mosque (redrawn by Henri Setiawan from Santosa, Revianto B. computerized design drawing, 1996).

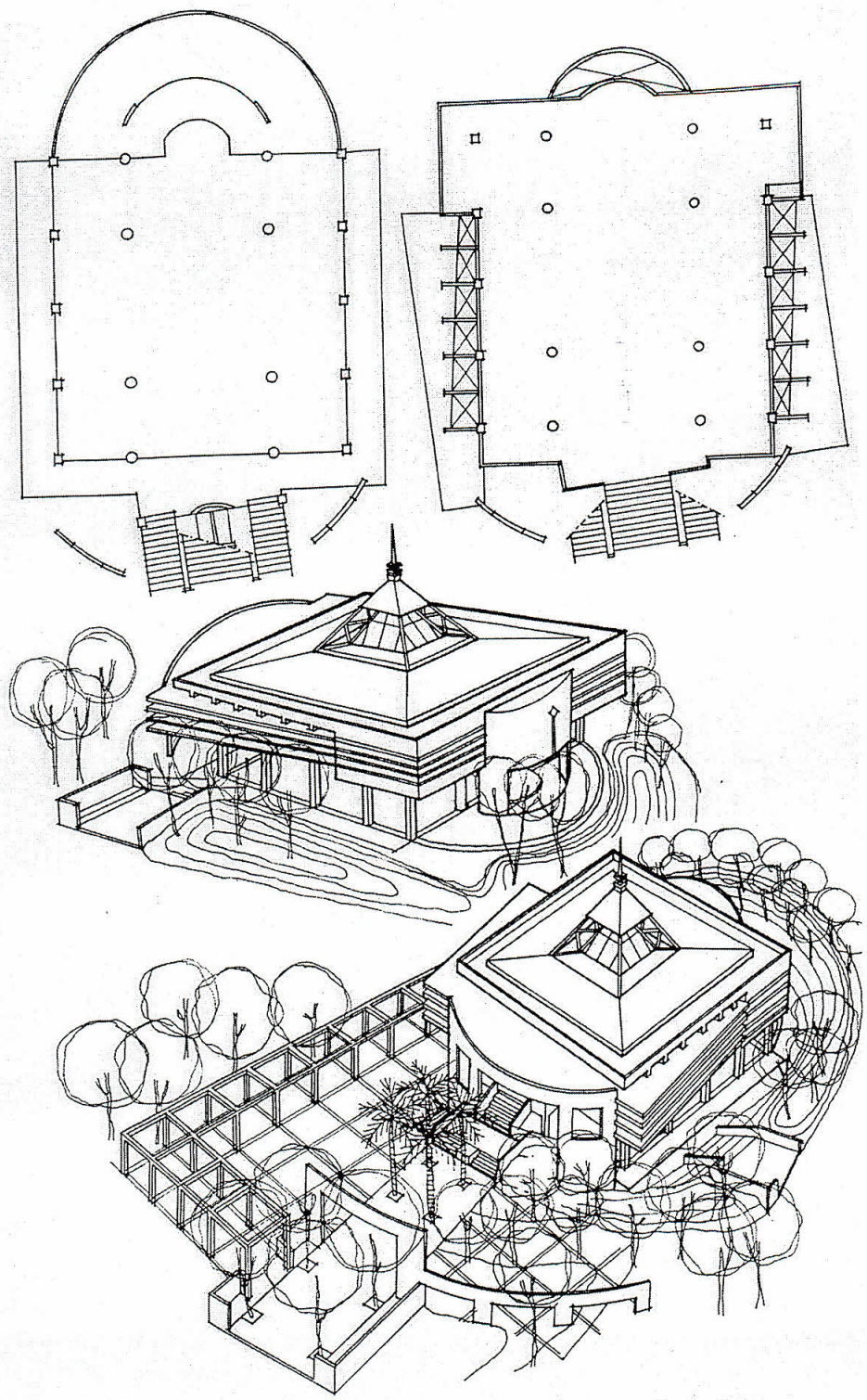


Fig. 12: Modern Style Mosque 1, Faculty of Engineering, GMU Mosque. Faculty of Engineering Mosque (redrawn by Henri Setiawan from Kristiadi, Didik, Original Design Drawing, 1997).

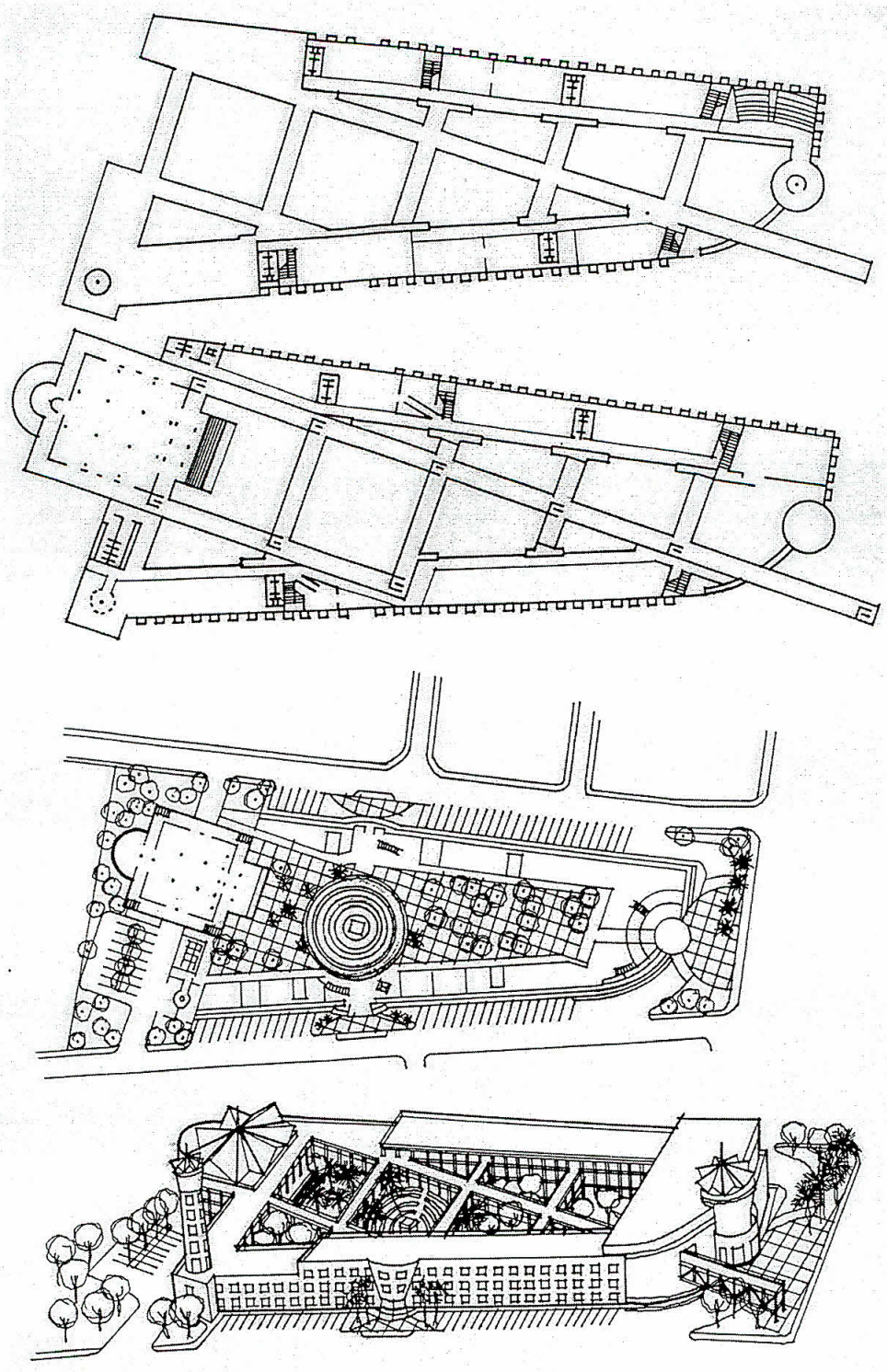


Fig. 13: Modern Style Mosque 2, Islamic Center and Mosque. Indonesian Mosque and Islamic center Competition, it was won by Didik Kristiadi (redrawn by Henri Setiawan from Kristiadi, Didik, Original Design Drawing, 1997).

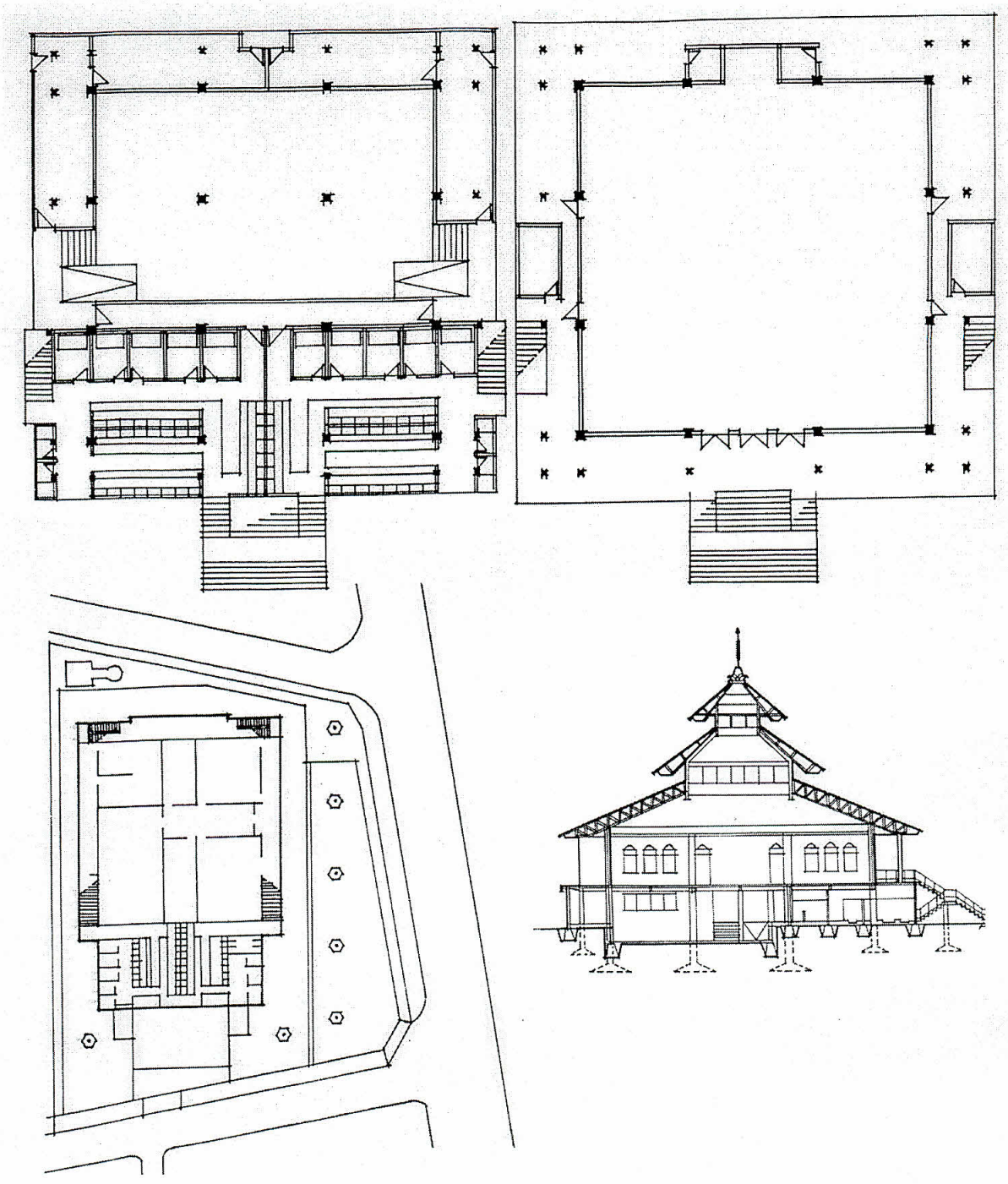


Fig. 14: Typical Mosque 1, Amal Bakti Muslim Pancasila (Plan, Site Plan and Section of Amal Bhaakti Muslim Pancasila Mosque at Beringhardjo Yogyakarta, redrawn by Henri Setiawan from PT. Kerta Gana, 1990).

Continuity and Change of Space

The spatial characteristics of Javanese mosques being studied are analyzed through three concepts, that are centrality, directionality, and boundaries of the space.

Centrality. Javanese mosques usually have spatial configuration with strong centralized pattern. This "gathering" aspect or centrality of space could be seen manifested in the configuration of (1) interior space or main praying hall (2) verandah or *serambi* (3) inner yard and (4) outer yard that formed a centralistic pattern. Even inside the interior space, the space between the four master-column or *sokoguru* inherently formed a special place inside the space. This special place has special meaning in traditional houses, but the utilization of the mosque has overcome and eliminates the specificity of this place. Hence, it could be hypothesized that the utilization of space could overcome the centrality of the space.

Directionality. Inherently, the Javanese *tajug* form (pyramidal roof form) has a strong directionality upwards. But again, as the activities inside the mosque have orientation towards the Kaaba, the directionality inside the mosque could be perceived as a dual system. The first is the inherent formal directionality, and the second is the functional directionality. It should be noted, however, that the traditional mosques of Java do not have a strict orientation towards Kaaba, but having East-West orientation, instead. The *saf* (the line of the people performing the *salat*) thus have a slight angle to the sides of the building, as the *saf* has strict directionality towards Kaaba.

Boundary. Javanese mosques employ many modes of differentiation of space that show the different utilization and symbolic meaning of space. The differentiation could be manifested through combination of low thick wall and gate (as the boundary between outer yard and surrounding community or inner yard and outer yard in traditional mosques), combination of wall and openings (as the boundary between interior space and *serambi*, both in traditional and contemporary mosques), or even differentiation of height of floor (as the boundary between clean areas for praying and other spaces). Although several mosques delineating clear boundaries between "inside" and "outside", the notion of unlimited space for praying is still manifested. The traditional mosques usually have strong enclosure for their interior space, but the contemporary mosques are often employ glass and large openings to ensure the continuity of "inside" and "outside". The only essential boundary is the wall facing the worshippers (the Qibla direction).

Continuity and Change of Form

The formal characteristics of Javanese mosques being studied are analyzed through three concepts, that show how the building meets the sky, articulation of elements, and how the building meets the ground.

Meeting the Sky. The roof is one of the most important element of mosque architecture in Java, or even in Indonesia. The *tajug* form (pyramidal roof form), often quoted as "central pyramidal, multi-tiered, roof construction" could be found as one characteristic of traditional mosques. The directionality of this form is counterbalanced with the horizontality of *serambi* (verandah) roof, with *limasan* (wedge shaped traditional roof) construction. The pan-Islamic forms appear where there is an urging need to feel as a part of global Islamic community. The Islamic world is symbolized as garlic shaped dome, pointed arches, and other pan-Islamic symbols. Modern style contemporary mosques in Java nowadays could employ any shape of roof, as the symbolism aspect could be represented in many formal ideas.

Articulation. It would be interesting to compare the qualities of interior space (the main praying hall) and *serambi* (verandah) space of traditional mosques, especially of royal mosques. The interior space is perceived as enclosed, gloomy, dark, contemplative space, while the serambi could be perceived as open, light and airy, noble space. The decoration and ornamentation is also different. At the case of Yogyakarta Royal Mosque, for example, the serambi has bright royal yellow color with rich ornamentation bearing gold on specific details, while the interior space has natural dark-brown wooden color with little or almost no ornamentation. What seems often employed both by traditional mosques and contemporary mosques is the continuity of architecture and written Arabic language. The calligraphy could be seen almost at every examples.

Meeting the Ground. Floor is another important aspect, as the height of floor and other articulation of floor (such as pattern and type of material) usually denoted transitions of spaces. The celebration of transitions could be seen clearly in the case of Royal Mosque of Yogyakarta, in which some intricate details could be seen. From the surrounding environment, entering the complex, there is a gate which has several steps of its raised floor. Entering the inner courtyard, there is a change from grass lawn to patterned pavement inside. It used to be a small moat with clean water inside, just before entering the mosque, to keep the foot clean after taking the ablution. Finally, there are changes of floor pattern and raised steps before entering the *serambi*, and entering the main praying hall from the *serambi*.

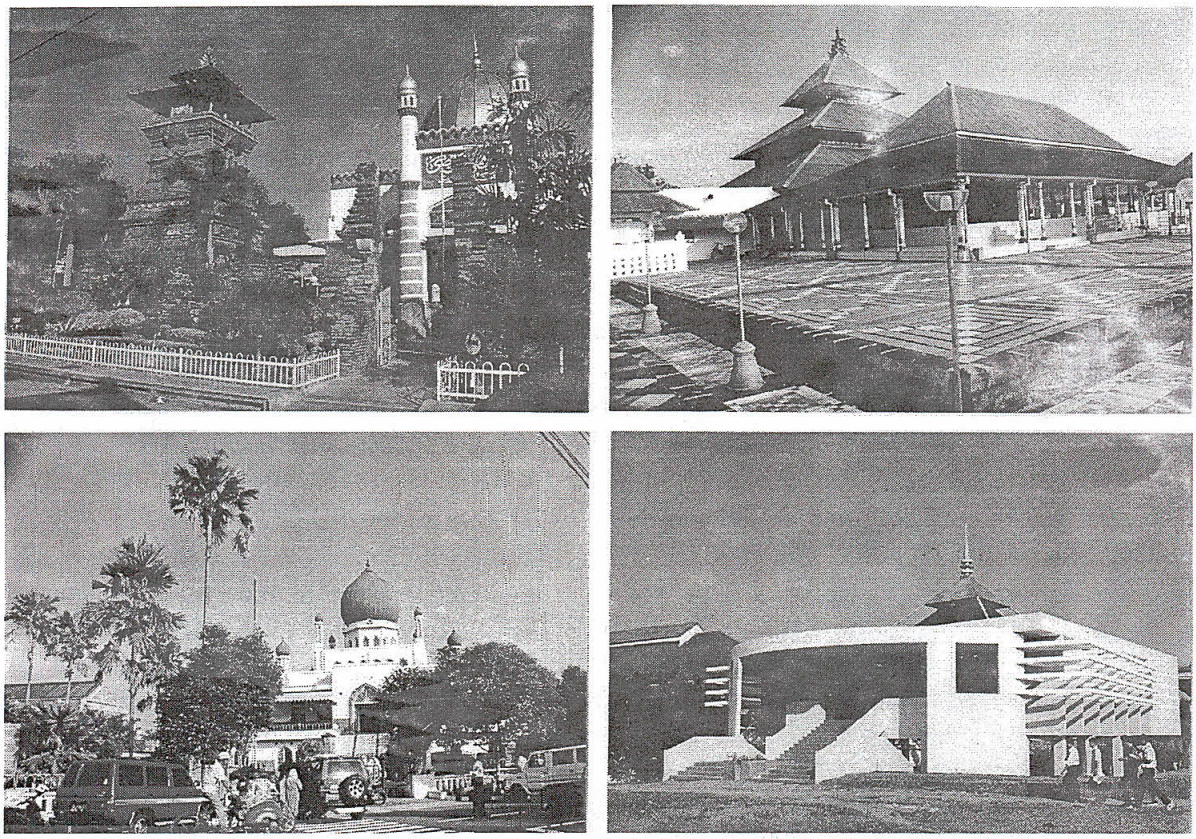


Fig.15: Mosques' Exterior Imagery.



Fig. 16: Mosques' Interior Imagery.

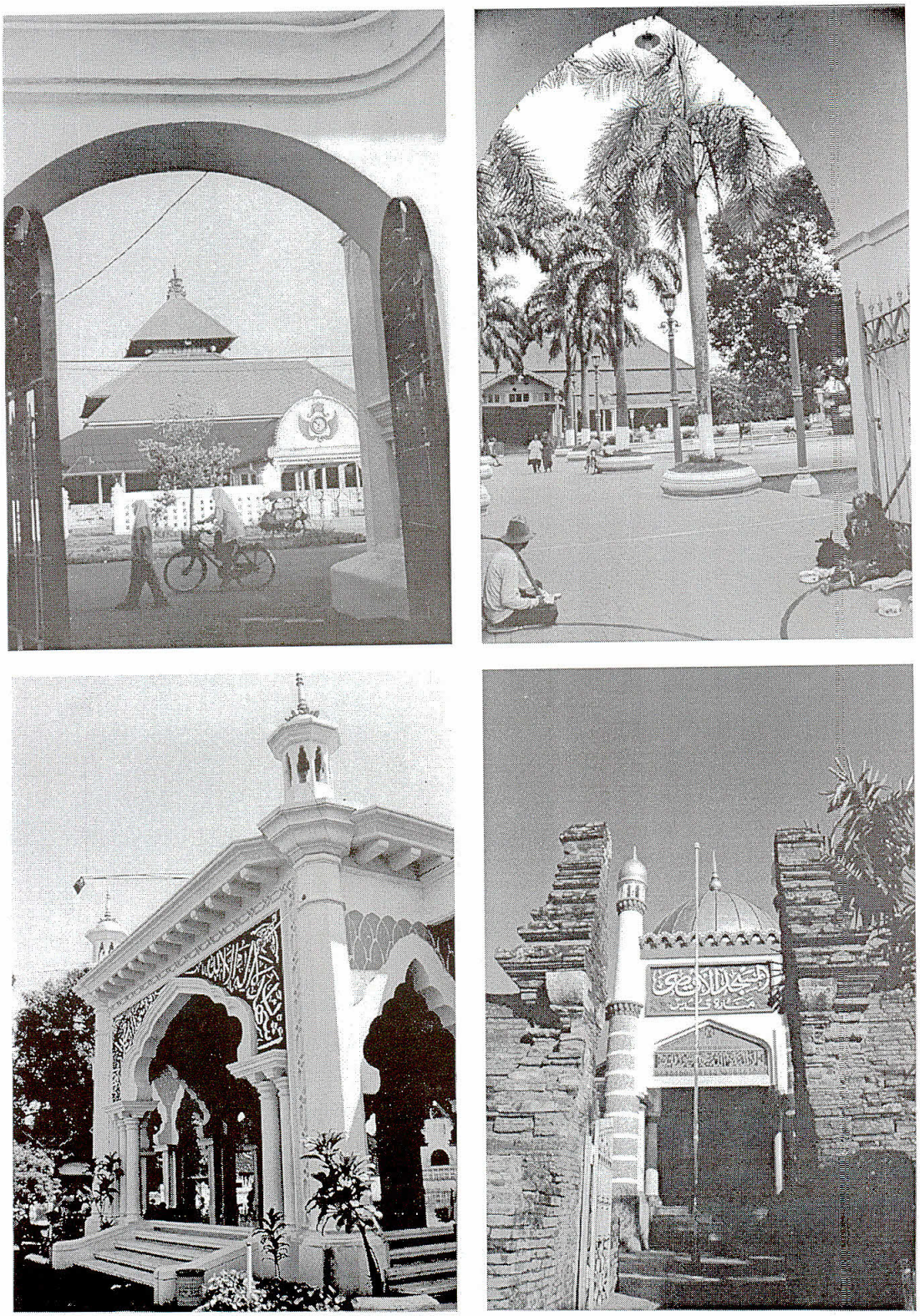


Fig. 17: Mosques' Gates.

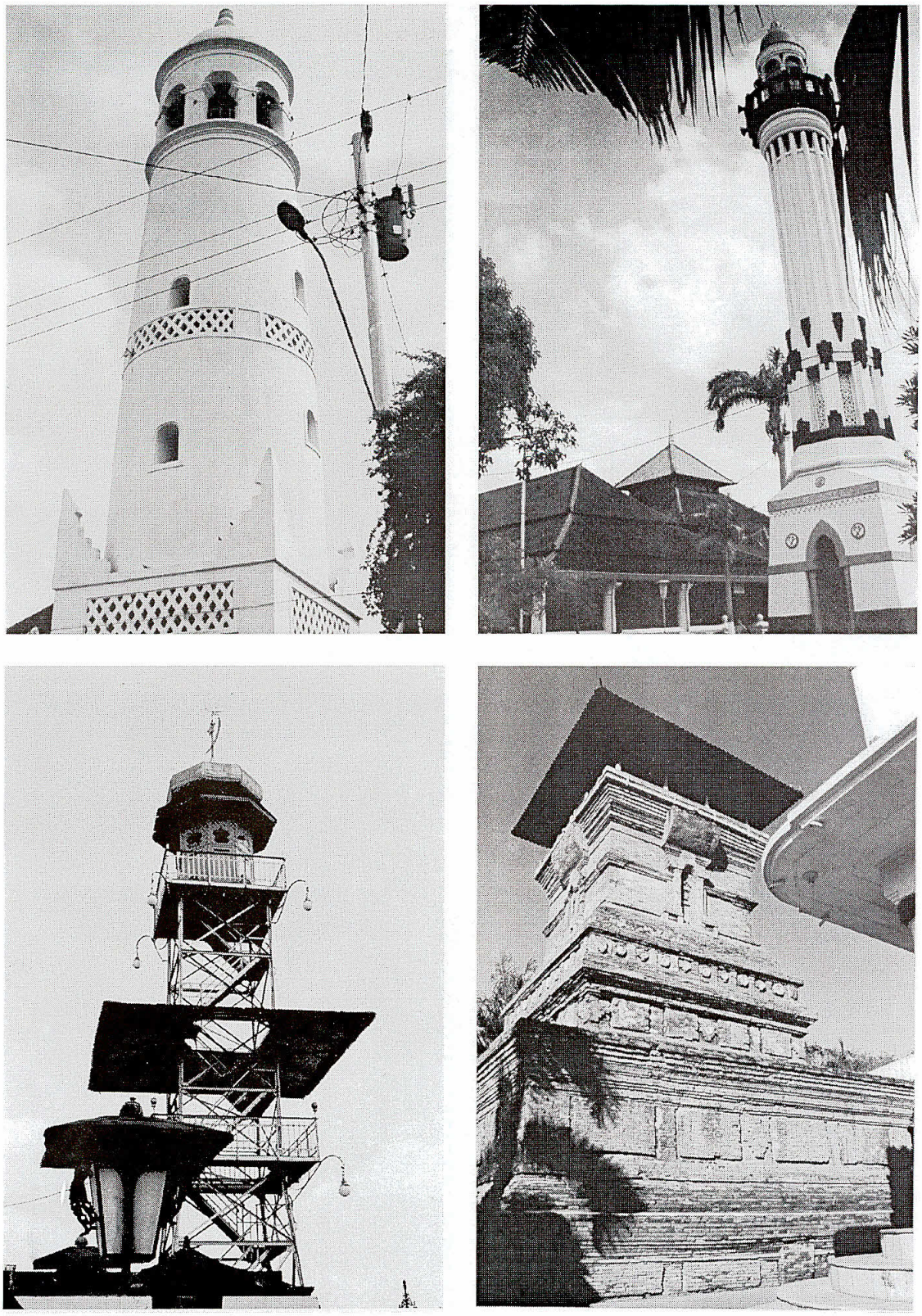


Fig. 18: Mosques' Minarets.

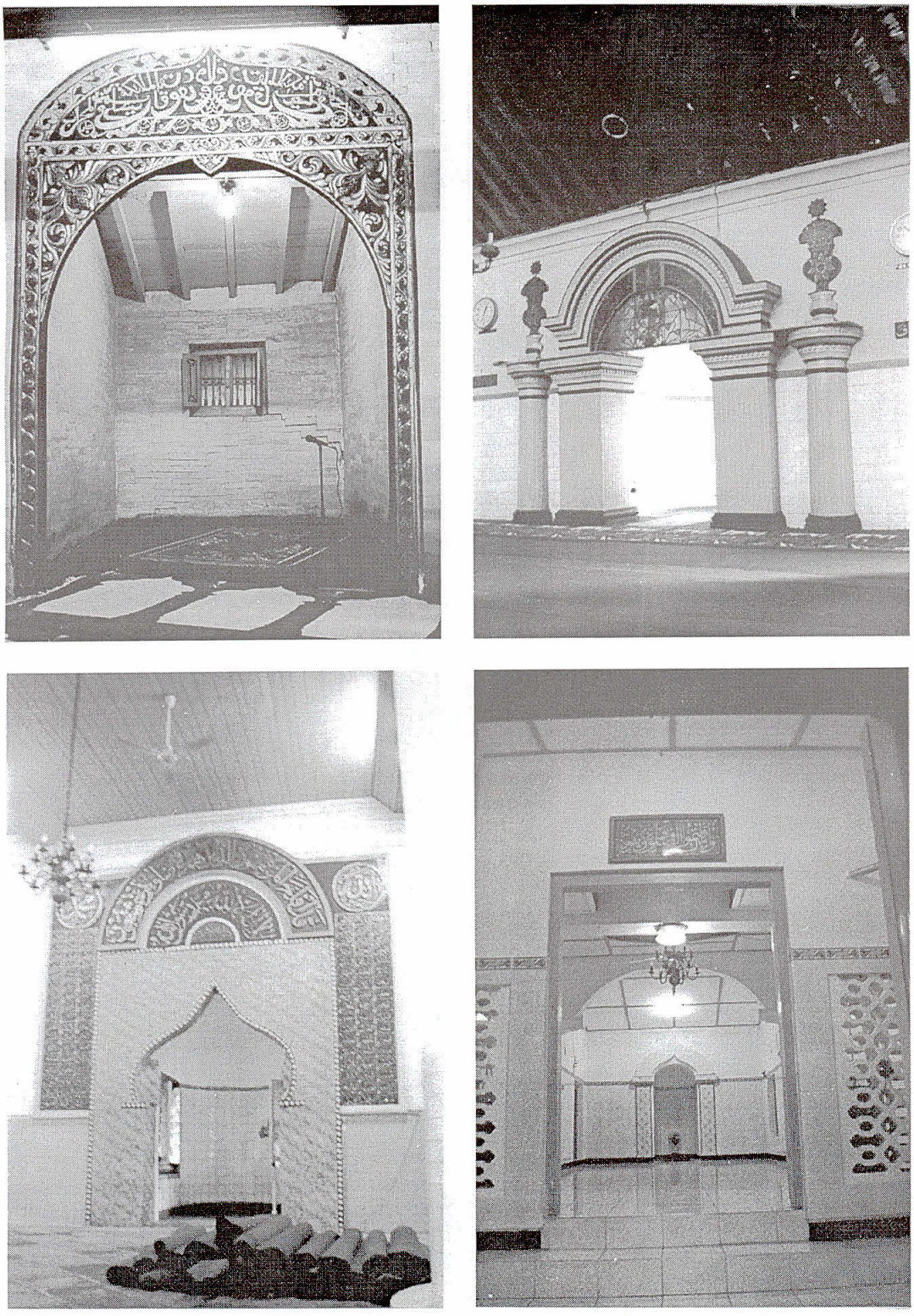


Fig. 19: Interiors of Mosques' Mihrabs.

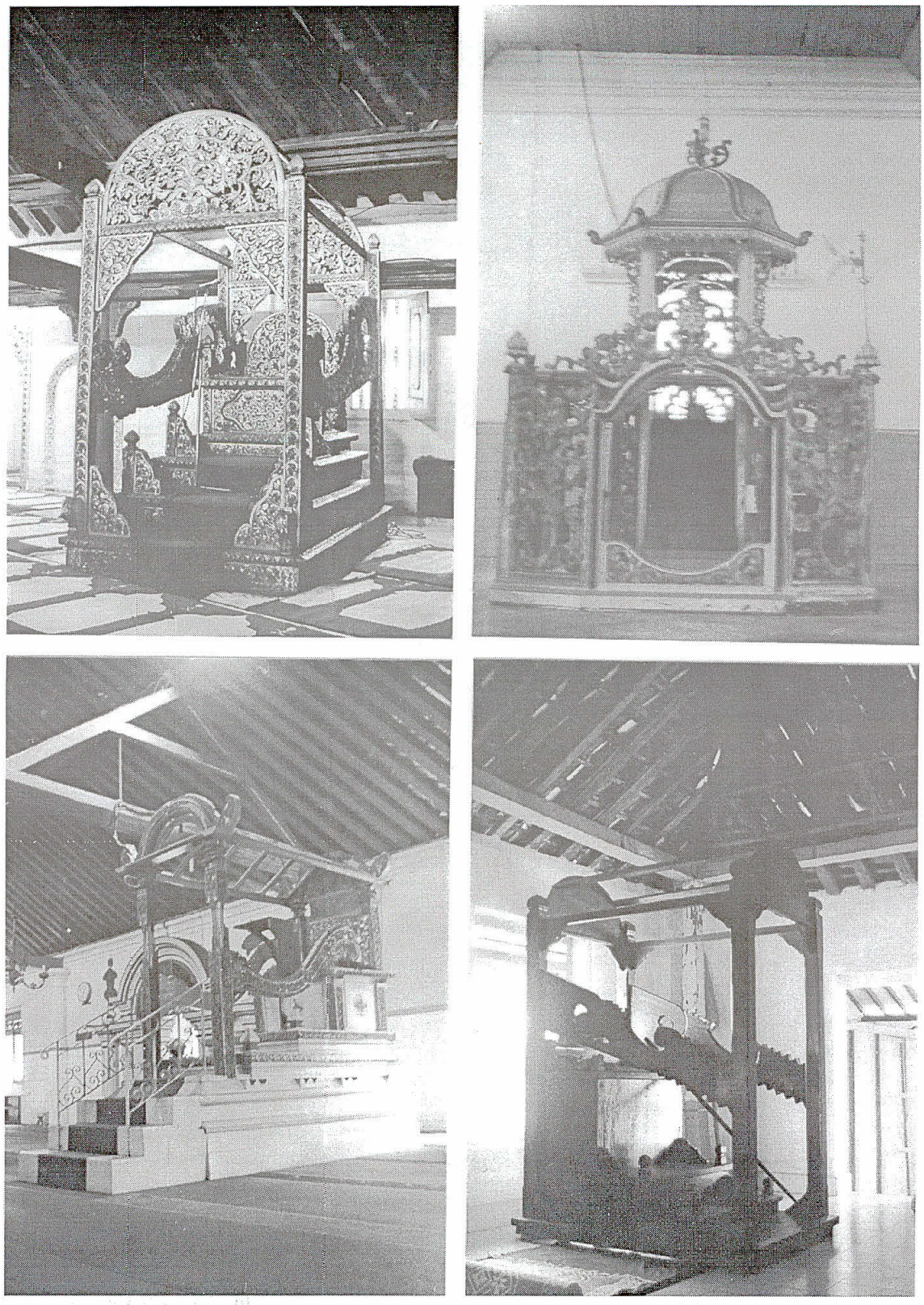


Fig. 20: Interiors of Mosques' Mimbars.

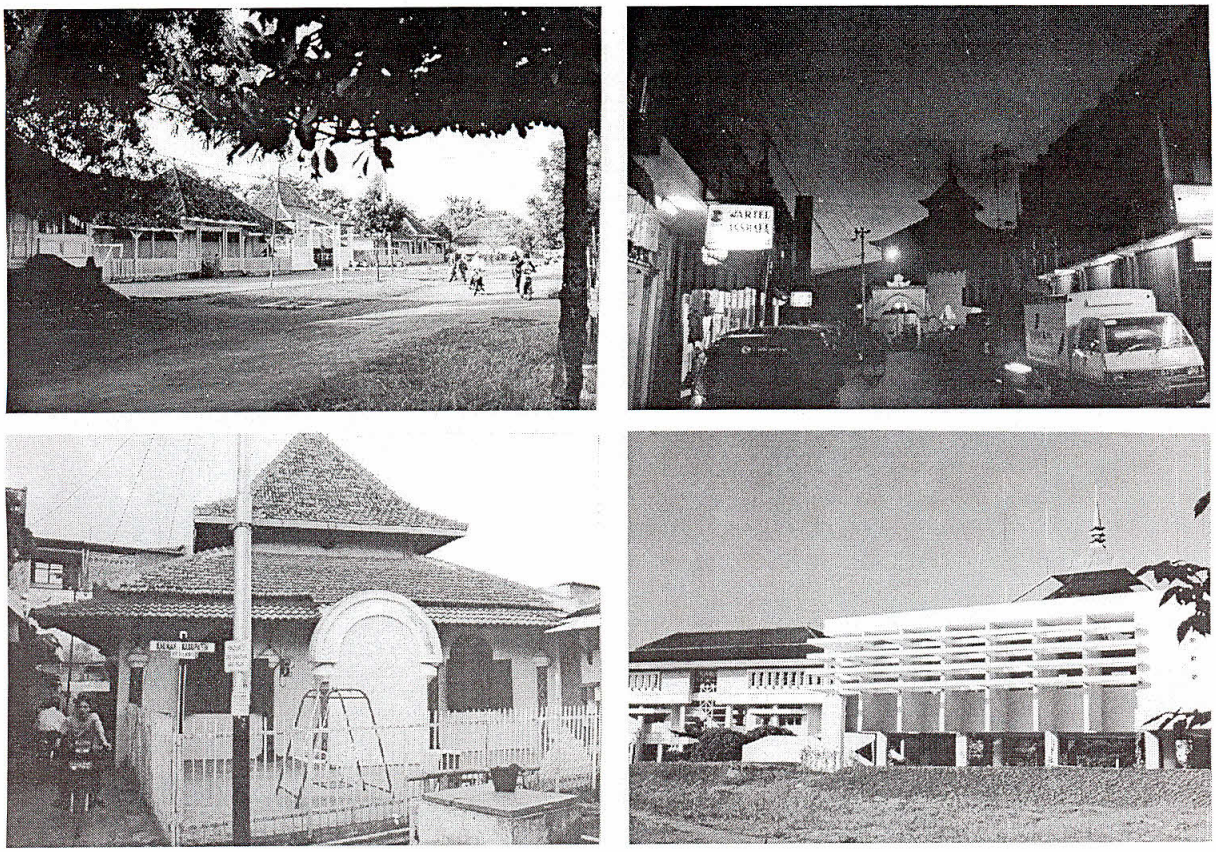


Fig. 21: Mosques' Surrounding Environment.

Continuity and Change of Function

The functional characteristics of Javanese mosques being studied are analyzed through three concepts, that are utilitarian function, climatic control, and tectonic function.

Utilitarian. Traditional mosques usually have only single function as praying hall and other limited functions that are related with it. But contemporary mosques could have several functions at once, as could be seen at Yayasan Amal Bakti Muslim Pancasila mosque near Beringhardjo (big market of Yogyakarta). The mosque also have clinics, Islamic bank, educational facilities, and spaces for the caretaker of the mosque. These functions are located at the ground floor, while the praying hall is located at the upper floor. This transprogramming is being done more daringly at the case of Islamic Center and Mosque at Bandung, designed by architect Didik K Adi, 1997. The architect insists that Islam should come into every aspects of human life, therefore, the facilities should also be integrated with many human life facilities. However, both in traditional and contemporary mosques, there are differentiation of space that showing the different utilization and symbolic meaning of space.

Climatic Control. Comfort as one of many building tasks could be divided into visual comfort, thermal comfort, and audio comfort. There is a big difference of the quality of light between traditional and contemporary mosque, especially in the main praying hall. The

older mosques usually have enclosed, gloomy, dark, and contemplative space inside, while the contemporary mosques usually have light and airy qualities. The traditional Great Mosque of Surakarta, for example, have dark interior space, with some light from the small upper clerestories. On the other side, the layered roof give possibilities of the flow of air, thus giving contributions to the thermal comfort, adding more comfort from the huge volume itself.

Tectonic. The traditional mosques usually utilize square as basic form with a *serambi* (porch) in front of it. The main part is the inner square, which has four main columns (*saka guru*) to support the roof. The idiom of these four columns are still employed in many contemporary mosques. Although the function of the four columns could have been replaced by new innovations in building technology, the idiom is still popular as this has something to do with popular symbolism.

Continuity and Change of Context

The contextual characteristics of Javanese mosques being studied are analyzed through three concepts, that are social, temporal, and spatial context.

Social. The social contexts for urban monument mosques are the most interesting to study, as they are usually stand up in a surrounding *kauman* community (the Islamic community, and sometimes even a community of close kinship whose ancestors are the caretaker of the mosque). Some mosques, especially the typical type mosque only has sufficient jama'ah during the Friday pray, and it seems that the community mosque is the type that has the best life. It is interesting too, that the recent tendencies to bound together the praying activities and other human activities found in several projects, such as the Islamic Center and Mosque at Bandung. For the new planning and design of mosques, there is an urgent need to weave again the mosque into living community and environment in our contemporary differentiated society.

Temporal. To discuss about temporal context means also discussing the growth and the changing of mosques over time. The most interesting example is the Kudus mosque. Its minaret has Hinduistic form, just as *bale kul-kul* (place for traditional drum used as sign in Bali), with several Chinese porcelains in it. The main praying hall itself is in traditional Javanese style, while the porch has some Dutch/colonial style elements. From the example it could be hypothesized that the evolution of the mosque has take several periods of time. This phenomenon is not unusual for Javanese mosques, as several mosques also have grown over time and each period leaving tracks on it.

Spatial. The unique spatial context could be seen in the location of traditional urban monument mosque. It follows the same main urban structure that has identified as *Catur Gatra*: a layout of palace, square, mosque, and market. It is believed that this structure has been used since the period of Majapahit, from the Hindu period of Java. The Hindu village would also have two main streets crossing each other at right angle with an assembly hall, a small market, a great banyan tree and temple fill the four corners of the intersection. On the other side, some contemporary examples could also show different but sensitive approach to the context. The 2 years old mosque of Faculty of Engineering, Gadjah Mada University with its open praying hall and expanding landscape could be seen as a new generator of life inside the campus. Thus, what is needed is the sensitivity to the context: the social context, the spatial context, and the temporal context.

Continuity and Change of Meaning

The meaning characteristics of Javanese mosques being studied are analyzed through three concepts, that are cosmological, symbolic, and behavioral meaning.

Cosmological. It would be interesting to see the dialogue between the Javanese indigenous culture, the Hindu culture that has come to Java before Islam, and the Islamic culture. It could be seen at the case of the location of urban monument mosque as has been mentioned above. Another interesting phenomenon is the presence of *maksura*, the place for the Sultan to perform the praying at the old traditional royal mosques (Fig. 22). This phenomenon showed the dualistic view of religious and secular life, as the Sultan is being given a specific place, although Islam itself taught us to be egalitary. But the contemporary mosques have different approach. They try to view those two lives *as hablun min Allah* and *hablun min annas.*

Symbolic. Traditional mosque in Java was built as a *tajug* structure, which inherently has a central space between the four master-column (*sakaguru*). The central space and the space behind are having specific symbolic meaning for the residential and institutional functions. But the utilization of space inside the mosque has overcome and eliminate the former symbolic meaning. On the other side, several new symbols have been employed on contemporary mosques. The symbols usually related with new interpretation of human role or mosque role in the society, for example the symbols of egalitarian society, of openness, or even of multidimensionality. It is clear that even in the case of traditional mosques, the utilization of space and the new symbolism based on new interpretation of human self and religion has overcome the former symbolic meaning of the building space and form itself.

Behavioral. Behavior of the users of certain facilities could also give some clues to the inherent meaning of the facilities. It could be seen clearly that both at traditional and contemporary mosques, the *salat* (the prayer; formal ritual) usually being performed inside the main praying hall. On the other side, the "informal activities" such as the recitation or education and discussion usually being done at the *serambi* (porch). Person takes a rest from a long journey also could be found at the *serambi.* The inner courtyard also acted as the expansion space during the Friday prayer, while the outer courtyard usually being used for *Ied* prayers (Muslims' religious festivals). It seems that although Islam does not regard any place as more "sacred" than the other, Javanese do still have certain attitude

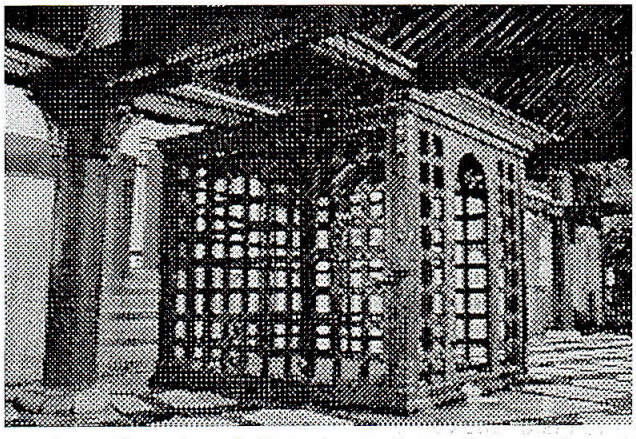


Fig. 22: Maksura, the place for the Sultan to perform the praying at the old traditional royal mosques. Yogyakarta Royal Mosque, 18th C.

Lessons from Traditional and Contemporary Mosques of Java

From ancient times the mosque has been understood as a microcosmos. [12-16] As a space within space it repeats the basic structure of the environment. The basic types of mosque are repeated. The repetition, however, is not a mechanical one. Rather it consists of what we have called "theme and variation." In the matrix of mosques, figures appear, disappear, and reappear like the motifs of musical polyphony, reflecting thus the transience and recurrence of phenomena.

It could be said, then, that "traditional mosques" or the older mosques, that have been handed down from generation to generation are usually have certain characteristics such as: utilization of centralized spaces for praying (although being neutralized by the utilization of the spaces), spaces which then being expressed through simple, contemplative forms, directed upward, and utilization of many modes of delineating space boundaries. On the other side, the "contemporary mosques" or the new mosques that are built during our period of time are usually have certain characteristics such as freedom on utilization of form, multifunctioning or transprogramming of functions, and reinterpretation according to normative values of the mosques. [17-19]

However, both categories have common characteristics such as sensitivity to the context: the social context, the spatial context, and the temporal context; differentiation of space that showing the different utilization and symbolic meaning of space; the notion of unlimited space for praying; the notion that the only essential boundary is the wall facing the worshippers; and that the utilization of space overcome the former symbolic meaning of the building space and form itself.

The "core culture" or the essentials remain the same, but the "periphery culture" changes a lot, according to the context. By studying the cases of Javanese mosque architecture, it could be seen how architecture acts as configuration of space, as composition of form, as organization of function, as responses to the context, and as communication of meaning. It should be noted for future development, that there is an urgent need to always weave the mosque into living community and environment in our contemporary differentiated society.

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الأستمرارية والتغير في عمارة المساجد الجاوية

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إدارة المساندة للبنية التحتية العمرانية في يوغياكارتا

يوغياكارتا, أندونيسيا

ملخص البحث : أسست الدراسة على مسح ميداني للمساجد التقليدية والمعاصرة في جزيرة جاوا – أندونيسيا. فالمساجد التي يتطرق لها البحث تشمل النماذج التاريخية والمعاصرة. وبالرغم من التباين في أنماط الفراغات المطلوبة للعبادة والنشاطات الدينية الأخرى للمساجد إلا أن هناك عددا كبيراً من الصفات المشتركة لهذه المساجد أهمها:

- وجود حساسية تجاه الأطر الفراغية والاجتماعية والزمنية .
- الاختلاف في الفراغ سببه اختلاف الاستخدام والمعنى الدلالي للفراغ.
- الفراغ المتاح للمصلين فسيح ولا يحده إلا حائط القبلة.

وثمة عدد من الدروس التي يمكن الاستفادة منها يمكن تلخيصها في ثلاث نقاط:

- هناك استمرارية في تخطيط وتصميم المسجد مع الحفاظ على الأصل الذي لا يتغير بل يتغير المظهر المادي طبقاً للمحتوى.
- الحساسية تجاه الأطر الاجتماعية والفراغية والزمنية مهمة لملائمة المسجد للمحيط الاجتماعي والبيئي.
- عند تخطيط وتصميم مسجد جديد تكون الحاجة ملحة لملائمة نمط المسجد للبيئة الإنسانية والاجتماعية الموجودة.