1986 TECHNICAL REVIEW SUMMARY

Mesjid Saïd Naum
Jakarta, Indonesia

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IDA.

Date of Completion: 1977, March

Summary

Saïd Naum mosque is situated in the centre of Jakarta in a high density, low-income quarter of the city, surrounded by streets, dwellings, and a madrasa.

The design is based on the traditional architecture of Indonesia - that of the simplest Javanese house (roof architecture) and such elements as the Meru roof and the Sakaguru, an architectural type based on a central frame of 4 pillars topped by one or several roofs.

The building is symmetrical and has the form of a square with deep verandahs on all sides. Each wall has 5 wooden-lattice arches, windows, and doors. The Mihrab is in the west wall. The pitched roof has a lantern pivoted at right angles to it; the space between the main roof and the lantern-roof is left open for cross ventilation and indirect lighting. The supporting structure is in concrete, and the roof is a steel frame structure concealed between timber rafters. The upper walls are in brick, and are rendered and painted.

Except for the steel roof structure, all materials are traditionally used and locally available.

The construction cost is moderate, in view of local prices, and the building is quite easily maintained.

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Various social and cultural activities are carried out within the spaces of the mosque (both indoors and out), which thus becomes a place of meditation, spirituality, and public gathering. While following the general forms of traditional Indonesian architecture, Mesjid Saïd Naum constitutes an original attempt to create a modern Islamic architeture adapted to the customs, creeds, and climates of the country.

I. OBJECTIVES

To create in a dense urban area, a place of reflection, spirituality and social gathering (conducive to various social, economic activities).

To enhance the quality of life in the environment.

To create an example of religious architecture adapted to tradition and to the local climate.

To provide a green area in a dense urban zone.

To create a landmark.

II. DESCRIPTION OF SITE

A. Topography of site and climatic conditions

The flat site is located near the city of Jakarta in a high-density urban area.

There are 2 major seasons : the dry season and the rainy season. Temparature vary between 25 to 28° and the relative humidity is high (75-85%). Rainfall is particularly related to surface winds, which blow from west and north west. (see annex 7).

B. Historical background

Jakarta's origins date to 1500 A.D., when it was a port city of the Hindu East-Javanese Pajaran realm. It was conquered in 1527 by the Banten Islamic Sultanate, whereupon its name was changed to Jakarta. In 1615, it was conquered by the Dutch, who renamed it Batavia. The

fall of the Dutch colonial empire, which lasted for 350 years, was caused by the occupation of Indonesia by the Japanese during the second world war (1942). In 1945, the independent republic of Indonesia was founded in Jakarta by Soekarno, who proclaimed the country's independence.

Jakarta's population totals over 6 million with a density of about 11,800 inhabitants per square kilometer.

History of site

The site on which the Masjid and the Madrasa were built was formerly a privately owned graveyard. The owner was an Egyptian, Said Naum, who donated the land. The rest of the site was owned by the city government (D.K.I.), who wanted to build on the entire site but considered the graveyard site unsuitable. There was public protest against building on the graveyard, but in consultation with religious leaders (mostly the Mojtaheds and the Friday Imam), it was agreed that a Masjid and a Madrasa could replace and be built on the graveyard with the supervision of religious and social authorities.

C. Local architectural character

The local architecture consists principally of small, individual houses with sloping roofs (6 months of rain per year). Structures are generally made of wood and covered either with thatch or tiles (often red-coloured from the local earth). However, traditional rural building materials, such as bamboo and native woods, are being replaced with urban ones, such as mansonry walls, cement or brick floors, glazed doors, and tile or corrugated iron roofs.

Roofs commonly have two slopes, or more, in the mansions of the wealthy. (see sketches 1-7).

D. Access

Masjid Said Naum is located in a low-to-middle income, high density area of Jakarta. The portion of the site on which the mosque is

built is rectangular. To the north is a middle-income housing area and to the south is a pre-fabricated, low-cost housing zone built by the government. To the west and the east are two roads; entrance is from the east. On the other side of the eastern entrance road is another low-income, high density area and a Kampung (low-cost housing community). The west road (commercial in nature) is located at the entrance of the Madrasa, which is next to the Masjid. A path connects the west road to the Madrasa and the Masjid. (see sketch 25).

III. DESIGN AND CONSTRUCTION

A. Architect's brief

The architect's intent was to create a religious centre within the Indonesian Hindu-Javanese architectural tradition while retaining the spiritual concepts of Islamic philosophy, since, in Indonesia, all religions are considered to be a communion of spiritual approaches. The sloping roofs, which follow the Sakaguru and Meru tradition, constitute a spatial answer to local beliefs as well as climatic conditions. (see sketches 8-15, and annexes II,IV, and V).

B. EVOLUTION OF DESIGN CONCEPTS

1. Response to physical constraints

It was intended to create an area of peace and calm within a dense urban area, as well as a landmark of social activity. (see sketch 25)

The Masjid was to be distinct from all parts of the streets and the neighbourhood.

The building had to be adapted to rain, wind and the movement of air was necessary to produce a current to circulate the hot and humid air.

2. Response to user requirements

To develop a centre of social communion within the urban area.

To provide the quiet needed for meditation and pray

To create a green area within the environment of the mosque, to be used for gatherings, discussions and sporting events.

3. Formal aspects/Architectural features

The mosque rests on a square and is a symmetrical building with deep verandahs on all four sides. The tiled, pitched roof has a lantern pivoted at right angles to it. The Masjid walls are made of brick and plaster, and each side has five, wooden lattice, arched windows. Above the windows runs a continuous band of open vents. In the east wall, three of the windows serve as double hung doors. In the west wall, the mihrab is set in the space of the central opening.

The architect attempted to reflect the traditional Javanese Masjid, particularly in the treatment of the roof. The main roof and lantern combine to give a profile that is similar to the traditional "Sakaguru" type roof. The lantern has a band of patterned, painted glass along its ridges that takes the shape of a cross when viewed from the interior. The space between the lantern and the main roof has been left open. The steel frame roof structure is concealed between the timber rafters. These rafters are exposed and run in pairs along the full length of the roof, from the tip of the lantern to the ends of the verandah. The rafters contrast sharply with the white asbestos sheets which line the interior. The Masjid floors use decorative tile to delineate each praying row.

As it is open on all sides and on top, the Masjid encourages a maximum of cross-ventilation. (see sketch 23). At the same time, the deep verandahs protect the interior from rain and glare. The Masjid interior is poorly lit from the late afternoon on.

Traditional Masjids do not have minarets; instead, a drum is used as the signal to prayer (prior to the Azan). In this mosque, a

loudspeaker (usually placed on top of the minaret) is placed on the top of the roof-lantern.

The ablutions building is divided into male and female sections. Each room comprises a shoe-rack area, a water closet, and wash area. It is designed such that the women have a direct side entry into the Masjid from their ablutions.

The building is low with the same stone facade as the rest of the landscaped areas. The wall is unbroken by windows. The ablutions building has a flat, metal roof.

Major innovations

The architect has retained the basic and traditional spatial elements of the country. However, three major innovations have been implemented by the architect in comparison with the traditional Javanese mosque, which served as his inspiration:

a) Rotating the central roof-lantern relative to the main body and entrance of the building, as an expression of the dynamism of life and the omnipresence of God. (see sketch 21).

b) Discarding the four central columns which traditionally support the second roof in order to clear the view of the mihrab, allow mass flow and increase the autonomy of the roof-lantern. (see sketches 13 and 14).

c) Using a metallic structure for the roof, while retaining the general traditional form (previously made of wood), in order to obtain more ample space and to respond to the needs of a greater number of users in the area. This has created a new and original scale.

An effort to achieve a contemporary design based on the existing patrimony is conspicuous at all levels of the project.

4. Landscaping

The basic elements of the spatial arrangement of religious (particularly Islamic) centres have been retained in the approach to the main space:

a) Outdoor space
b) Courtyard space of the mosque (transitory and preparatory space).
c) Open and shaded transitory space (Iwan)
d) Central prayer space.

The large grassy areas and the location of the trees around the site periphery and interspersed among the paving helps create a relatively cool and shaded external micro-climate. The landscaping gives an atmosphere of a park within which the Masjid is located. While the higher level of the Masjid gives it prominence, its domination of the site is modified by screening from the trees.

The paved plaza has trees in planters laid out in a grid pattern, while the grassy areas are planted with trees in a more irregular manner. All vertical surfaces, steps, retaining walls, planters and the facade of the ablutions building have the same stone surfacing.

In general, a skillful use of space and surface treatment, levels and planting differentiate each area, side path, plaza and Masjid, while also enhancing the unity of the whole.

The car park is situated close by the entrance of the mosque. A distinct separation was to occur between the car park and the green areas to be achieved by a change in levels and a low gate at the foot of the steps that lead into the landscaped area. However, a three-meter, steel pipe fence was erected to separate the road from the car park, making the latter more a part of the site than the architect had originally intended. This was done because the Yayasin wanted to have more control over access into the area. The car park, which remains empty even on Fridays, is an unattractive space. However, it is partially concealed from the rest of the site by the differences in levels and the

foliage. Nevertheless, the space of the car park, which was imposed by the municipality, could have been utilized in a more judicious manner in the design of the complex.

The trees bordering the main entrance in the courtyard have been felled. This decision of the Yayasin was taken with two aims:

a) To give a better view of the mosque from the street.
b) To allow more people to use the courtyard during great ceremonies.

The architect had intended to use palm trees, which are lighter and more transparent to view, whereas the trees actually planted are Angsana, which is a fast-growing, economic, bushy tree commonly used by the government. It should be noted that these points are of secondary importance, in view of the general quality and unity of the complex.

C. Structure, materials, technology

1. Structure

a. The columns are made of concrete.
b. The horizontal frame joining the columns and supporting the slopes of the roof are made of reinforced concrete.
c. The roofing is made of metallic beams and rafters.

2. Materials

concrete	: columns
steel	: frame of the roof. The steel elements were concealed between timber double rafters.
concrete tiles	: masjid roof
concrete stone	: exterior pavement
ceramic tiles	: interior pavement of the Masjid and Iwan
cement mortar and paint	: walls
stones	: supporting the exterior stairs and the change of levels in the exterior court.

Structure, Materials - Change, history, decisions

Two major changes were made during the design process. The initial design had concrete columns and a timber roof structure. The architect decided to remove the interior 4 columns to achieve a clear open space. This change and the overall dimensions necessitated a steel-frame roof structure.

The other change was a switch from wood shingles to concrete tiles for the Masjid roof. This was done at the client's request. The government had recently opened a factory which produced the tiles. These were also more durable. The change required the strengthening of the roof structure since the tiles were heavier than the shingles.

At the present time, Indonesia produces its own steel. Thus, during the projection stages, it was decided collectively to use steel instead of wood, in view of the general dimensions of the building and maintenance considerations.

3. Technology and labour

A local contractor, P.T. Jaya, won the contract in an open tender. The technology employed is of a middle level, and most of the labour force employed on site by P.T. Jaya was unskilled. Close cooperation was sustained between the municipality (W.P.Chong), the contractor (P.T.Jaya), the architect (Adhi Moersid) and the structural engineer (Teddy Boen).

The competence of workers being rather low, (their expertise is acquired only through practical construction work); the execution of the building had to be closely followed and supervised by the various specialists at all stages. In view of this situation, the finishing of the mosque building is quite good.

D. Origin of technology and professionals

The contractor was local and the labour force was Indonesian.

All professionals were Indonesian

The general form being familiar to the workers, it was well assimilated by them.

All the materials used were local, except for the metallic structure of the roof. Today, Indonesia produces its own steel.

IV. CONSTRUCTION SCHEDULE AND COSTS

A. History

In 1975, the project won the design competition held for the Masjid by the DKI. Eight prominent Indonesian firms were invited to enter. The jury, headed by the Jakarta governor (Sadekin) included several professionals, the heads of the Art Centre, and the Social Directorate. The decision was unanimous. The criteria were:

1. Represents traditional character
2. Suits surroundings
3. Uses local materials
4. Suits the climate (no mechanical ventilation)

The project consists of a Masjid, an ablutions building, a car park and landscaped areas. It shares a narrow, rectangular site with a Madrasa.

The Masjid has a capacity of 600 persons. A total of approximately 3000 persons can attend the services if the verandahs and the plaza are used.

The architect's presentation to the competition included plans for the entire rectangular area, suggesting how the Masjid and the Madrasa could be integrated. These proposals were, however, not accepted. The DKI already had its standardized school drawings and these were implemented under the Division of School Construction. However, the pedestrian path link between the Masjid and the Madrasa and the layout of the Madrasa buildings did not differ substantially from the architect's proposal. Furthermore, some elements, such as

the landscaped retaining walls and arches, attempted to reflect the Masjid's design.

B. Construction and cost

In accordance with DKI procedures, the project was constructed under the direct supervision of the relevant government department; in this case, supervision fell under the client's jurisdiction. However, the architect was required to make periodic site visits. P.T. Jaya won the contract in an open tender. Construction lasted from January 1976 to March 1977.

The project was funded by the municipal government. It cost Rp. 250 million or US$ 650,000 (the school cost Rp. 80 million).

C. Comparative costs

The cost was moderate in terms of local prices.
The cost/quality ratio is quite satisfactory

D. Maintenance mechanism

After construction, as is the custom, the Masjid is turned over to the Yayasin, who runs it on voluntary contributions by the community.

Yayasin

Yayasin is the mosque council, and consists of 10 to 15 persons (religious personalities from the community and a representative of the government), elected among the social personalities of the community.

In the present case, the Yayasin is not very efficient, and many social and cultural activities besides religious ceremonies are inexistant.

The maintenance of the mosque is inefficient. Technical and artistic decisions (wall painting, restoration, display of programmes,

artificial lighting, courtyard lighting, etc.) are taken without consulting the architect or other competent persons. The architect deplores this situation, because these decisions affect the building in its details. The students of the Madrasa (contiguous to the mosque) criticize the Yayasin's lack of collaboration in cultural activities.

In turn, the Yayasin becries an insufficient budget. The keeper of the mosque feels isolated. His work for the maintenance of the spaces of the mosque is remarkable, despite his old age. (The keeper of the mosque is Mohammed Yahya).

V. TECHNICAL ASSESSMENT

A. Functional assessment

The users are satisfied with the spaces of the mosque. Circulation is logical and easy.

During ceremonies, in case of need, a curtain within the mosque is used to separate the spaces of men and women. This fragile seperation follows the frame of mind of the architect, who mainly considers human beings in their spirituality, rather than their physical condition.

During the Friday Prayer (which was attended by the Technical Reviewer), the ceremony was orderly.

The exterior space (the courtyard) allows for agreeable use by the people. The shape and the situation of the courtyard was designed by the architect with this purpose in mind. The circulation of the sanitary services (ablutions) at the entrance to the mosque is adequate and functional. Visually, although simple, the ablutions' unit is less satisfactory. Thanks to differences of levels and the trees, a pleasant peace can be felt throughout the mosque and its courtyard in comparison with the rather noisy street.

B. Climatic performance

As it is open on all sides and on top, the Masjid encourages a maximum of cross ventilation. (see sketch 23). The roof is well designed for heavy rain and the deep verandahs protect the interior from rain and glare.

Lighting

Natural lighting

The level of natural lighting is rather low. This effect was sought by the architect in order to create a state of meditation and seclusion from the external world. Yet, the low interior lighting judiciously gives prominence to the central lantern (the cross in the roof), which shines and gives a sensation of spatial aspiration from the earth towards the heaven. Nevertheless, the users have judged it necessary to increase the artificial lighting. (see sketch 24).

Artificial lighting/Interior of the mosque

The choice of the central lustre hanging from the centre of the roof-lantern is excellent, because it accentuates the overall unity and general geometry while providing a good general illumination. But, the users having judged the illumination insufficient, lighting units have been added here and there on the lateral walls.

Artificial lighting/courtyard

This had been designed to be integrated with the other elements of the courtyard. Nevertheless, the Yayasin has had mushroom lamps randomly planted around the trees.

C. Choice of materials/ level of technology

Apart from the steel used in the roof structure, which was not locally produced at the time, the materials are common and locally available (wood, ceramic, stone,etc.), and require only simple maintenance. The technology used is well known and adapted to the local constructional tradition.

D. Ageing and maintenance problems

During the visit of the site (March 1986), no problems were observed. Due to the simplicity of the complex (conception, materials, construction), ageing and maintenance problems have been minimal.

Various small repairs (consolidation of pavement stones in the courtyard, wall, painting, etc.) are regularly done. Notwithstanding the climate, woodworks (windows, doors) have retained perfect shape, which is not the case in many other buildings visited. The trees have taken well. The choice of the trees and plants allows minimal maintenance.

E. Design features

By its design, the mosque has an undeniable impact in the area. It has become a landmark. and thus amply satisfies the conception of a mosque in a human settlement (personal impression and public opinion). The geometric purity and simplicity of the design (building, courtyard) is a powerful element of the conception. Spatial transitions (vertical, horizontal/exterior, interior) are well balanced. The central roof-lantern shines through the general volume of the mosque and heightens the visual unity of the complex. The interior space (volume, shape, dimensions) formed by the interaction of the two roofs is well proportioned.

VI. USERS

These are the people living in the area: men, women and children with relatively low income, living in a densely populated region. The mosque has become an oasis of peace and serenity, welcomed for prayer and social activities, as well as for its garden (sport, study, social gathering).

The courtyard space is used at all times by the children of the area. The students of the Madrasa/university particularly use the mosque for their daily prayers.

VII. AESTHETIC ASSESSMENT

The mosque has been built with due care to the safeguard of the country's patrimony and tradition (see annexes and sketches). The design embodies many known values dear to the population.

The overall form, therefore, can be understood through a historico-cultural vision relative to the environmental heritage of Indonesia. Nevertheless, innovations have been made by the architect (forms, modern materials) linking local architectural tradition with contemporary design. This attempt seems to have been successful.

VIII. PROJECT SIGNIFICANCE

A. Achievement of objectives

Most of the objectives seem to have been achieved. The result is quite close to the initial conception and the basic aim. This was due to a good collaboration and mutual understanding between the municipality, the architect, the professionals and the contractor. (This understanding was clearly perceived during the sessions with the various parties).

B. Client/User response

The municipality (client), as well as the users are satisfied with the mosque and its overall space. Attendance is considerable.

The mosque houses various activities, daily prayers, religious ceremonies, conferences, social meetings, communal discussions, gathering charity funds, studying, sports led by spiritual masters, children's playing in outdoor spaces, etc.

The mosque has been thoroughly welcome in the area. Whenever criticisms are made, they are invariably aimed at the Yayasin in view of a better management.

It should be noted that social research was made by the auhtorities prior to the design and construction of the mosque. Credit is due in this regard.

ANNEX II :

Concepts

The present text reproduces initial, original sentences heard or read on the subject.

Tentative basic philosophy of Said Naum mosque design

When Islam spread all over the world, it mainly brought ideology rather than form.

Islamic democracy means that all human beings are equal in the view of God. This is proved from the way they pray.
They sit on the same floor level, without acknowledging their races nor social status.

"SUJUDAN - MADINYA - SAJADDA"
"Wherever you pray, that place becomes your mosque".

"Wherever Islam landed, it always made use of local forms and traditions.

As it is, in Indonesia, it is known that the mosques use the form of local traditional buildings. Many local societies, at any place in the world, including Indonesia, smoothly convert the old local tradition to an Islamic one, without changing nor eliminating the "idiom" of the old tradition's identity.

Islamic architecture, actually, is a physical manifestation of a harmonious adaptation of local forms with Islamic ideology. Therefore, Islamic architecture is rich in varieties and forms.

Indonesia traditional societies in general possessed their own "concept of the universe", which is the result of their spiritual relation with nature in a long adaptation process. The harmony with the universe became the foundation of all the rules and regulations in their way of life. (see sketches No. 26,27 and 28). Later on, the belief of God emerged. The cosmos became their divine model in their dwelling configuration. Everywhere we could find the "centre"

is the first step of their dwelling development pattern. (see sketches No. 31). This sacred "centre of the world" is the crossing point of God ("the other world") and the human world.

New religions easily penetrated and settled in Indonesia because the early "concept of God" had already existed. In Indonesia different religions can flourish together in peace.

One of God's symbols is the cross, the very substance of spiritual life. God exists everywhere, but this existence doesn't need a place (see sketches No. 30 and 32).

God creates human beings through their parents. The Father and Mother are the highest manifestations of the "Dualistic anti-thesis" character of God himself. (see sketches No. 33 and 34).

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ANNEX III :

Different approaches of mosque design in contemporary Indonesia

5 types :

1. Using local vernacular form of architecture
2. Free concept of design. (Without particular reference - spontaneous design)
3. Middle - East characteristics (Dome) e.g. new White Mosque of Jakarta - Isteklal
4. Compound of 1., 2., and 3.
5. Using local traditional architecture and some degree of innovation, e.g. Said Naum mosque.

Traditional Javanese mosque

Structure and symbol in traditional and contemporary Javanese mosque

Evolution, structure and use of the traditional Javanese mosque

The Javanese mosque is an evolution of the simplest Javanese house. The link between the simple house and the more elaborate mosque is the Sakaguru house type. This type has a central frame of four pillars and eight beams resulting in a firmer structure to support a higher, steeper pitched roof. It can either be a richer man's house, a community building, or a mosque. The next step would be to add another basic Sakaguru type structure, perhaps elaborating the top vents and raising the pitch. Occasionally, the top section of the roof houses the family's valuables (in the case of a house), the village's valuables and/or Qurans or a full library (in a mosque). This tradition may be the source of inspiration for designating a second level of a minaret as a library.

The contemporary Javanese mosque

In present-day Java, it has become common to construct a dome, often out of metal sheet, on top of a pitched roof. This new "style" attempts to link the Indonesian Islam to its "Middle-Eastern origins. Unlike the Middle-Eastern dome and the Javanese Sakaguru, this dome is purely a symbol. It has no structural,

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functional (climatic) or visual effect (at least from the interior, since it is placed on top of the roof and is not visible from the inside).

In this context, visited similar structures were not seen to be quite successful from climatic and interior space viewpoint.

ANNEX IV :

Javanese architecture

Hindu - Javanese ideas :

Organization. Order. Directions. Centre

The centre has an important position and meaning, both as a process and as manifestation; the centre forms an adaptation into the infinite.

Under the religious tradition of a stable world based on conflict, the task is to harmonize those conflicts. The duality of energy that is possessed by the poles of a dual order system is stabilized and harmonized by the third energy, the centre. The confronting energy of each pole of this order enters the centre with an ever changing force, and it is the cosmological function of the centre to keep the stability of those forces. Furthermore, the five-fold cosmological division is generated out of two dual order systems, their respective lines of forces working toward an intersection of those lines of forces perpendicularly at a common centre, allowing the forces to work from four directions. The process of stabilizing those forces makes the center act as the unifying force, and thus symbolizes the infinite Unity-in-Diversity.

This cosmological constellation, the dual and the five-fold order systems, moreover, are interpreted as the interaction between the terrestrial and celestrial forces. East-West forces are the terrestrial forces that work upon man in his life from his birth (East) to his death (West); north-south forces are the celestrial forces that confront man with the values of heavenly affairs (north) and the nether-world (south). Hence, the five-fold division is no more than the two dual order systems that each become a tripartite order system where their centers coincide.

The centre, in the Javanese cosmology, is the central part of the Cosmos, the cosmic mountain Mahameru, which is at the same time the seat of gods. In this manner, the meaning of the centre as the symbol of the process of stabilizing the world of man becomes complete. For the centre is now conceived as a vertical axis that unifies all the forces in its infinite peak.

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The infinite is the Unity enclosing the Diversity, the Unity in - Diversity. All the contents of the duality are consequently symbols of the totality enclosing and dissolving into a sublime unity all contrasting and confronting constituents of this world. This ultimate congeniality of spirits also includes the autochtonic Javanese world, particularly with regard to the Unity-in-Duality, which is one of its important aspects. And, again, the center becomes direct manifestation of the infinite, the Supreme God. In this respect, the Mahameru is the Ultimate Centre, the abode of the Supreme God, while man's creation of this centre is a temporary abode of the God the infinite.

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Built of wood, the meru-type roof was supported by four principal pillars, the saka guru. The saka guru was erected in the central part of sacred buildings which in addition to its structural function, defined the important quality of this central area. From this importance, the saka guru was treated in a specific way; both ends of each pillar were carved with floral motives, and the beam which connected one pillar to another were of composite beam formed as an inverted meru form. Unlike the pendapa and Islamic architecture in Java, the Saka guru of the wantilan was not treated in this manner; the importane of the central area was signified by a heightened floor of this area, not by its saka guru and horizontal beams. It was striking to see that in the Javanese house this saka guru was also provided in the dalem ageng. Erected in front of the krobongan, two pillars of the sakaguru usually concealed by the wooden wall of the Krobongan, thus, suggested an emphasis of the importance of this particular space (the space in front of the Krobongan), which was actually reserved as a place for worship in any ritual held in this house by the family. Also, the saka guru in this dalem ageng was in a line with that of the pendapa, connected the pendapa with the Krobongan in their degree of sacredness.

Another element of form, considered in Javanese architecture as the most important, was the sacred cella. This element was the only uninhabitable and inaccessible part of all parts of the building. In the meru and Hindu-Javanese monument, this sacred cella was directly placed under the meru-type roof, whereas in any other buildings this cella was placed at the end of such arrangement like in the Krobongan in the Javanese house or the mihrab of any mosque. Unlike the empty cella of the mihrab, Hindu-Javanese cellas were always filled sacred objects such as heirlooms and ashes of the dead of the family. For this sacred cella, it is also important to note that in Hindu-Javanese buildings, this space was both abode of gods and of the dead, the ancestors. The position of ancestors in this case, was not different from gods, and was strongly demonstrated by the candi where its cella was occupied by a statue of the dceased king as god. The function of the cella as abode of ancestors was not directly followed in Islamic architecture in Java because ancestor worship was banned by Islam. The cungkup, sacred grave of an honorable Muslim, was placed to the west of the mihrab as a free-standing structure, thus suggesting that the congregation whose direction of prayer was toward the west, also turned to this cungkup. This unique arrangement will be given later attention in the discussion portion of this investigation.

ANNEX IV (follow-up)

To organize the major elements into an integrated architectural arrangement, there were two directional axes known in Javanese architecture: the linear axis and the centripetal directional axis. Of these, the linear was given more emphasis than the centripetal. This linearity was focused in the sacred cella and provided the direction toward which the worshiper must turn in any ritual he performed. Moreover, it also connected the sacred cella with central area which was defined by the saka guru, thus created a unified sacredness of all parts of such a building. With this linearity, the intention to create a direct relationship with supreme beings was accomplished; for rituals held in this manner symbolized a unification of the ascending progress taken by the worshiper with the descending progress of supreme beings in the sacred cella. This ascending progress was overemphasized in Hindu-Javanism through verticality of the towering meru-type roof. In the temple complex, this linear directional axis provided an integrating courtyard to the meru because it was in this court that the worshipper performed his ritual; thus, created a unification between the courtyard and the meru. To draw further directional axis, this linearity intersected central area of the wantilan, located at the farthest access to the meru. Similar treatment was also taken for the linearity of the Javanese house where the axis from the Krobongan also intersected the central area of the pendapa, preventing the pendapa from being a free-standing structure. The diverse elements of Hindu-Javanese architectural form, therefore, were unified through this linear directional axis. Similarly, considered as the manifestation of multiplicity in elements of ideas, Islamic architectural forms were also unified in this linearity.

Having a lesser degree of sacredness, the centripetal directional axis was known in Hindu-Javanese architectural as an organizing principle of spaces that did not directly unite man with his supreme beings. The wantilan was intended as a structure where men released dark powers in their process of unifying themselves with supreme beings; but it suggested the manifestation of an ablution place. The sacred cella in this structure was now the central space of the wantilan which was defined by the saka guru and heightened floor. Similar treatment was also given to the pendapa but, unlike the wantilan, its central area was not heightened. In Islamic architecture, the centripetality that was associated with progression, to focus the congregation toward a central area, was replaced by centrality, to

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suggest that the worshipper centres his own self in the process of unification with Allah. Thus, if centripetality in Hindu-Javanism was a manifestation of ideas, Islam saw it as a symbol; both accepted this directional axis as signifying a process toward the further stage of unification, represented by a linear directional axis.

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