

# Uncovering the Geo-Location of the Grand Mosque of Melaka Sultanate

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**Abstracts:** Historical records make note of a magnificent stone-built mosque, renowned throughout the region, within the city of the Melaka Sultanate. According to these accounts, the mosque was said to have been dismantled after the 1511 war, and its stones were repurposed. Scholars have debated its likely form, ornamentation, and symbolism based on the visual precedents of mosques from that era. However, until now, there has been limited effort to pinpoint its exact location within the contemporary geographical context. This study represents a crucial step towards its objective of furnishing vital data for potential empirical investigations, using ground-penetrating scanning technology to explore the mosque's remains for the first time in over five centuries. The rationale for this research is rooted in the belief that a grand stone-built mosque would almost certainly have an extensive stone-built foundation, making its complete removal an exceedingly challenging task. This study employs two methods of analysis: i) Narrative analysis, which examines historical texts containing descriptive clues about the mosque's nature, location, and its significant. ii) Visual anthropological analysis, which investigates historical visuals pertaining to city planning during the colonial era. The latter phase of the investigation is centered on a singular objective: the identification of structures depicted in the municipal plans of Portuguese and Dutch Melaka, guided by the 'qibla test,' a geospatial mapping technique that scrutinizes the alignment between (i) structures in the municipal plans, (ii) satellite imagery of the location, and (iii) the qibla direction. This research has unveiled a corresponding structure in a relatively uncommon Dutch Melaka municipal plan. It comprises two square shapes that exhibit remarkable accuracy in alignment with the qibla: (i) a larger square site, conceivably representing the primary structure of the mosque, and (ii) a smaller square site, potentially indicative of the minaret. The identified geographical location corresponds to the parking lot of Melaka's History and Ethnography Museum. Nonetheless, it is important to acknowledge the limitations of this study, which include reliance on English translations for Portuguese ancient manuscripts, as well as the utilization of colonial Melaka municipal plans instead of those from the Sultanate period. Nevertheless, the study presents a compelling case for identifying the specific site of the historical mosque, which warrants further verification and reconstruction studies aimed at historical tourism, aligning with Sustainable Development Goals 8.9 and 11.4.

**Keywords:** Melaka Sultanate, Mosque of Melaka Sultanate, Melaka Sultanate City, Geo-Mapping, Reconstruction Study.

## 1. INTRODUCTION

Tome Pires described the presence of a splendid mosque constructed during Sultan Mansur Syah's rule, emphasizing its uniqueness and regional fame. [4]. He stated that the mosque was unprecedented and renowned in the region [4]. Additionally, Canstanheda noted that the mosque was of substantial size and within close proximity to the Sultanate palace [2], while Corriea mentioned that it was constructed using stone cubes [5]. Pires depicted Sultan Mansur Syah as a devout Muslim, dedicating himself more to mosque-related matters than anything else [4]. Pires also described, at times when Sultan Muhammad Shah wished to pray on the 'twenty-seventh night of Ramadhan', where he will be accompanied by "his courtiers who carried his prayer rug together with his betel bowl, drums, royal turban, cassock, litter and dais all mounted on an elephant" [7]. Religion held a significant role in shaping the cultural customs of this society. According to Hashim [1], in the Malay states before the coming of colonial influence, the fundamental law of the land was the law of Islam and the common law of Malays. Religious institutions like a mosque for instance not only provide a space for ritual activities but it can also be a 'community centre' for Muslims [1]. Given the estimated population of around 200,000 in the central city of the Sultanate [2], it's reasonable to assume that a substantial portion of the residents were Muslims. as such most likely the Sultanate mosque would have been very busy during Friday prayers, Eidul Fitr, Eidul Adha or even during the five-time daily prayers. Consequently, the Sultanate mosque would likely have been bustling during Friday prayers, Eidul Fitr, Eidul

Adha, and the five daily prayers. Therefore, it is reasonable to conclude that the mosque must have been exceptionally spacious and large to accommodate the religious needs of the community.

The objective of this study is to accurately determine the geographical location of the Grand Mosque of the Melaka Sultanate through two main approaches: i) Gathering a comprehensive set of direct or indirect descriptions from historical records dating back to the Melaka Sultanate era. These descriptions aim to offer a holistic view and valuable insights into the nature and precise whereabouts of the Grand Mosque of the Melaka Sultanate. ii) Collecting and analyzing various colonial Melaka municipal plans within the defined boundaries of Bandar Hilir's central city. This analysis seeks to identify any remnants of the Sultanate tradition and, in particular, to locate the historic Grand Mosque of the Melaka Sultanate using information gleaned from historical texts and narrative analysis.

## 2. RESEARCH PERSPECTIVE



**Figure 1.** Note on Laterite Stone as Popular Construction Material during Melaka Sultanate

The preceding information is presented on a plaque erected by the Department of Heritage, Malaysia. It elucidates that laterite stone has been the primary construction material for the Melaka Sultanate since the 14th century, known locally as 'batu besi,' 'batu lada,' 'batu merah,' and 'batu kaki.' This research endeavor was initiated with the assumption that a grand mosque constructed with stone is likely to possess a substantial stone foundation, which is exceedingly challenging to entirely eradicate. Consequently, the prospect of identifying remnants of the historical mosque is not implausible when examining historical texts and visual records.

## 3. RESEARCH METHODOLOGY

This study leverages two distinct analytical frameworks: i) Utilizing Czarniawska's narrative analysis approach [10] to scrutinize historical texts. ii) Employing Collier's Visual Anthropological framework [12] for the examination of historical visual materials. Since there are no authentic visuals representing the Melaka Sultanate city, the researcher conducted a cross-reference analysis. This involved comparing findings from colonial archived visuals,

encompassing cartographic materials, municipal plans, and artist impressions, with narrative accounts from ancient Chinese, Malay, and Portuguese sources. The study engaged in an iterative process, oscillating between these two analytical approaches until it pinpointed the primary clues that directed a more concentrated investigation.

#### 4. NARRATIVE ANALYSIS FRAMEWORK

Narrative analysis assumed a central role in this research as it aimed to grasp a comprehensive understanding of the Mosque of Melaka Sultanate. This was achieved by meticulously selecting, scrutinizing, and analyzing descriptive clues, employing a systematic approach outlined by Czarniawska [10]. Czarniawska's framework encompasses three distinct phases: i) The "Explication" phase, involving the collection of notes, simplification of information, and the assembly of a holistic view. ii) The "Explanation" phase, which adopts an objectivist stance to comprehend historical texts. This phase delves into 'external criticism,' considering the authors' perspectives and employing rhetorical analysis to uncover the underlying motivations and interests that shape their pursuit of knowledge [14]. iii) The "Exploration" phase, which endeavors to establish connections based on the overarching narrative and its correlation with the analysis conducted through the visual anthropological framework. The various phases of Czarniawska's narrative analysis framework are depicted in Table 1 for reference.

**Table 1. Narrative Analysis Framework**

Explication	Explanation	Exploration
Standing Under	Standing Over	Standing in for
Reproductive Translation	Inferential Detection	Existential Enactment
Reconstruction	Deconstruction	Construction

#### 5. VISUAL ANTHROPOLOGICAL ANALYSIS FRAMEWORK

The insights derived through narrative analysis were subsequently employed to aid the examination of historical visual materials, particularly municipal plans spanning the Portuguese, Dutch, and British periods in Melaka. This segment of the study follows the visual anthropological analysis framework [12] devised by Collier, which is structured into four distinct stages, as outlined in Table 2 below.

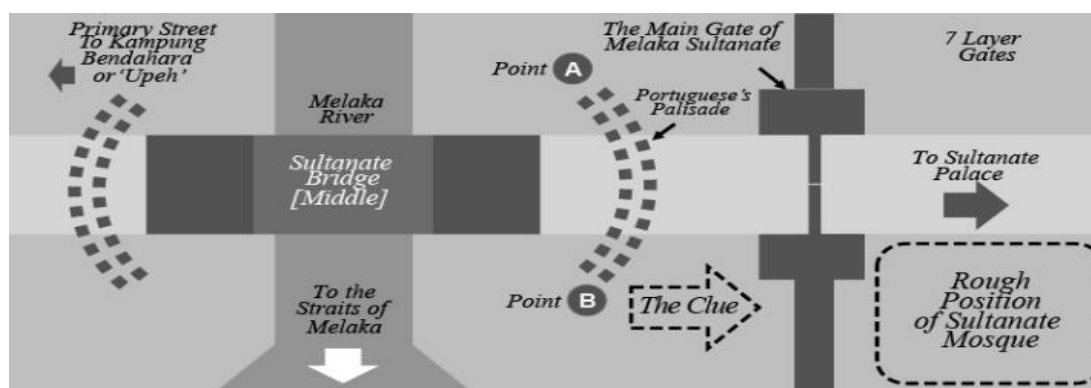
**Table 1. A Simplified Framework of Visual Anthropological Analysis**

Stage	Activities	Concerning
Stage 1	1. Observe	overtones and subtleties
	2. Discover	connecting and contrasting patterns based on feelings and impressions
	3. Make Notes	(carefully) identifying the images which considered data
	4. Write all questions	Triggered in the mind may provide important direction for further analysis
Stage 2	1. Make Inventory	or a log of all your images
	2. Design Inventory	that reflect and assist your research goals
Stage 3	1. Structure the Analysis	based on specific questions; measure distance, count, compare, information may be plotted on graphs, listed in tables, or entered into a computation
	2. Produce Detailed Descriptions	connecting and contrasting patterns based on feelings and impressions
Stage 4	1. Search Meaningful Significance	by returning to the complete visual record to the data in an open manner. Write details from structured analysis in context
	2. Respond Again	to the data in an open manner. details from structured analysis in context
	3. Re-Establish Context	view images in entirety, then write the conclusions as influenced by this final exposure to the whole

The study initially involved a meticulous and open observation of colonial Melaka city plans, where notes were taken, and questions were raised both as individual elements and in the context of their evolution. This approach aimed to identify any remnants of Melaka Sultanate structures, essentially using them as markers. Over the course of the research, the study identified a sequence and alignment of significant locations, such as the primary street passing through Bendahara village, the Sultanate bridge, and the Sultanate gate, based on historical texts [13] & [14]. In the second phase of the study, the focus shifted to creating an inventory with critical annotations. The third phase delved into structural analysis, where questions were posed, measurements were taken, and relationships between these markers were established. In the fourth and final stage, the investigation concentrated on a singular objective: identifying structures depicted in the city plans of Portuguese and Dutch Melaka, with a particular emphasis on the 'qibla test.' This geo-mapping technique involved scrutinizing the alignment between (i) the structures in the municipal plans, (ii) satellite images of the location, and (iii) the qibla direction, as a means of verifying their accuracy and historical significance.

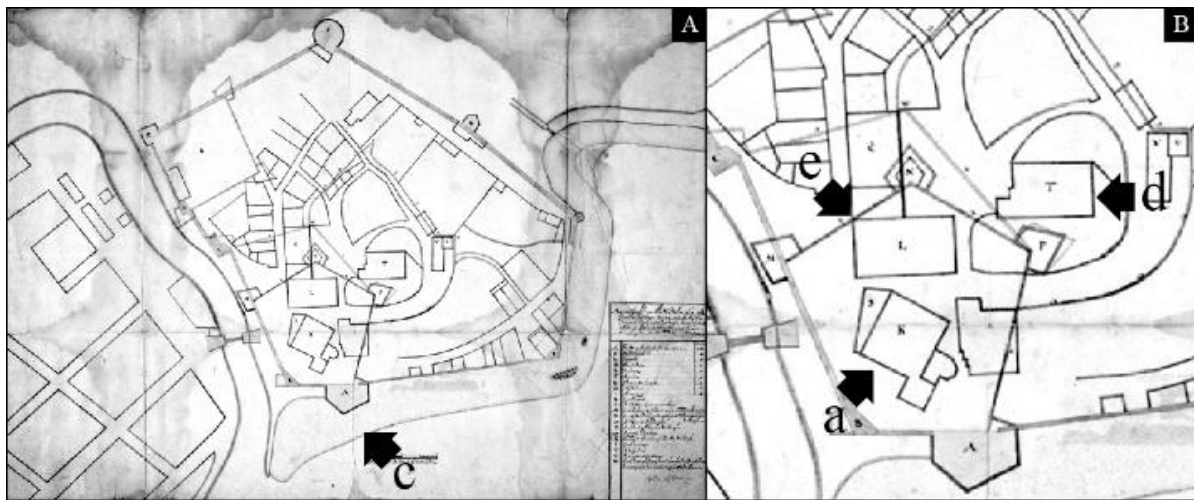
## 6. RESEARCH FINDING

In the course of this study, two particularly significant clues pertaining to the Sultanate mosque were uncovered. The first clue emerged from a specific account provided by Albuquerque in the narrative of the 1511 war, where he detailed the movements of the Portuguese army. Notably, the Sultanate bridge held a central role in the Portuguese strategy for capturing Melaka. After successfully taking control of the Sultanate bridge, Albuquerque directed his troops to construct palisades on both sides of the land. In describing the placement of these palisades, he made reference to the historic mosque on two occasions in relation to nearby landmarks. It is from this account that the study managed to approximate the general position of the Sultanate mosque in relation to the Sultanate bridge.



**Figure 2.** Encoding the Clue on the Rough Position of Sultanate Mosque

Figure 3, shown above, essentially represents a direct interpretation of Albuquerque's statement. At that juncture, he had already established palisades at one end of the Sultanate bridge, specifically on the Upeh side. Following this, he issued orders for the erection of another palisade on the opposite side, extending towards the mosque, which served as a prominent landmark within the royal compound. He articulated it as follows: "...starting from the river (point 'A') and extending up to the mosque (point 'B'), in a manner that kept the bridge in the center" [3]. This statement makes it evident that the approximate location of the Sultanate Mosque can be ascertained, as depicted in Figure 3.



**Figure 3.** Dutch Melaka Plan, Algemeen Rijkarchief, 1656

The study encompassed over fifty historical colonial city plans, but only one of them contained the desired structure. Figure 2, displayed above, illustrates the Dutch Melaka plan dated 1656. This visual was sourced from the 'Algemeen Rijkarchief,' the Netherlands' authoritative repository responsible for managing national-level archives for centuries. In the Netherlands, the 'Algemeen Rijkarchief' was renamed as the 'Nationaal Archief' or National Archives in 2002. Notably, this plan is the earliest Dutch Melaka municipal plan acquired during the study, making it distinctive compared to subsequent Dutch municipal plans that underwent modifications throughout their evolution.

Among these plans, this particular design unveils the placement of several key features: the Stadhuys indicated as (e), a church and (d) the 'Portuguese Old Fort,' which includes a tower known as Misericordia Bastian marked as (a). The most intriguing aspect pertains to site (a). Site (a) exhibits two square-shaped structures attached to one another, with an irregularity – they appear slightly askew and off-grid when compared to the positioning of other buildings in the vicinity. This particular configuration is absent in the Dutch plan from 1791. According to the Portuguese war narrative, it appears that site (a) was the location of a mosque, as mentioned by Albuquerque [3]. To further investigate whether site (a) indeed served as a mosque, the 'Qibla test' was conducted. In this examination, researchers superimposed (i) a screen capture from the 'Qibla locator,' a dedicated web application used by Muslims to determine the direction of the Kaaba in Mecca from any location on earth, and (ii) the image provided in Figure 2 above. To execute this test accurately, the researcher aligned the size and orientation of three common reference points from both superimposed images as markers: (i) the front facade of the Stadhuys, (ii) the edge of the riverbank, and (iii) the triangular building adjacent to the Christ Church (currently the Malaysian Youth Council building).

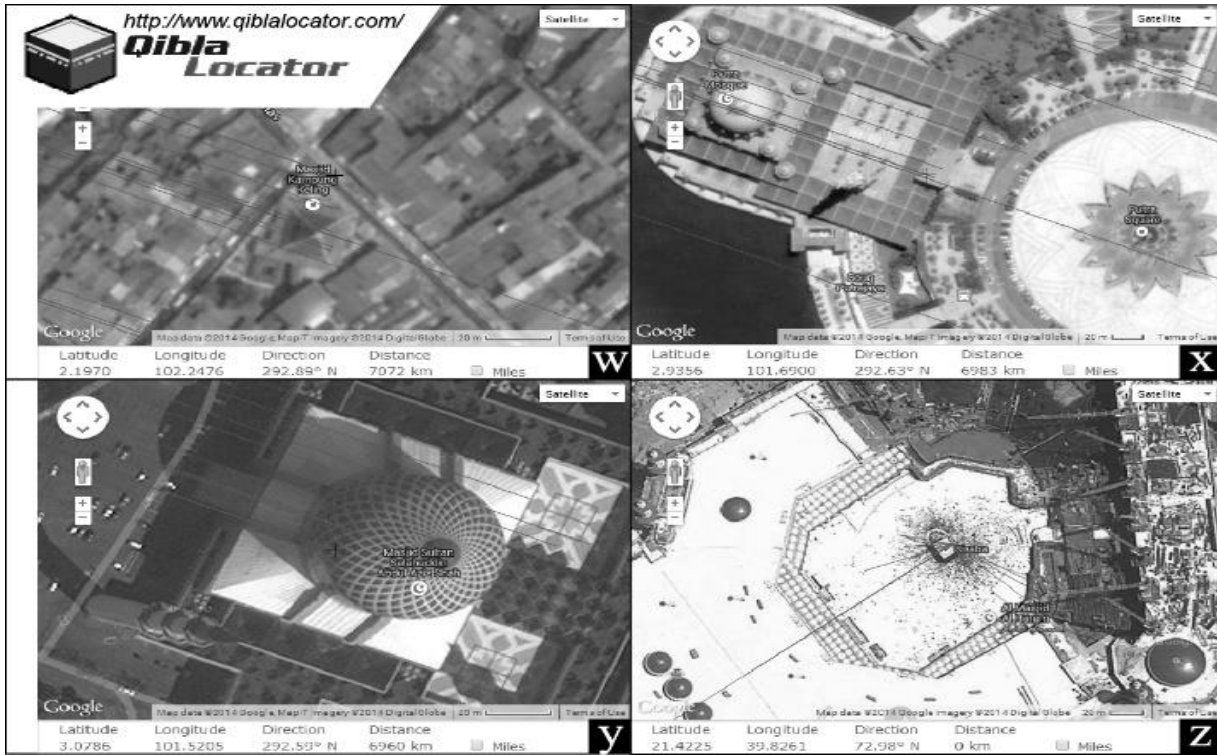


Figure 4. Demonstration of Qibla Test on Mosque and Kaa'ba

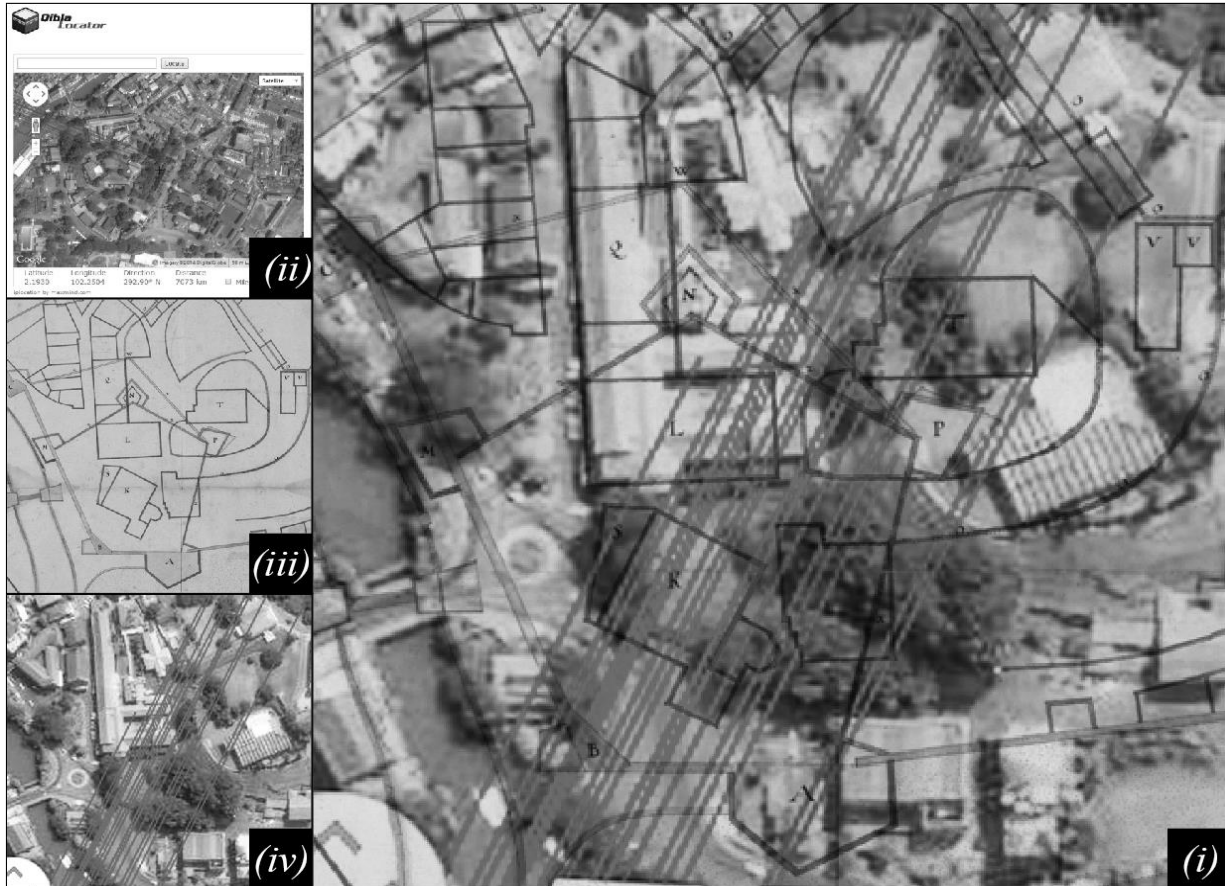
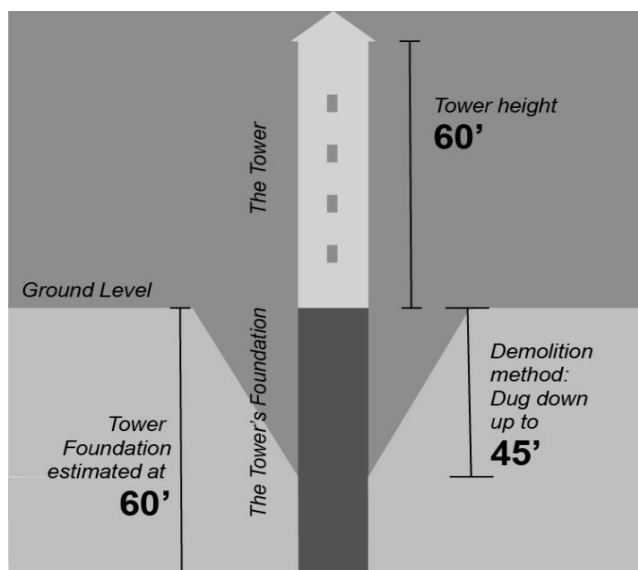


Figure 5. Demonstration of Qibla Test

Figure 5(ii) displayed here showcases the user interface of the 'Qibla Locator.' In Figure 5(iii), a targeted portion is extracted from the broader Dutch Melaka municipal plan. Figure 5(iv) represents a snapshot of the 'Qibla Locator' results. These two images were overlaid and adjusted using the three markers, as illustrated in Figure 5(i) above.

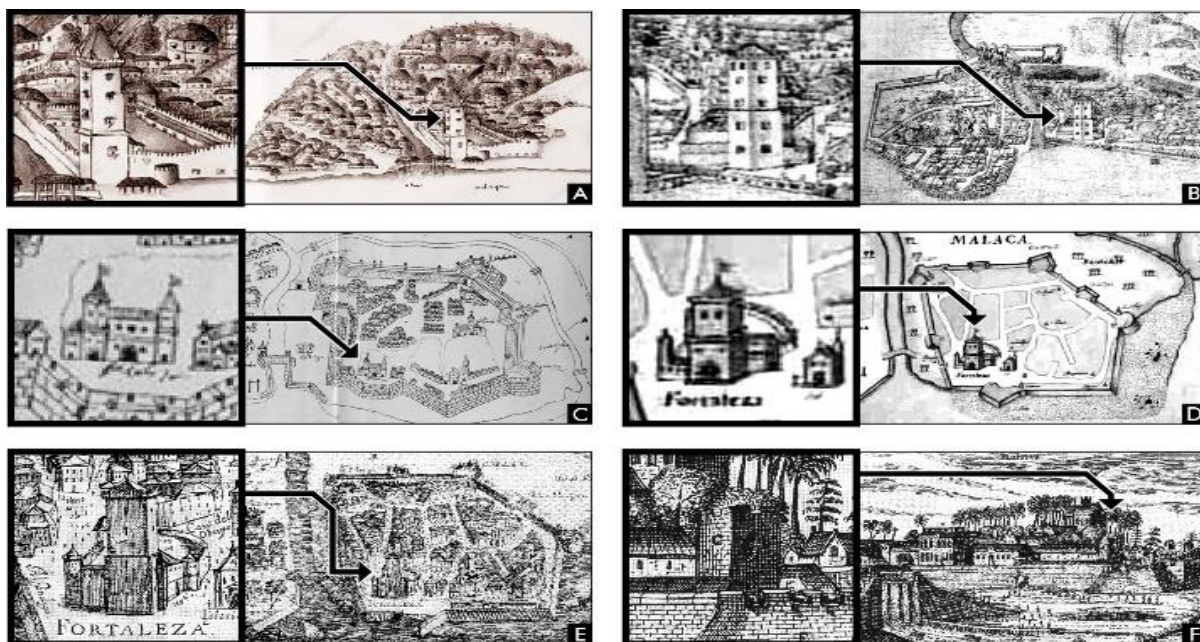
## 7. DISCUSSION AND FINDING IMPLICATION

This research has uncovered a descriptive clue regarding the location of the Melaka Sultanate mosque, derived from a contemporaneous "eyewitness account" contained within a military general's report, back when the mosque was still standing. Furthermore, the study has identified a structure that aligns with the historical texts and narrative analysis, which is notably visible in a relatively uncommon Dutch Melaka municipal plan from 1656. The orientation of this particular structure appears to deviate from the grid pattern characteristic of Dutch Melaka's municipal plans, suggesting that it was not constructed by or affiliated with the Dutch authorities.



**Figure 6.** Regarding Demolition Activities of Melaka Fortress (on the Site in 1806)

In Figure 6 above, the illustration portrays the measurements obtained from an eyewitness account by Munshi Abdullah in 1806, when the British authorities made the decision to demolish the structure. The account provides a detailed description of a tower that was considered a part of the Melaka Fortress. This tower was reported to have a height of approximately 60 feet. Notably, the foundation of the tower was estimated to be equally deep, around 60 feet. During the preparations for its demolition, they had excavated to a depth of about 45 feet but had not yet reached the foundation's bottom.



**Figure 6.** Highlighting a Building at the Proposed Site of the Sultanate Mosque

The findings of this research carry significant implications, giving rise to fundamental questions about a specific structure depicted in the Portuguese and Dutch Melaka municipal plans. This notable building was referred to as the 'Keep' or 'Kype' during the Portuguese Melaka era (Figure 7A(1515), B(1563), C (1629), D (1635), and E(1666)), and as the 'Misericordia' Bastian during the Dutch Melaka period [17] (Figure 7F (1679)). It stands out as the sole towering structure that aligns with the position description of the Sultanate mosque in Figure 3, is consistent with the results of the Qibla test in Figure 5, and corresponds to the reported height in Figure 6. The question that arises is whether this building served as the grand Mosque of the Melaka Sultanate. If indeed the site identified in the Dutch municipal plan from 1656 was the Sultanate mosque, then it would have existed throughout the entire Portuguese Melaka period. However, this proposition faces challenges in contradistinction to the historical text, which attributes the building of this structure to Alfonso de Albuquerque and claims that the mosque was dismantled after the 1511 war, with its stones repurposed for the construction of the A'Famosa fortress.

It is essential to recap several critical points that bolster the proposition, reflecting the study's conviction and optimism. The potential for tracing the mosque's site hinges on the construction material employed. Notably, historical records provide clear evidence that the mosque was constructed with stone, likely utilizing laterite stones, a prevalent building material during the Melaka Sultanate era. Structures of the past, often relying on solid walls instead of columns and beams, resulted in the creation of substantial foundations, likely also constructed from stone. These foundations, deeply rooted in the earth, are exceptionally resistant to complete removal, even when considering the demolition efforts conducted on the site in 1806. Consequently, there remains hope for conducting an empirical investigation on the remnants, which the researcher believes may still be partially preserved and accessible beneath the current geographical location.

From a technical perspective, the primary piece of evidence was extracted from an astute and straightforward 1511 war report provided by General Albuquerque to his king. The statement within this clue is quite explicit, requiring minimal interpretation to decode its significance. This clue unambiguously pointed to a specific location. As soon as the study acquired this information, the researchers directed their attention toward applying the Qibla test to every structure within the colonial municipal plans at that precise location, particularly focusing on those from Dutch Melaka, known for their accuracy that rivals contemporary standards. It would be highly coincidental to disregard the presence of a structure at this specific location that embodies the characteristics of a mosque, comprising both the main building and a minaret. This structure aligns remarkably accurately with the qibla direction, making it difficult to dismiss as mere chance.



It's crucial to acknowledge that achieving precise alignment of a structure with the qibla direction is a challenging task. Even when a structure was originally intended to face the qibla, it could easily be inaccurate. This stems from the fact that the traditional methods used for determining the Qibla direction relied on sun observations or shadow calculations [18]. This applies to earlier endeavors to construct mosques as well. In fact, according to the Melaka Mufti Department (JMM), 28 out of 55 historically significant mosques in the state of Melaka, particularly those with over a century of history, were found to deviate by 3 to 18 degrees from the true Qibla direction and had to be corrected [18]. Furthermore, it's worth noting that the grand mosque under investigation was affiliated with a wealthy Sultan, who likely possessed the means to employ a relatively more advanced approach and tap into expert knowledge to ensure the precision of its alignment.

## 8. CONCLUSIONS

This study strongly asserts that the location designated as 'K,' as illustrated in Figure 5(i), represents the geographical position of the grand mosque of the Melaka Sultanate within the present-day context of Bandar Hilir. If this proposition proves accurate, it could hold significant implications for future reconstruction research and provide fresh insights into both the historical mosque and the city of the Melaka Sultanate. Nevertheless, it's imperative to emphasize that this proposition necessitates validation since it may be regarded as a theoretical finding. The immediate challenge for further research lies in substantiating this proposition at ground level, considering the potential for substantial topographical changes in the current site relative to the Sultanate era. Additionally, an empirical examination of the foundation remnants beneath the ground is imperative, and the application of ground-penetrating scanning technology, such as Synthetic-aperture radar (SAR), could prove beneficial in this pursuit.

## 9. COMPETING INTERESTS

The authors declare that they have no competing interest.

## 10. RESEARCH ETHICS

This research has obtained the approval from the Research Ethics Committee (REC), Multimedia University [approval number: EA0332021].

## 11. GRANT INFORMATION

This research was supported by the Mini Fund/Internal Research Fund, Multimedia University [grant numbers MMUI/160034, Cycle 20215/2016].

## 12. ACKNOWLEDGEMENTS

The authors would like to record their special gratitude to the staff of National Library, Melaka History and Ethnography Museum, Melaka State Library, Institut Kajian Sejarah dan Patriotik Malaysia (IKSEP) and the Department of Surveying and Mapping of the State of Melaka (JUPEM) for their admirable service.

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DOI: <https://doi.org/10.15379/ijmst.v10i2.3018>

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