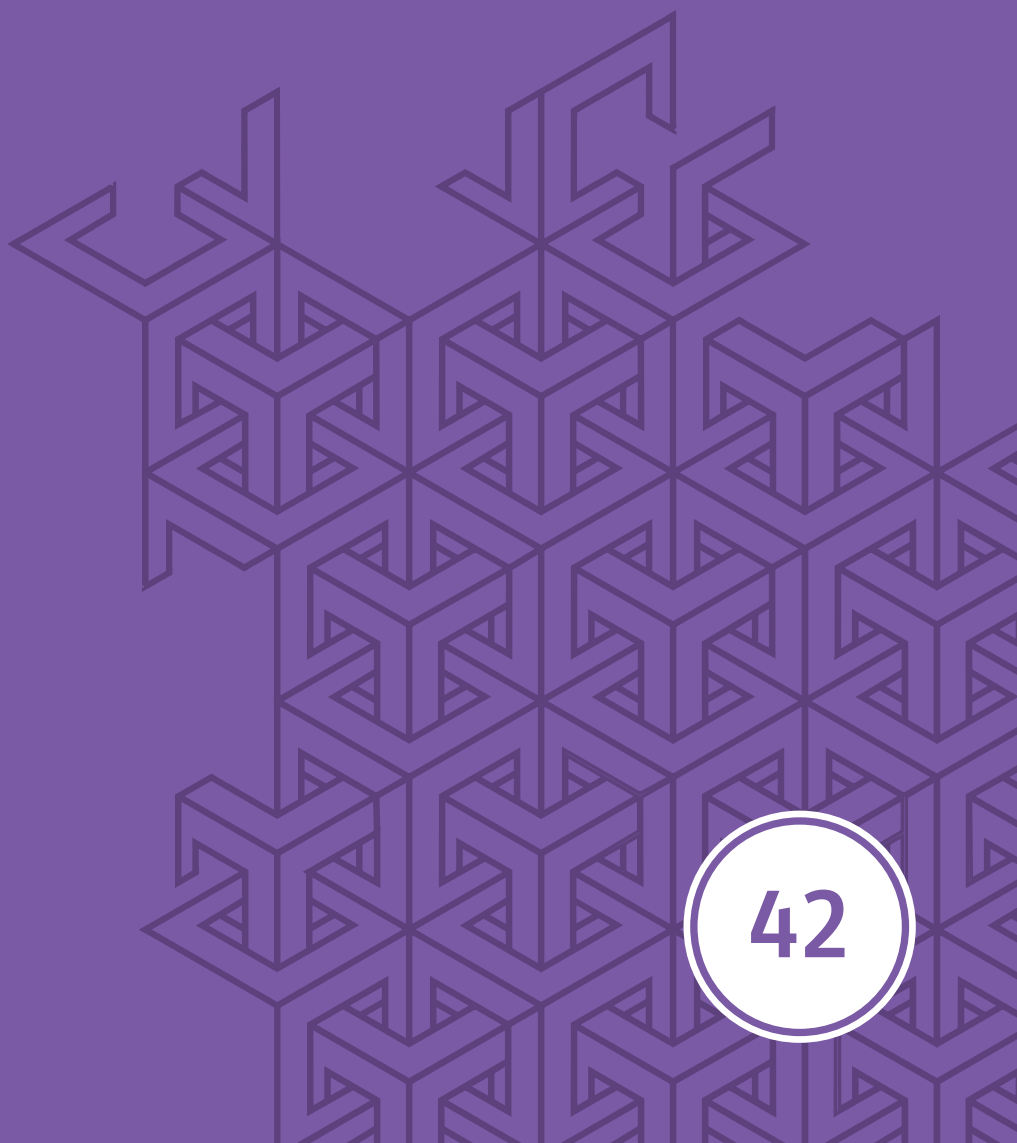
Zeitschrift für Indologie und Südasienstudien



42

BUSKE

ZIS
42/2025

Zeitschrift für Indologie und Südasienstudien

bis einschließlich Band 27/2010

Studien zur Indologie und Iranistik

Zeitschrift für Indologie und Südasienstudien

herausgegeben von

Hans Harder und Ute Hüsken

Band 42/2025

BUSKE

Zeitschrift für Indologie und Südasienstudien

von O. von Hinüber, G. Klingenschmitt, A. Wezler und M. Witzel
gegründet als »Studien zur Indologie und Iranistik«,
ab Band 28 mit dem neuen Titel

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Erscheinungsweise: jährlich

Bibliografische Information der Deutschen Nationalbibliothek
Die Deutsche Nationalbibliothek verzeichnet diese Publikation in der Deutschen Nationalbibliografie; detaillierte bibliografische Daten sind im Internet über ‹ https://portal.dnb.de › abrufbar.

ISSN 2193-9144
ISBN (Print) 978-3-69110-027-3
ISBN (eBook-PDF) 978-3-69110-028-0

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Druck und Bindung: Stückle Druck, Ettenheim. Printed in Germany.

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Where Arches Meet: Architectural Convergences in Malabar, South India

Percy Arfeen-Wegner

Abstract

This paper examines the architectural element of the arch as a lens through which to explore transcultural convergences in religious buildings of premodern and early modern Malabar, a coastal region in South India shaped by long-standing religious plurality and Indian Ocean trade. Moving beyond conventional approaches that categorize religious buildings by confessional identity – Hindu, Muslim, Christian, or Jewish – the study adopts a transcultural framework to trace how arches were deployed across temples, mosques, churches, and syna-gogues, and how their forms reflect shared vocabularies, be it ritual meanings, ornamentations, and techniques of construction.

Through a diachronic analysis of arch-building practices drawing on visual and material sources, the paper demonstrates that Malabar's built environment was not a mosaic of isolated traditions, but a site of deep and sustained architectural synthesis. The study also explores how indigenous artisans engaged creatively with newly introduced forms, post European colonial interventions, resulting in hybrid structures that defy rigid distinctions between local and global, or precolonial and colonial. In centring the arch as a site of cultural encounter, the article offers a fresh lens of looking at Malabar's entangled architectural history and contributes to broader discussions of connected histories in South Asia and the Indian Ocean World.

Keywords: Malabar, transcultural architecture, arches, arch-building, religious buildings, Indian Ocean exchanges.

Introduction

The architectural history of Malabar[1] is deeply shaped by the region's long-standing role as a crossroads of cultural exchange, economic circulation, and religious plurality. For over a millennium, this southwestern

1 Malabar in this paper refers to the precolonial association of the region, which roughly extended from present-day Goa to the southern tip of the peninsula, encompassing the southwestern region of present-day India.

coastal strip of the Indian subcontinent has been home to diverse religious communities – Hindus, Muslims, Christians, and Jews – who have contributed to a richly layered built environment. One of the earliest documents attesting to this multiculturalism is the Kollam Copperplates of 849 CE, whose witness signatures – in Kufic, Pahlavi, and Hebrew scripts – prove the presence of Arab and Persian Christians, Muslims, Zoroastrians, and Jews in the port city of Kollam in the ninth century CE (see Rao 1919; Narayanan 1972, 2013; Gamliel 2018).

Despite this recorded coexistence, scholarly accounts of Malabar's religious architecture have often relied on siloed frameworks, categorizing historical architecture along defined communal lines: Hindu temples, Muslim mosques, Christian churches, and Jewish synagogues are predominantly studied in isolation. This compartmentalization, while sometimes methodologically expedient, risks obscuring the more complex, interconnected realities of architectural traditions and practices interwoven across religious and social-cultural boundaries (see Arfeen-Wegner 2024).

This article challenges such fragmented readings by advancing a transcultural approach to the study of religious architecture in historical Malabar. Rather than treating architectural components as merely structural or decorative, the article proposes that architectural motifs in their various formal, material, and symbolic iterations, offer a productive lens through which to understand the shared architectural vocabularies that exist in Malabari architecture across confessional divides. This paper focuses on a single architectural element – the arch – as a site of cultural convergence.

Arches in Malabar appeared in a range of forms across time periods – *toraṇa*s or ornamental arches (elaborated below), trabeated gateways, and later, following European colonial interventions, 'true' arches, constructed with voussoirs held in place by keystones. While these elements differed in construction technique and iconographic detail, they were often composed by artisans who moved between commissions and drew from a common pool of regional motifs. The article traces how local builders absorbed and reinterpreted such motifs across religious spaces. It also explores how they interacted with external architectural influences – especially those introduced through Portuguese contact in the sixteenth century – not through abrupt ruptures but through processes of translation, negotiation, and hybridization. The arches, therefore, reveal a built environment shaped not by separateness, but by transcultural dialogue, not only restricted to the builders, but also the users of those spaces.

By situating the arch as not only an architectural component but also a socio-culturally located practice, this study seeks to complicate dichotomous frameworks that cast precolonial and colonial, or Eastern and Western, styles as mutually exclusive. It argues instead for a *longue durée* view of architectural exchange in Malabar – one that foregrounds continuity through adaptation and emphasizes how new technologies and styles were locally reimagined rather than merely imposed. This approach reveals the arch as a material index of transculturality: an element at once deeply embedded in local traditions and dynamically responsive to global flows.

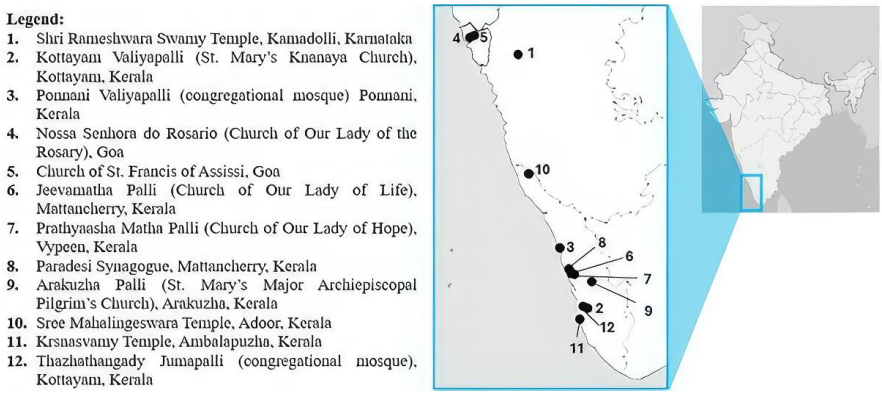


Fig. 1: Sites in Malabar mentioned in this paper; designed by Author. Source map licensed under CC BY 3.0; URL: https://commons.wikimedia.org/wiki/File:India-locator-map-blank.svg

The article draws on fieldwork across multiple sites (see Figure 1), a comparative visual analysis of architectural forms, and close readings of historical and material sources. It proceeds diachronically, beginning with premodern examples of arches in religious and ceremonial architecture, followed by early modern transformations under Portuguese influence and later localized adaptations. Across these case studies, the arch serves as a connective thread through which the region's entangled architectural history can be understood anew.

Framing the Sacred: Visual Vocabulary and Shared Symbolism of Arches

The arch, known as *toraṇa* in Sanskrit, has a long history in South Asian architecture, with some of the earliest examples dating to the second century BCE, such as the gateway of the Bharhut Stupa, present-day Madhya Pradesh. In terms of construction, unlike Classical architecture,

which often depended on arches for structural stability, arches in historical Malabar were often not structurally nor technologically essential. This is because South Indian architecture remained largely trabeated, relying on post-and-lintel construction, rather than stereotomic arches. Nevertheless, arches held significant ornamental, ceremonial, and symbolic weight across diverse religious architectures. In South Indian contexts, *toraṇa*s typically functioned as festooned archways or ornamental canopies, emphasizing their ritual and visual significance over structural necessity. This ascribed visual vocabulary of the *toraṇa* complicates their translation into English as simply "arch". As art historian Parul Pandya Dhar has noted, the meaning of the *toraṇa* is better captured by terms like a "festooned archway" or an "arciform garland", which better conveys its meaning while maintaining its integrity in praxis (see Dhar 2007:257).

Load-bearing arches are rare in historical Malabar. Even when arch-like features appear, they are usually constructed through corbelling – a method known in Sanskrit as *kadalikākaraṇa*. This technique is described in regional building treatises such as the fifteenth-century *Tantrasamuccaya*, where the arch is conceived as an extension of the lintel, created by carved stone blocks supported by vertical pillars or walls (see *Tantrasamuccaya* II: 47, in Unni tr. 2014). Free-standing arches in historical Malabar are also rare but not altogether absent. The eleventh-century *toraṇa* at the Shri Rameshwara Swamy Temple in Kamadolli, present-day Karnataka, is one such example (Figure 2). This trabeated arch features a large monolithic stone carved in high relief and supported by two pillars. The *toraṇa* displays a garland-like multifoil arch that emanates from a central *kīrtimukha* (gorgon face) and culminates in the mouths of two flanking *makara*s (crocodiles or mythical water creatures). These *makara*s are positioned as ornamental capitals on the load-bearing pillars rather than structural ones.

While such freestanding examples are exceptional, *toraṇa*s commonly appear as decorative canopies, often carved in high relief, functioning as frames which highlight the central respective deity or an image of ceremonial importance. Figure 3, for instance, shows a *makara-toraṇa* carved behind an image of Sarasvati, the goddess of wisdom, where the toraṇa marks her sanctity and centrality in the composition.



Fig. 2: Free-standing *toraṇa*, Shri Rameshwara Swamy Temple, Kamadolli, present-day Karnataka; 11th century; stone. Source: American Institute of Indian Studies (AIIS), Accession no. 81703.

Strikingly, similar motifs appear in carved stone crosses associated with early Christianity in Malabar. These artefacts are collectively known as the St. Thomas crosses or Pahlavi crosses,[2] and are dated between the

2 The analysis and dating of these crosses continue to be a topic of scholarly debate (see Cereti, Oliveri, & Vazhuthanapally 2002). Pius Malekandathil (2013: 6) argues that the Mylapore cross dates to the sixth century CE, while István Perczel (2018: 671–672) suggests a broader range between the sixth and the ninth centuries. Others,

sixth and the ninth centuries (see Perczel 2018: 671–672). Seven such crosses have been discovered along the Malabar Coast, with two found in Kottayam and one each in Kothanalloor, Muttuchira, Kadamattam, Alengad (in present-day Kerala), and Agassaim (in present-day Goa). The earliest recorded example of such an artefact comes from Mylapore, near present-day Chennai in Tamil Nadu, and is also stylistically believed to be the oldest.



Fig. 3: *Makara toraṇa* carved in relief behind the sculpture of goddess Sarasvati, functioning as an ornamental and ceremonial canopy, Brihadesvara Temple, present-day Tamil Nadu; 11th century; sculpture in situ; stone. Source: AIIS, Accession no. ACSAA_00111.

such as Winckworth, claim that the smaller Kottayam cross, dated to the seventh or eighth century based on palaeographic analysis, is the oldest – a view that remains to be disproven (see Winckworth 1929: 239). More recently, Martin Antony has proposed that the Alengad cross may, in fact, be the earliest of the group (see Antony 2016: 278–279). Additionally, scholars also argue that many of these crosses are later copies of the Mylapore cross, as they bear the same Pahlavi inscription (see Gropp 1970). Despite the ongoing uncertainty surrounding their precise dating, the use of Pahlavi, and Antonio de Gouvea's sixteenth-century eyewitness account of the accidental excavation and discovery of the Mylapore cross during the construction of a new church supports its origins prior to Portuguese interventions in the region (see Malekandathil ed. and tr. 2003: 310–312).

Four of these crosses, including the Mylapore example, feature *toraṇa*s that mirror those seen in the aforementioned temple counterpart. These stylistic parallels suggest that they were carved not only by local artisans, well-versed in regional visual vocabularies but also for an audience who were acquainted with the depicted symbolisms. Figure 4 illustrates two such crosses, one from Tamil Nadu and another from Kottayam, demonstrating how the *makara-toraṇa* frames the crosses in much the same way as it frames the image of Sarasvati in Figure 3. This is not a case of stylistic "borrowing from Hindu traditions", as is conventionally argued, but should rather be seen as evidence of a shared ritual and visual lexicon understood across religious communities in the region.



Fig. 4: *Makara toraṇa*s functioning as ornamental and ceremonial canopies of St. Thomas crosses (Mar Thoma Slivā). Presently located at the St. Thomas Mount National Shrine, Tamil Nadu, and St. Mary's Knanaya Valiyapalli, Kottayam, Kerala, respectively.

*Toraṇa*s also frequently appear as architectural ornamentation accentuating doorframes, particularly in ceremonial contexts. The *Tantrasamuccaya* in fact discusses the toraṇa specifically in relation to *ghanadvāra*s (blind doors), which function predominantly as ornamental motifs in religious architecture – further underscoring their symbolic and ceremonial, rather than structural, purpose (see *Tantrasamuccaya* II:35, in Unni tr. 2014). These motifs exhibit considerable stylistic variety: some

retain the classical *makara* and *kīrtimukha* figures, while others simplify the arciform shape into vegetal scrolls and vine patterns.

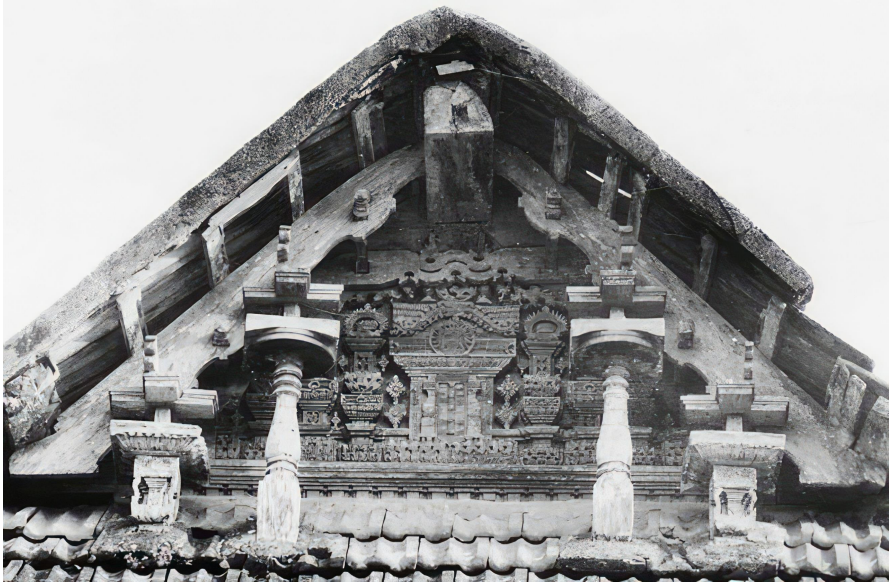


Fig. 5: *toraṇa* accentuating a central *ghanadvāra*, northern gable, Krsnasvamy Temple Complex, Ambalapuzha, Kerala; 17th century; timber. Source: AIIS, Accession no. 102208.

One of the most common architectural surfaces for such motifs is the gable of religious buildings, where miniature architectural elements are rendered in timber panels carved in high relief. Figure 5 illustrates such an example from the Krsnasvamy Temple complex in Ambalapuzha, where an ornamental *toraṇa* accentuates the central *ghanadvāra*, flanked by smaller architectural niches. The *toraṇa* here is executed as a scrolling vegetal garland, evoking a ceremonial canopy, that echoes the visual symbolism discussed earlier.

This visual vocabulary was not confined to Hindu temples. Figure 6, for example, displays the western gable of the Thazhathangady Jumapalli (congregational mosque) in Kottayam, which closely parallels the visual composition of its temple counterpart. Here too, the gable features a central *ghanadvāra* motif surmounted by arciform scrolling foliage, flanked by architectural niches – indicating a shared visual idiom recognized across religious divides.



Fig. 6: *toraṇa* accentuating a central *ghanadvāra*, western gable, Thazhathangady Jumapalli, Kottayam, Kerala; undated; timber.

This convergence is not incidental. Rather, it reflects the broader cultural milieu of Malabar, where ritual and visual lexicons circulated fluidly across religious boundaries. Historical architectural ornamentations, therefore, should not be understood merely as sectarian markers embedded in specific religious traditions, as is conventionally the case. Instead, they have to be read as regionally embedded visual vocabularies carrying shared symbolic meanings. They conveyed notions of centrality and sanctified space – a visual language that was transculturally intelligible in Malabar.

Encounters in Stone: Technologies of Arch-building

As outlined in the preceding section, the symbolic and ornamental arch (*toraṇa*) held a significant place within the architectural vocabulary of precolonial Malabar. However, when considering arches as integrated, load-bearing structural components – particularly in the form of entrances (or portals) – the region presents a more complex picture. While trabeated stone arches were prevalent along the coastal belts and across much of peninsular India (see Shokoohy 2011), examples within Malabar are sparse. This absence is closely tied to the region's (in)availability of construction materials: the abundance of laterite and timber, in contrast to the limited access to hard stones like granite.

Yet structural stone arches were not entirely absent from Malabar prior to European interventions in the architectural fabric in the region. A notable exception is the Ponnani Valiyapalli (congregational mosque), of Ponnani, located at the mouth of the Bharathappuzha River. This site houses some of the earliest extant examples of structural stone arches in Malabar. Figure 7 illustrates one of them which forms an entrance on its northern façade. The arch is composed of a single large hewn stone, shaped into a semicircular form and placed atop load-bearing pillars – an unmistakable instance of trabeated construction mimicking the visual form of an arch but without the engineering principles of stereotomy.



Fig. 7: Rough-hewn stone forming a trabeated arch, Ponnani Valiyapalli (congregational mosque), Kerala; late 15th or early 16th century.

Ponnani itself had emerged as a significant centre of Islamic scholarship in Malabar during the second half of the fifteenth-century. Although the precise date of the mosque's original construction remains uncertain, it is attributed to the Makhdum family who patronized its construction in the late fifteenth-century (see Kooria 2022: 229–231). That original structure was set ablaze by the Portuguese during their military campaigns against the Zamorin of Calicut, leading to extensive reconstruction of the mosque. An inscription in the mosque dates this reconstruction to 1519 (see Shokoohy 2018: 46; see also Kooria 2022: 232), indicating that the present arch depicted in Figure 7 dates at least to the early sixteenth century, if not to the original edifice. In either case, this predates Portuguese architectural interventions in Malabar, the earliest examples of which begin to appear in the 1520s and become more visible only by the mid-sixteenth century.

When juxtaposed with architectural developments in the northern part of the Indian subcontinent, the trajectory of arch constructions in the southern counterpart is quite distinctive. True arches in northern India – those constructed with voussoirs and keystones – developed much earlier due to sustained art and architectural exchanges with Persian and Central Asian traditions. The arch at the tomb of Ghiyas ud-Din Balban in Delhi (dated to ca. 1287) is widely recognized as the earliest extant true arch in India (see Sharma 1974: 20). In contrast, such structural changes in arch-building in southern India dates much later, where the dominance of trabeated hewn arches persisted well into the early modern period. Architectural scholars such as Mehrdad Shokoohy – who has extensively documented Islamic religious architecture across the subcontinent – have observed that true arches remained largely unfamiliar in South Indian architecture until the post-Mughal period, that is, the eighteenth century (Shokoohy 2011: 132).

Examining religious architecture in Malabar across confessional boundaries, however, complicates this general chronology. By the mid-sixteenth century, builders in the region were already experimenting with true arches – much earlier than commonly assumed. The earliest extant examples of such arches in the region were constructed under Portuguese patronage, often within fortified colonial enclaves spatially segregated from native settlements. These early constructions were typically designed and overseen by architects and engineers appointed by the Portuguese crown. Records such as Sousa Viterbo's *Diccionário historico e documental dos architectos, engenheiros e constructores portuguezes* offer a valuable account of the Portuguese presence in the region's architectural history, documenting at least sixteen European architects

and engineers active in India between 1510 and 1650 (see Castel-Branco 2017: 178). Among them, Tomé Fernandes stands out as one of the earliest master builders to settle in India in the early sixteenth century.

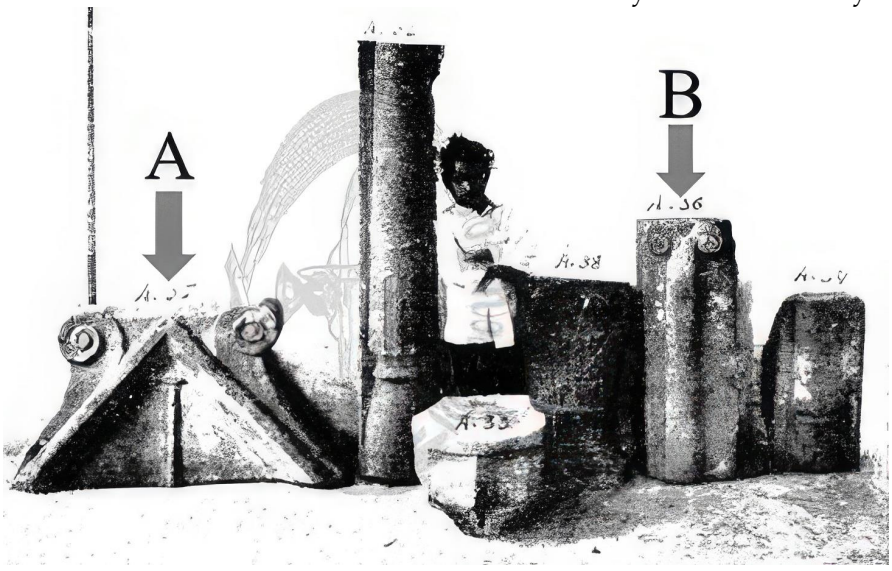


Fig. 8: Architectural fragments of the early 16th-century church constructed by the Portuguese in Mylapore (photograph reproduced from Hosten 1936, Plate 28; *superimpositions mine*).

While the involvement of European personnel in these projects is relatively well-documented, the architectural evidence presents a more layered narrative – one that suggests significant participation by local builders. For instance, consider the San Thome church in Mylapore, built in 1523 under Portuguese patronage.[3] Though the structure has since been extensively renovated, Belgian missionary-scholar Fr. Henri Hosten's documentation (1936) reproduces photographs depicting fragments of the original architecture (Figure 8). While Hosten misattributes these fragments to a pre-Portuguese church, the design elements themselves – such as a pediment with scroll-like volutes (marked A in Figure 8) and an Ionic-style column (marked B) – clearly reflect early European stylistic influences, representing some of the earliest known instances of European architectural forms being reproduced in India. Interestingly,

3 Gaspar Correia (1492–1563) in his *Lendas da Índia* (Legends of India; 12 volumes) mentions his own visit to the site in the early sixteenth century. He documents that the existing church was in disrepair and that it was immediately reconstructed in masonry along with names of the builders, among them the stonemason, Vicente Fernandes.

these features were not executed through stereotomy but rather carved in high relief into granite – continuing regional techniques, raising the possibility that they were produced by local artisans copying from visual templates rather than applying the engineering principles of such constructions. This kind of design reproduction rather than structural, hints at an early phase of visual translation, where local craftsmanship encountered European architectural motifs without full comprehension of the underlying technological know-how.



Fig. 9: Portal arch and its execution, western façade, Nossa Senhora do Rosario, Goa; 1540s; stone. Source: AIIS, Accession no. 8125.



Fig. 10: Portal arch and its execution, southern façade, Nossa Senhora do Rosario, Goa; 1540s; stone. Source: AIIS, Accession no. 8129.

Architectural historians have seldom treated such sites as active zones of technological convergence. Yet these early examples are precisely where knowledge transfer likely occurred – not merely as top-down impositions, but as processes of adaptation shaped by hands-on encounters between European architects/ engineers and local builders. What emerged was not a rupture with local traditions, but a mode of architectural accommodation in which new structural forms were filtered through regional building practices. The results were often experimental, hybrid forms that embodied a transcultural architectural logic.

A particularly revealing example of such hybridization can be seen in the Church of Nossa Senhora do Rosário (Our Lady of the Rosary) in Goa, dating to the late 1540s.[4] The church features two arched portals – one on the western façade and another on the southern – that are stylistically similar but structurally distinct (Figures 9 and 10 respectively). Aesthetically, these arches appear to be a deliberate reproduction of the portal of Igreja da Graça (Church of Grace) in Évora, Portugal, constructed between 1537–1540, designed by the renowned military engineer and architect Miguel de Arruda.[5]

A close examination of the two portals of Our Lady of the Rosary, reveals significant disparities in execution, which in turn offer insights into the dynamics of knowledge transfer at work. The southern portal is notably more refined. Its proportions are balanced, the voussoirs are symmetrical – three on each side of a central keystone – and the assembly displays a high degree of finish and precision. By contrast, the western portal is markedly rougher. The voussoirs are uneven in size and roughly hewn, and the joinery between blocks is more pronounced, creating a less cohesive arch profile. Even more telling is the numerical imbalance of the voussoirs: the arch comprises four stones on one side of the keystone and three on the other, a deviation from the standard odd-number assembly that stabilizes a true arch. This suggests that although the builders knew the concept of the keystone and the logic of radial compression, they had not yet mastered its application in practice.

These contrasts suggest that the two portals were built by different groups of artisans with varying degrees of familiarity with stereotomic techniques. The western portal – less refined and structurally inconsistent – was likely the work of local builders still acquiring proficiency in true arch construction, perhaps working under the loose supervision of a European architect. Such technical inconsistencies are not signs of failure, but rather evidence of active knowledge transfer. The western arch, therefore, may be read as a material witness to the early stages of architectural exchange: European structural models being interpreted and reconstructed by local builders, resulting in an experimental but

4 The original chapel on the site is believed to have been constructed in 1543. However, a 1548 letter from the Brotherhood of Our Lady of the Rosary to the King of Portugal mentions that the chapel was expanded to form a larger church. A subsequent letter in 1549 states that the entire structure was later demolished to make way for an even larger building. This indicates that the current structure likely dates to the late 1540s (see Pereira n. d).

5 Photograph of the Évora arch is available in the SAHARA Public Collection, JSTOR: https://www.jstor.org/stable/community.24174031 (last accessed on March 20, 2025).

well-functioning hybrid. The smoother execution of the southern arch suggests either a more experienced team or an instance of iterative learning, where feedback from earlier attempts informed refinements in technique.



Fig. 11: Interior arch leading into the main prayer hall, St. Mary's Knanaya Valiyapalli, Kottayam, Kerala; 1550; granite.



Fig. 12: Exterior arch, St. Mary's Knanaya Valiyapalli, Kottayam, Kerala; possibly dates slightly later than the former; granite.

The new technology of arch-building soon circulated beyond the often segregated Portuguese colonial enclaves into the interior regions of Malabar. Two examples of early keystone arches appear at the Kottayam Valiyapalli (a.k.a. St. Mary's Knanaya Valiyapalli) in Kottayam dated to 1550. These arches mark a significant moment in further internalization

of European structural techniques into local architectural traditions. As illustrated in Figures 11 and 12, the first arch spans the entrance to the nave within the church interior, while the second forms the outer gateway to the church compound. Both arches employ central keystones, demonstrating a working knowledge of principles of compression in stereotomy, yet they remain deeply rooted in regional construction logics – particularly in their continued reliance on corbelling for weight distribution and the use of large hewn monolithic blocks rather than voussoirs.

As Figure 11 demonstrates, the interior arch is primarily constructed from two massive, hewn granite blocks that encompass both the arch curvature as well as the adjoining spandrels. These monolithic elements converge at the apex, where a centrally placed keystone is inserted. The keystone, in this case, however, does not constitute the structural linchpin of the arch. Rather, it is held in place by the weight and geometry of the two huge flanking blocks. Thus, without the principles of radial compression, the arch relies on familiar regional construction logics rather than the stereotomic principles of arch-building recently introduced. Similarly, the exterior arch (Figure 12) displays that the stone immediately on the right of the keystone is cut at an oblique angle to fit the arch composition. The result is a subtle but visible disruption in the symmetry of the arch. These aspects suggest that while the builders understood the formal requirements of arch assembly, they were still negotiating the practical challenges of cutting and setting voussoirs with precision. Far from signalling a failure, such idiosyncrasies can be read as evidence of new technological adaptation in progress, where local masons were actively experimenting with new geometries while still drawing from familiar modes of construction.

What distinguishes the Kottayam arches further is their rich ornamental programme, which continues the visual language of premodern Malabari architecture. The arches are adorned with motifs such as the *adhopadma* (drooping lotus petals) along with *puṣpa-potikā*s (hanging lotus buds) – clearly drawing continuity from precolonial artistic repertoire of the region. This reinforces the likelihood that these arches were built by local artisans trained in regional idioms and for local consumption. However, unlike the stone crosses discussed in the previous section (Figure 4) – where the cross motif simply substitutes for other deities without altering the broader iconographic vocabulary of the *toraṇa* – the crosses in the Kottayam arches are more fully integrated into the visual and symbolic composition of the arch itself. This signals an active negotiation with the region's longstanding *toraṇa*

repertoire, reconfiguring it within an explicitly Christian spatial and devotional context.

This transitional aesthetic can be traced by observing the two arches sequentially. In the interior arch, keeping with historically prevalent regional conventions, the pilasters carved in high relief depict faunal capitals: an elephant on one side and a peacock on the other. The cross motifs, instead of positioned as the capitals of the pilasters, are placed off-centre in the spandrels, resulting in an apparent visual misalignment. In fact, the crosses almost appear subordinate to the faunal motifs in terms of size and placement, suggesting that the cross motifs are not yet accorded primacy in the overall iconographic revision of the arch.

This schematic inconsistency is resolved in the exterior arch (Figure 12), where the cross motifs are now centrally aligned atop the pilasters, replacing the fauna as the capitals entirely. The stylistic continuity with the interior arch is evident – both share similar pilaster profiles and decorative registers – but the exterior arch demonstrates a more deliberate and refined reconciliation of the cross motifs with regional visual conventions. This evolution strongly suggests that the two arches were executed in sequence, with the outer arch reflecting an improved synthesis of structural and iconographic elements. It stands as a material record of a process of negotiation and adaptation in progress: a visual and technical refinement of the earlier attempt, likely informed by feedback and experimentation, as well as a growing familiarity with not only the arch-building structural techniques but also the reconfiguration of the iconographic repertoire of the same. Taken together, the Kottayam arches provide compelling examples of transculturation – demonstrating how architectural ideas were not merely adopted or imposed but actively translated through local building practices and embedded within regionally prevalent visual vocabularies. They also reveal that this process of translation was iterative, i. e., shaped by successive acts of experimentation and refinement.

Yet, despite the evident familiarity with keystone construction, true arches remained relatively rare in Malabar's architectural landscape. Local builders, while aware of the structural potential of voussoirs and keystones, continued to favour the tried-and-tested techniques of carved laterite and lime-coated masonry. Even in later examples executed in granite, the full logic of the true arch does not seem to have taken hold as a dominant mode of construction. Figure 13, for instance, depicts a granite portal from the Arakuzha Palli (St. Mary's Major Archiepiscopal Pilgrim's Church, Arakuzha), where the arch is composed of voussoirs arranged with impeccable precision. The construction displays a mature

understanding of arch assembly, yet significantly, it omits the keystone altogether. The voussoirs – highlighted in colour in the figure to clarify the composition – fit seamlessly, relying on the interlocking principle of the arch but stopping short of the stereotomic engineering of true arches.



Fig. 13: Portal arch and its composition, western façade, St. Mary's Major Archiepiscopal Pilgrim's Church, Arakuzha, Kerala; undated; granite.

Moreover, by this stage, the ornamental richness that characterized earlier examples such as Kottayam appears to have receded. The Arakuzha arch notably lacks the elaborate decorative vocabulary that characterized the preceding generation of entrance arches. Instead, iconographic complexity becomes largely concentrated around the principal altar arch, while the entrance structures adopt a more restrained aesthetic. This shift may indicate a broader standardization or simplification in architectural practice, wherein entrance arches assume a primarily functional role, with their symbolic and representational dimensions increasingly downplayed. This transition points to an important nuance in the story of transcultural exchange: while structural techniques like the arch were gradually absorbed into the regional repertoire, their adoption was always selective, shaped by material conditions and site-specific aesthetic preferences and building logics. The presence of voussoirs without keystones, or keystones without full voussoir arrays, indicates a deliberate reworking of architectural traditions. In this sense, Malabar's stone arches were not passive imitations, but active reinterpretations which reflected the regional builders'