

1 Bakulbagan Sarbojanin *pandal*, Kolkata, 2017, designed by Bimal Samanta.

Investigating the relation between ephemerality and architecture by examining design principles that inform construction of temporary pavilions for the festival of Durgapuja in Kolkata.

## Ephemeral by design

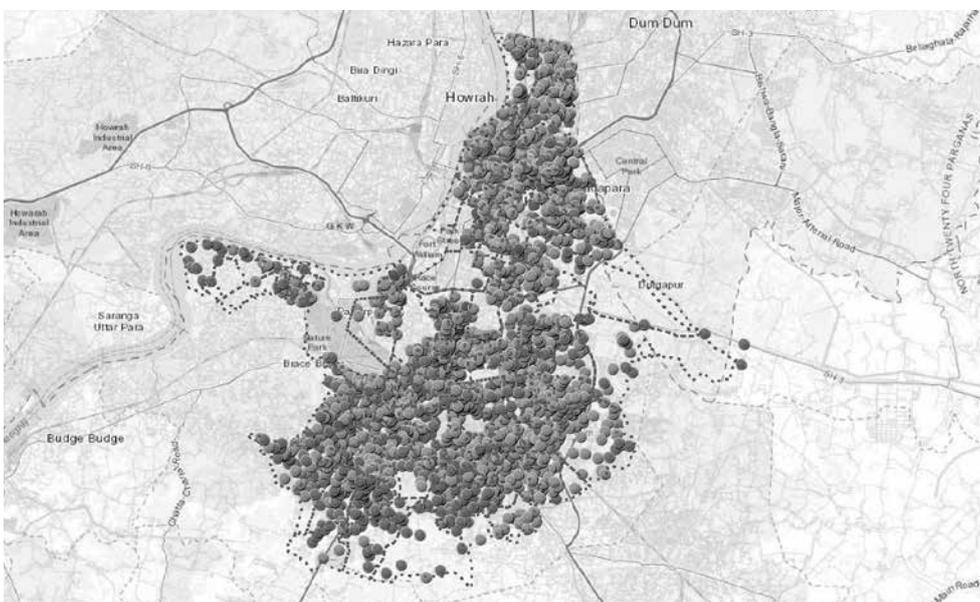
Swati Chattopadhyay

Between the months of September and October, Kolkata celebrates the Hindu religious festival of Durgapuja on a grand scale. Organised by local clubs and neighbourhood voluntary associations, approximately 2,500 temporary structures – *pandals* – are built for the worship or *puja* of the goddess Durga and her entourage [1]. Of these about two thousand occupy the city's public spaces: streets, parks, green islands, and vacant lots [2, 3]. A large number of the *pandals* are finely engineered structures that are fabulously decorated and attract hundreds of thousands of visitors each day of the festivities. It takes anywhere between three months to three days to build these pavilions. After five days of festivities the *pandals* are dismantled and the clay deities destroyed by immersing them in the Hooghly River or another nearby body of water.

The construction of these structures in the city's public spaces, and their demolition at the conclusion of the event, foreground the relation between the ephemeral architecture of the *pandals* and the presumed permanence of the city fabric, and between the short-lived seasonal event and the perennial life of

city neighbourhoods. This durational dimension of contemporary Durgapuja pavilions expands what is typically understood as the architecture of Hindu religious worship – identified by the permanent site of a temple. A study of these *pandals* also challenges the habits of disciplinary imagination in architecture and urban design that presumes permanence as a *desideratum*.<sup>3</sup> Importantly, this article demonstrates how *pandal* design and construction might help us question prevailing views about the production of vernacular architecture.

The *pandal* is categorically not a temple (*mandir*): spatially, functionally, etymologically it is different from a *mandir*. Indeed, the permanent temple form as an instantiation of religious worship is non-essential to Hindu ritual functioning. Most forms of Hindu worship take place and historically have taken place in locations that are not temples in the conventional sense. In many cases dedicated sites of worship are shrines that are too small to be called temples, or are sites/objects/events that are *by design* ephemeral. There is a plethora of popular religious practices that exceed the ritual boundaries marked by casteism and gender/



2 The locations of *pandals* in Kolkata on an ArcGIS map, 2018.



3 *Pandal of Badamtala*  
Ashar Sangha,  
Kolkata, 2017,  
designed by  
Purnendu Dey and  
Snehasish Maity.

religious / sectarian exclusions of elite Brahmanical tradition. The popular practices that flourish outside elite precepts of the temple as an institution rely on the place-making potential of the ephemeral.

The devotional practices that take place beyond the temple site are too numerous to cite: these include daily domestic worship at home; the forming of soft clay images for worship and their destruction at the conclusion of the event (the duration of which could be a few minutes); the construction of religious spaces of short duration in courtyards, under trees, and next to ponds and rivers.<sup>2</sup> While some of these leave permanent traces in the landscape, others do not. Durgapuja in Kolkata may be more appropriately placed in this tradition of worship beyond the temple. Sometimes the *pandal* is referred to as a *mandap* (canopy), considering its open pavilion/porch structure, but even its orientation does not always accord with the religiously mandated east or north of Hindu temples. Rather, the *pandal* is attuned to its urban location and is a product of the increased secularisation of Durgapuja as a public event in the long twentieth century.

### History

Durgapuja, a popular rural festival in precolonial Bengal, became a major celebratory event in the townhouses of Bengali merchants and landlords who settled in Calcutta in the eighteenth and nineteenth centuries. The outer apartments of these townhouses were configured to accommodate a *thakur-dalan* (porch to house a deity) as the centrepiece of the residence's public spaces [4]. What would have been a freestanding detached structure (in the form of *chandimandap* and *durgamandap* – both signalling open pavilion structures in front of temples) in

precolonial rural Bengal was imaginatively integrated with a range of other public rooms in the house in the eighteenth-century city: *baithak-khana* (men's salon); *nachghar* (dance room), *kachhari* (office), and often a library, school room, and other service spaces. A spacious open-to-sky courtyard connected these spaces. The *thakur-dalan* stood at the end of the long axis of this public courtyard in a proscenium configuration, easily recognisable by its decorative arched façade. The public courtyards in the large townhouses were around 30 to 60 feet wide and 60 to 100 feet long, and were opened to the public during religious festivities such as Durgapuja. The public rooms adjoining the courtyard were also often rented out or given over to community activities such as meetings, plays, and theatre rehearsals.<sup>3</sup>

In the late nineteenth century, the Durgapuja landscape centred around elite mansions in the colonial city was challenged by middle-class residents who chafed at the social restrictions imposed by elite patronage at these festivities. In 1911 the first *sarbojanin* Durgapuja – puja open to all – broke out of elite casteism and self-consciously embraced the larger neighbourhood as the community, irrespective of class, caste, and even religion. In a milieu of anti-colonial nationalism, the *sarbojanin* pujas promoted a political stance, a tradition that has had a deep impact on the event. Held in public spaces in the city, primarily public parks, these *sarbojanin* pujas adopted the tradition of temporary bamboo tent structures to shelter the deity and the space of worship, but retained the formal structure of the *thakur-dalan*. A raised platform was created to house the deity, while the space in front functioned as a gathering space. This mode of temporary bamboo construction was not peculiar to Durgapuja, but was also undertaken for various kinds of community gatherings, including

fairs, weddings, and political meetings. The neighbourhood-based community pujas of today bear traces of these early twentieth-century gestures towards public space and community.

While the number of community pujas increased over the twentieth century, far outpacing population growth, there have been some major points of departure in the last two decades. The advent of 'theme-pujas' (a theme-based design ensemble of the puja) in the mid-1990s has transformed the event

into a spectacle in which successful designers earn considerable remuneration and accolade.<sup>4</sup> Once-obscure artists now claim recognition in a festive geography alongside politicians, film stars, sports celebrities, and fashion designers who have entered the fray for name recognition. This has entailed an expansion in the scale of the event and the budget.

The planning of Durgapuja can be a complex affair. Building a *pandal* in the city requires permission from city authorities – the municipality, fire marshal, electricity company, and the police. The cost of *pandal* construction, images of the deities, and the ritual have to be met through fundraising. In addition, depending on the ambition of the organisers, there is the matter of handling publicity, organising social and cultural events, and attending to the local infrastructure to enhance the visitor experience. All of these have to be done within a matter of months. Large-budget pujas rely on corporate sponsors and celebrity presence that attract sponsors.

Not all *pandals* are expensive affairs. Most organisers raise the funds for the event from their immediate locality, without big corporate sponsors or celebrities, and handle the design and construction responsibilities themselves. They may hire a local decorator who conducts the business of building and decorating temporary structures for festivals, weddings, and other social events, or assign a local neighbourhood talent to experiment with materials and form. The design outcomes of these modest-budget pujas are often just as creative as the large, big-budget *pandals*. In 2018, for example, a low-income neighbourhood in the northern part of the city decided to host the event in a local school building to avoid the cost of building a *pandal*, and instead undertook a street art programme as a way of refurbishing the house fronts and enlivening the route to the venue [5].<sup>5</sup>



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4 View from the *thakurdalan* towards the public courtyard in the Tagore House, Jorasanko, Kolkata.

5 Artwork along the approach road to the puja venue, Kolkata, 2018.



5



6 *Pandal* under construction, Kolkata, 2018.

7 Setting up the posts for a *pandal*, Kolkata.

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### Structure

The simplest *pandal* structure is a rectangular bamboo-frame enclosure covered with light fabric [6]. A tarpaulin-covered hipped or lean-to roof shelters the deities and worshippers from inclement weather. The bamboo poles that act as vertical support rest on shallow footings (3 to 6-inch holes in the ground) and are tied to widely spaced horizontal bamboo poles with fabric or coconut coir ropes [7]. A cross-piece is thrown diagonally across the vertical posts to stabilise the frame structure. There is a raised dais for the deity and the implements necessary for the ritual. The dais is supported on a bamboo frame as well, sometimes strengthened with *sal* (*shorea robusta*) timber posts, with timber planks

serving as the floor. Additional decorative touches are applied to the walls and ceiling and a temporary electrical connection from the street or nearby house powers the lighting fixtures and electrical fans.

The space designated for the deity, priest, and those who help with the ritual is nominally separated from the space where the worshippers or viewers gather.<sup>6</sup> Each morning and evening elaborate offerings are made to the goddess. This involves recitation of mantras, the sounding of bells, drums, and conch shells, the lighting of lamps and incense, and the offering of flowers, food, and other ingredients, and it is in the devotional partaking that the space of the deities/priest and the space of the worshipper/viewer become linked as a multisensory experience.

A slightly more elaborate version of a *pandal* might have two adjacent spaces, one for the worship of the deity and another used as a performance space for hosting plays, musical events, and other similar events. Larger enclosures often have commensurately elaborate roof constructions and decorative programmes. Sometimes these use intermittent *sal* posts to strengthen the bamboo frame construction. Cotton and synthetic fabric, plywood, corrugated iron sheets, bamboo and reed mats, earth plastering or decorative panels made from glass, terracotta tiles, thatch, Styrofoam, metal sheeting, and a plethora of other materials constitute the outer surface of the enclosure. The enclosures, small and large, come in all kinds of shapes: rectangular, round, elliptical, octagonal, curved, aggregate forms, and are usually predicated on the site parameters. At the conclusion of the event the structure is dismantled, the holes on the ground patched up, and the site is returned to its everyday function.

The four principles of *pandal* design that are conducive to innovation are contingency, fungibility, softness, and reversibility.<sup>7</sup> Contingency and fungibility are about reading the materiality of space and urban affordance – what a particular urban location affords in terms of design – with a full awareness that the use of space need not be fixed, and that there are overlapping claims upon urban space. It requires the ability to think of spatial occupation as non-exclusive and the planning process as mutable, shareable, and open to negotiation and compromise. Softness and reversibility are about the relation between the construction materials, the building method, and the site. *Pandals* touch a site softly, which is to say they work with the site affordances and not against them. Softness and the idea of reversibility demand that few traces be left after the structure is gone, and that the materials of *pandals* are to a great extent reusable or recyclable. The design principles are premised upon three primary factors that define *pandal* construction: lightness of building materials, timesaving building methods, and non-invasive construction.

The choice of bamboo as the primary construction material resides in its versatility. It is lightweight, inexpensive, easy to manipulate, convenient to build with and to dismantle. The construction method is old and essentially that of buildings made of earth and thatch common in the

countryside in much of South and Southeast Asia. In Bengal, bamboo construction is most well known for rendering the distinctive form of the *bangla* (bungalow) roof. Materials such as fabric, paper, and light materials – both natural (*shola* or Indian cork) and synthetic (Styrofoam) are preferred in the construction of Durgapuja *pandals* because they keep the building ensemble light. Like bamboo, they are also easier to transport and save on transportation and storage costs. Heavy materials such as wood and metal, though increasingly popular, are not conducive to the construction system and do not aid its versatility.

The low weight of bamboo is aligned with the durational constraints of *pandal* design. Lashed bamboo construction is a skilled operation, but in expert hands it takes little time to put up a basic structure. It requires no complicated capital-intensive machinery. Not dependent on notching, nailing, or gluing components together, it is a timesaving construction system *par excellence*. It is fungible, in the sense of being interchangeable and open to reiteration. Unlike prefabricated building components, the bamboo pieces are not used as modular elements. The kind of modularity that characterises modernist architecture and avant-garde auto-construction would restrict its possibilities.<sup>8</sup> The flexibility of bamboo – its structure, lightness, texture, tensile strength – aid the shaping of a wide array of forms with few implements and within a short timeframe. Its iterative capacity (as opposed to modularity) maximises the potential for a large variety of forms.

Bamboo is reusable, particularly when the bamboo poles are lashed together with ropes. Typically, a bamboo pole is not dressed or dimensioned, and is used with minimum sizing to retain its reusability. Nailing bamboo poles to wood battens and to each other is time consuming and weakens the material. Bamboo construction touches the environment as well as the site lightly, provided it is not overly manipulated and dressed. Because *pandal* construction does not require deep footings, it is easy to patch up the ground when the structure is dismantled. The reversibility of the material and the construction system – and its give – are intrinsically tied to how *pandal* design responds to the site. Therein resides the potential for innovation.

In addressing site constraints, *pandal* design must address the neighbourhood community. The design of all *pandals*, particularly those constructed on the street, must be attentive to the dimensions and volume of the space, as well as the particularities of the access conditions and space use in the neighbourhood. These might seem to hold for any type of building construction, but the temporal characteristics of Durgapuja as a seasonal short-lived community event, force designers and builders to adopt a construction process that places temporality and the structure of community at the centre of decision-making. The designers who plan and supervise the construction must be attuned to the micro-dynamics of community relations that directly



8 *Ro'ak* in the older part of the city, Kolkata, 2019.

impact the design decisions regarding emplacement, access, and spatial organisation. In addition to securing municipal permission, every design must have some buy-in from the neighbours in the locality because *pandal* construction directly impacts access patterns, parking, and use of street space.

Organising an event such as this necessitates negotiating various claims to city space. Consider the *ro'ak*, the street-side open-air porch of residential buildings that are common in older neighbourhoods of the city [8]. If the *ro'ak* is suitable for incorporation into the design, would it affect the everyday use of the *ro'ak*? After all anyone can sit on a *ro'ak*. But what if a vendor uses part of it to set up a small moveable shop? Would the residents of the house to which the *ro'ak* is attached give permission to build? Could they continue with their everyday use and yet at the same time share it for the specific purpose of the puja? Would that become a spatial precedence?

Innovation in *pandal* design is thus not simply about the choice of materials, thematic novelty or constructional virtuosity. Rather, it is about the sociotemporal dynamics of space. Irrespective of scale, as a place-based event organised by neighbourhood associations, Durgapuja festivities are grounded in the specificity of each community. Let me elaborate on this point by using as a case study the work of designer Bimal Samanta, who has received considerable recognition for his

imaginative *pandal* designs. His approach helps us unpack how designers negotiate the sociotemporal dynamics of space that lends *pandal* design its distinctiveness.

### Design

I first met Samanta in 2017 while taking photographs of one of his *pandal* sites when the structure was being dismantled. I had visited the *pandal* twice during the festivities and was impressed with the design details [9, 10]. Our first conversation, over a cup of tea at the site, elicited discussion about the construction material – a special type of bamboo he had sourced from the northeastern state of Tripura. Samanta has no formal training in art, architecture, or carpentry. Entirely self-taught, he developed a fascination with calligraphy while writing signboards to make a living, and now runs a successful picture framing business. His workshop is attached to one of his shops and provides him with the space to experiment with materials. He invited me to his studio/workshop, and offered to show the journals he keeps to record his thoughts on each *pandal* he designs.

For Samanta *pandal* design and construction is a yearlong process. A short note on top of the third page of the journal he kept for Bakulbagan Sarbojanin Durgapuja records that he agreed to work for the 2017 festival on 20 October 2016. The next several pages are filled with his notes on the tradition of Bakulbagan Sarbojanin, which had by that time a ninety-year history of hosting Durgapuja. In the Durgapuja design circuit, Bakulbagan Sarbojanin is a high-stakes commission, not simply



9 Entrance from the side street to the Bakulbagan Sarbojanin *pandal*, Kolkata, 2017, designed by Bimal Samanta.

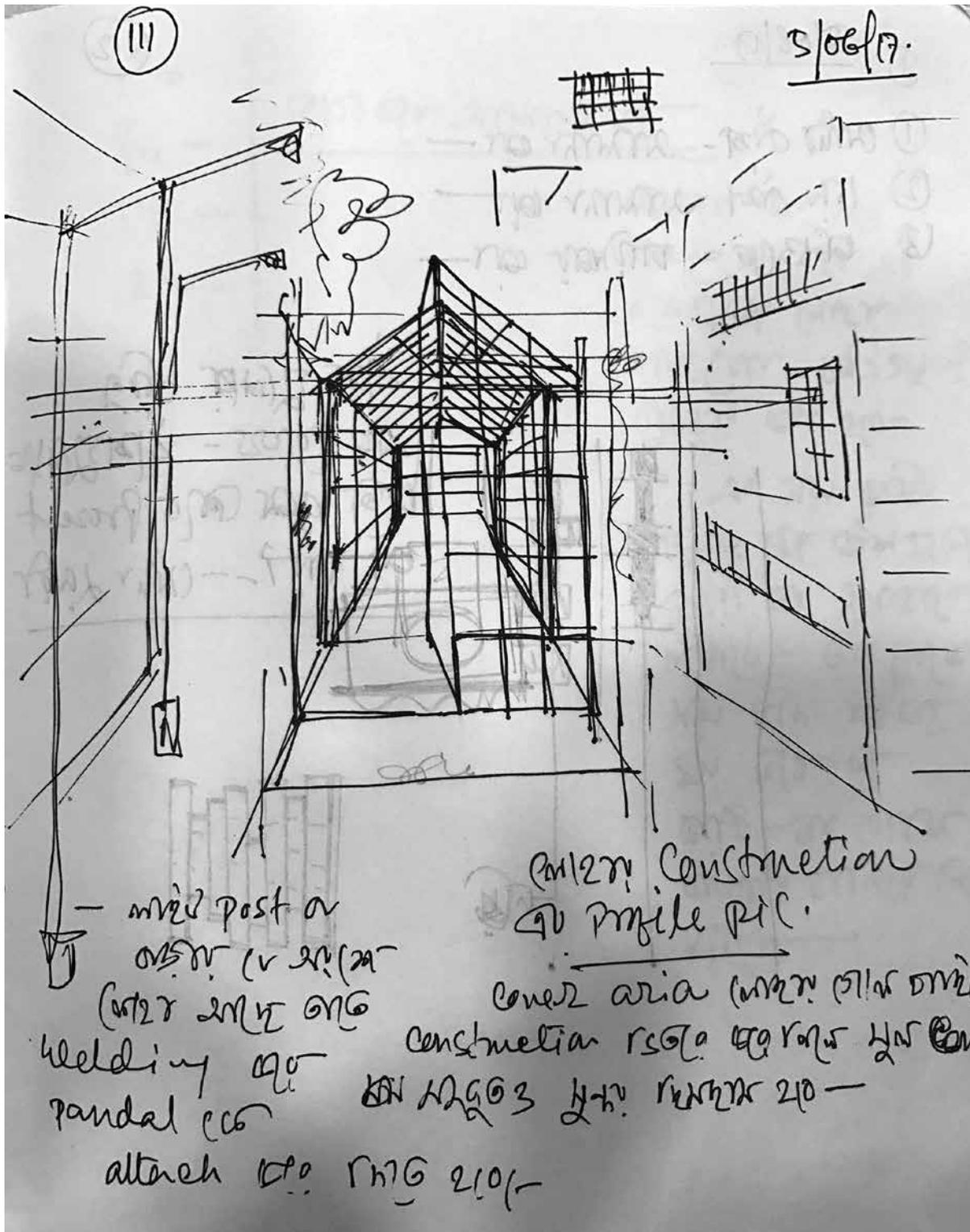
because of the expectation of winning awards for design excellence, but also because of its tradition of engaging with the art world of Kolkata. Some of the most prominent artists from the city, including Nirode Majumdar, Paritosh Sen, Sunilmadhab Sen, Rathin Maitra, Bikash Bhattacharya, Isha Mahammad, and Shanu Lahiri had designed the

images of the goddess for this club. Only in the last few years has the club started paying attention to the *pandal* as a key design feature.

The puja organisers had stressed the importance of the locality – *para* – to Samanta, even as they prepared to launch a spectacular event to draw large numbers of visitors. Samanta's notes register the tension between the desire for an event conducive to neighbourly conviviality and the ambition to create an award-winning venue. There is a nostalgia for the puja of olden days, when a simple bamboo and fabric *pandal* was erected, *sola* (Indian cork) flowers and



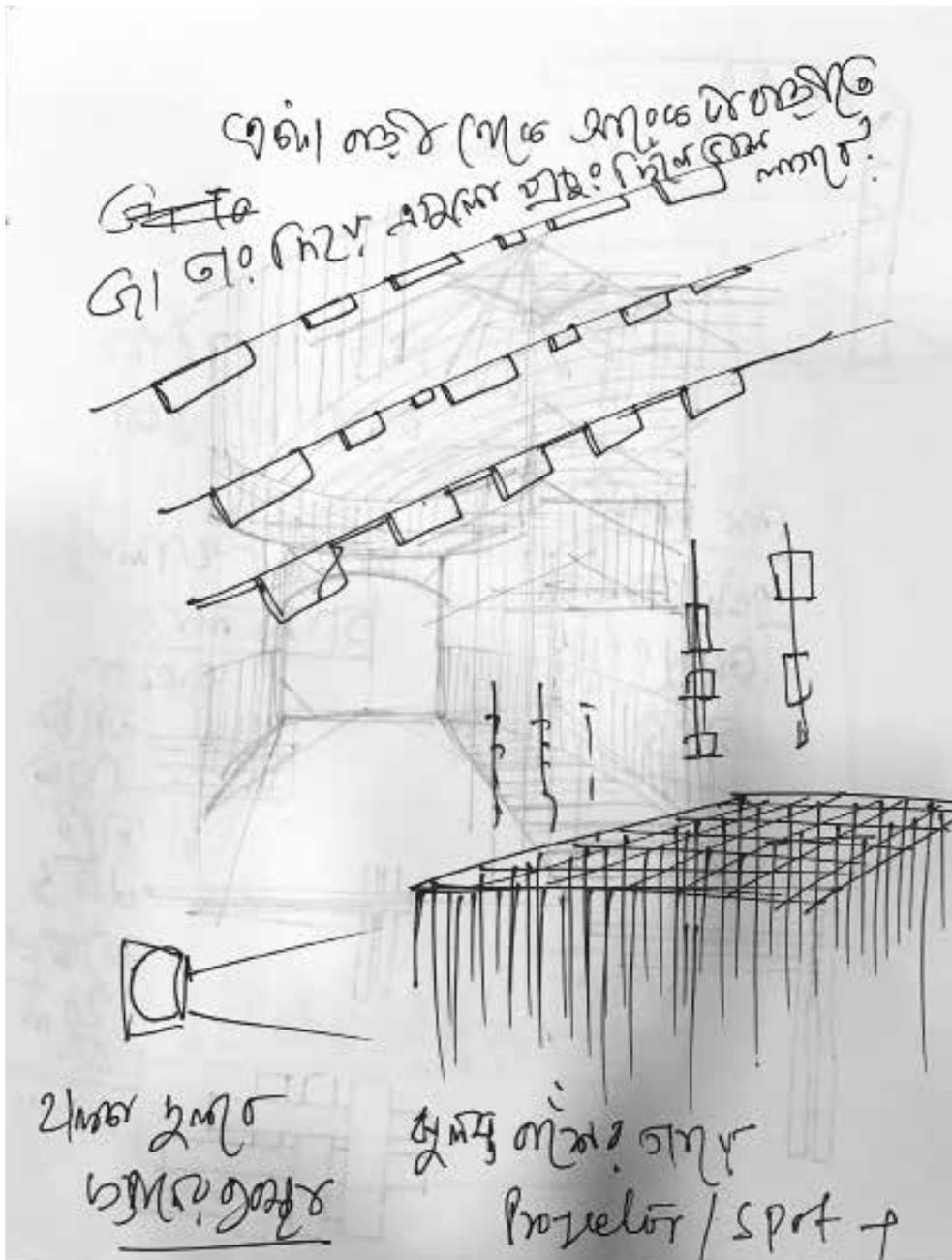
10 Detail of Bakulbagan Sarbojanin *pandal*, Kolkata, 2017, designed by Bimal Samanta.



11 Page from Bimal Samanta's journal, October 2016 to September 2017.

strings of white light sufficed as decoration, and a clay lamp in front of the deity created a solemn ambiance. Samanta's journal contains remarks about how this dual wish was to be accommodated: there had to be space for the neighbours to sit together and spend time with each other, and the *pandal* could not unduly inconvenience people of

the locality. In the next several months, particularly when the construction was about to begin, Samanta's notes indicate the specifics of this accommodation: for example, the need to leave clear space for the cars of an apartment building next to the puja site determines the edge of the back wall of the *pandal*. The roof of the structure itself, ultimately planned as a bamboo envelope on a steel cage was at intervals connected – welded – to the verandah grill of neighbouring houses [11]. There were other strategies of connecting with the urban fabric that materialised as the design ideas



12 Page from Bimal Samanta's journal, October 2016 to September 2017.

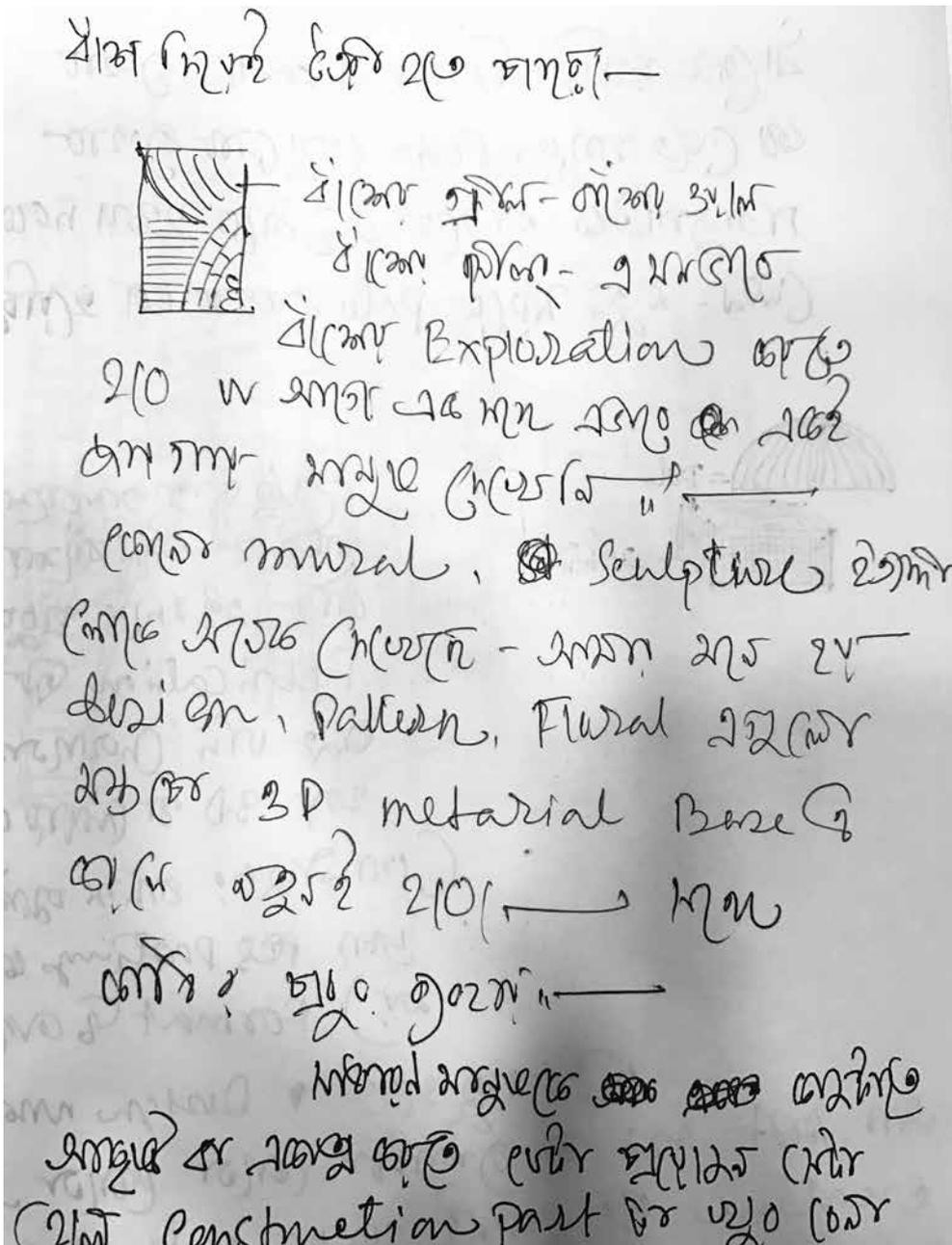
took shape. He considered running a string of bamboo elements – necklace like – between houses, anticipating the light bamboo pieces would sway in the wind: 'A spotlight on the gently swaying, dangling pieces might create an interesting effect' [12].<sup>9</sup>

Samanta's strategy to make a link to the club's tradition while delivering something new began with an effort to make a conceptual link between the 'togetherness' of this middle-class locality and the 'richness' of connections in the material assemblage. Bamboo served as the alibi for olden times but now delivered in a startlingly new form. The copious notes in the journal move back and forth between retaining the 'flavour' of the old puja and its attendant sense of neighbourhood intimacy, and producing a form that would be 'remarkable'. The choice of bamboo was predicated on the association of bamboo with humble living. The notes elicit a concern for appealing to the

everyday knowledge of the visitors. Thus 'bamboo ceilings, bamboo walls, bamboo grills', emerge as opportunities for experimentation. The problem is understood to be with the treatment of bamboo, not the structure itself: 'If the work can be made attractive to the people, the construction would not pose a problem' [13].<sup>10</sup>

Between October 2016 and August 2017 his concept had gone through several turns. He began with the premise that 'an element whose existence by itself has little value, in aggregate might gain importance.' By April 2017 he had completed his research on various kinds of bamboo. In May he decided on a type of bamboo called *konkaich*, cultivated in Tripura and the border between India and Bangladesh, as the main element of the fabrication. *Konkaich* poles are approximately 25–30 feet long, and 1–1/2 to 2 inches in diameter. The cost came to 50 rupees a

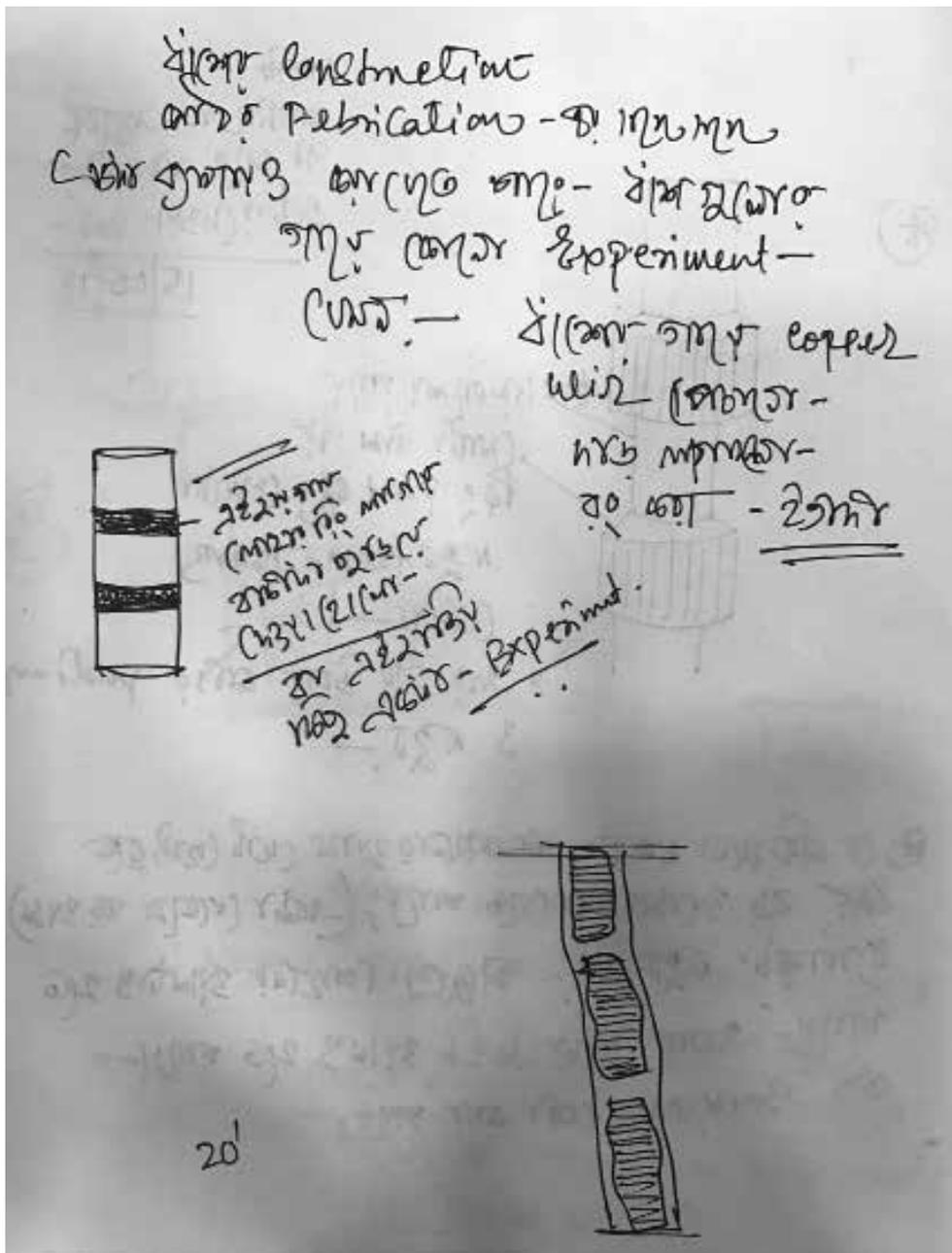
13 Page from Bimal Samanta's journal, October 2016 to September 2017.



piece including the cost of visit to the farm, sourcing, transportation – cheap by any standards. Eschewing initial plans of a decorative treatment of bamboo poles – by ‘staining, burning, gluing’ – he settled on a thick section: ‘3D effect’ he called it. In his workshop he experimented with different ways of cutting bamboo to reveal sections of varying thickness. His notebook is filled with plans to ‘explore’ and ‘experiment’ using a wood router – with different ways of slicing, hollowing, and assembling [14].<sup>11</sup> He settled on a design only if it revealed a new way of seeing the material. Throughout he was concerned about the sense of depth and texture that could be generated by assembling bamboo pieces in a manner that is not usual – how could a design element belong to a material without being familiar? How could the treatment of a material appear novel but worth adopting, replicating? He wrote, ‘I want people to think, how about doing something like

this for the interior of our house? Or why not build the whole house like this?’ At the same time, he did not want to lose the ‘character’ of bamboo by making it look like wood. The lightness, porosity, and screen-like translucence of bamboo were to be turned into an aesthetic effect. ‘Neatness’ of design as a concern recurs in his notes. His desire for an ‘abstract’ composition that is also ‘formal’ hinges on this notion of neatness – the temporary nature of the *pandal* construction does not require relaxing high standards of careful detailing.<sup>12</sup>

To achieve consistency in the design (without fully worked out drawings) requires that the workers who build the *pandal* quickly adopt the idea presented by Samanta and make it their own. The builders are typically confronted with materials and processes with which they are unfamiliar. Within days and months they master new techniques with astonishing alacrity. Except for the electricians, all workers seem



equally adept at working with bamboo, wood, steel, fabric, and various kinds of new materials that are not used for building construction such as leaves of the betelnut tree (*supari*).

A note dated 5 May in Samanta's journal names three tasks to be accomplished: giving the concept a name (the theme), completing the layout, and planning the 'parts'. By 5 June he had produced an annotated sketch of the *pandal* structure. The labour assignment was completed a week later. Work on the street started on 6 July, eleven weeks before the beginning of Durgapuja. The last lorry with bamboo from Tripura arrived on 26 August. The labourers were engaged to work for twelve-hour days by prior agreement.<sup>13</sup>

The pace of work and the hours, however, fluctuate. Work during the first few weeks is slow and during the last four weeks is hectic. The design is fine-tuned on site as the parts are assembled. Among pages of drawings, calculations of the cost of

bamboo, steel, labour, Samanta's notebook is filled with self-reminders to manage time and materials efficiently and marginal comments about the small tasks to be completed: 'whenever possible need to utilise the small bits to produce the panels.'<sup>14</sup> Any delays in the arrival of equipment, material or personnel, or disruption of work due to bad weather would have to be dealt on a day-to-day basis to make most of the limited time.

Samanta's journal demonstrates that the design is settled at two poles: a basic plan organisation is decided upon, and the area marked off on the street, and the design conception takes shape by 'parts' (he uses the term in English in the journal which is mostly written in Bengali). The intermediate steps that would detain an architect is not his primary concern - those steps are the ones that are worked out on site and are subject to a great deal of improvisation. Although Samanta's sense of the overall form is implicit in his designs, the 'parts' that



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15 Photograph that served as the model of *pandal* on Mayurbhanj Road, Kolkata, 2018.

16 *Pandal* on Mayurbhanj Road based on the photograph,

Kolkata, 2018. The proportions and colour differ.



16

form the assemblage are given the most attention. The panels, 'ladders', 'frames', each fascinating in its form, texture, and movement constitute the building blocks of the *pandal*. The process consists of 'composing' these blocks into a structure on site.<sup>15</sup>

Not all designers follow Samanta's method. Those who use the conventional tools of an architect – a full set of drawings and a scale model – are exceptions. Working from sketches and drawings, however, is not unusual. Craftsmen who manufacture *pandal* decorations make routine use of sketches and have different rates for different designs and materials.<sup>16</sup> Most *pandal* builders who aspire to design something impressive resort to drawings and photographs. But that image could be of a *pandal* that had caught the attention of a designer or organiser in a previous year. Consider this example of a modest Durgapuja *pandal* built in a working-class neighbourhood. The *pandal* was under construction when I first visited the site. The builder, a Muslim mason was busy working with his crew. The organisers of the puja belong to a Dalit (literally, downtrodden) community and while they were entertaining my questions about the *pandal* design, the designer-builder asked one among his crew to show me the photograph that serves as his model [15]. He was going by the looks of the façade and improving upon it by changing the proportions and colour. For him, the design problem was extrapolating the overall form from the façade in the photograph. The rest is based on his sound grasp of the basic requirements of *pandal* design. The finished product is indeed better proportioned than the image that served as the starting point [16]. This mason-turned-*pandal* designer might have a better understanding of the

structural requirements of *pandals*, and Samanta might have more investment in design details, but they have something in common. They both improvise as they see fit, heeding the site specificities and accommodating their respective budgets, even though Samanta's budget is many times higher than the mason's.

If I have spent more time discussing Samanta's design method, it is because his journal elicits a self-consciousness about the design decisions he makes. His journal is intended not simply as a notebook for himself to keep track of his thought process, but it is also clearly about creating an archive. The journal presumes and anticipates an audience. It constructs its own history.

Earlier in this article, I noted that Durgapuja *pandals* belong to the tradition of popular worship that occurs beyond the temple precinct and beyond the restrictions of the temple as an institution. This is to say there is a vernacular ethos in the design and construction of the *pandals*. But what does this vernacular ethos constitute of? I find it difficult to square Samanta's design process with the historiography of vernacular architecture – that is architecture designed by those who are not trained as architects – in which I was socialised. Both empirically and methodologically robust, this body of scholarship on vernacular architecture, comprising primarily North American examples, provide compelling arguments for understanding vernacular design as process and remains the groundwork upon which later understandings of vernacular or folk architecture have been based. This historiography, however, has charted a very different set of conclusions about the design process in

vernacular buildings than what I discern in Samanta's case or for that matter in any other *pandal* design. In the concluding section of this article I turn to foundational works in this literature, to ask what can *pandal* design teach us about the process of vernacular design.

### Vernacular method

Analyses of vernacular architecture are strewn with terms such as habit, convention, tradition, and continuity. At the same time, vernacular architectural historians are keen to demonstrate that vernacular builders are not mere copyists. They offer at least two different ways to think about the making – both design and construction – of vernacular buildings. Formulated between the 1970s and the 1990s Henry Glassie's structuralist interpretation of vernacular buildings has had a profound influence on how the vernacular building process is understood. This approach assumes that, 'an abstract mental language of basic rules and relationships is manipulated by the folk designer according to cultural principles encoded in the traditional building method.'<sup>17</sup> From this point of view, the task of analysing vernacular architecture becomes that of recovering the architectural grammar by studying a corpus of buildings that share certain spatial patterns. The grammar, intuitively known, enables and guides the manipulation and transformation of the system of building:

*The forms lay in the minds of their makers until some problem caused them to be drawn out. When drawn out, the forms were defined by some material, stone, log, or brick, frame filled or sided. Then the form might have been decoratively encrusted, and it might have had other distinct forms added onto it. Forms are types – plans for production – and buildings are examples of types or composite types.*<sup>18</sup>

The vernacular design process then consists of manipulating the form to produce variations within this type. Innovation is limited to, 'simple matters of addition and subtraction'.<sup>19</sup> Topography, site, and infrastructure insert elements of 'compromise' to the ideal form, leading to variations in the siting of buildings as individual units and as part of an ensemble. 'Disruption of both the practical and aesthetic – economic and artistic – traditions resulted' when the ideal form could not be expressed in the usual manner of siting.<sup>20</sup>

Thomas Hubka expands on the above: 'In the folk system, new forms are conservatively generated out of old forms and old ideas, while in modern design practice new forms may be generated out of old and new forms and ideas.'<sup>21</sup> Refuting the pervasive misunderstanding of the folk builder as unimaginative, he likens the folk builder to a bricoleur, 'who works within a severely limited field of prestrained ideas arrived from existing buildings', while the 'modern designer' like a 'scientist' freely goes 'beyond the constraints of the context or building tradition, and manipulate theoretically unlimited design explorations'.<sup>22</sup> Hubka elaborates on the vernacular builder's design

method by distinguishing between the primary design component that is 'rigorously structured' and the secondary design components that permit a 'range of individual design interpretations'.<sup>23</sup> He argues that this spirit of conservatism is as much evident in the buildings of colonial America as it is in contemporary subdivisions.<sup>24</sup> While it may be noted that the architect builds according to the same principles articulated by Hubka, that is besides the point for my argument.

Dell Upton has complicated the idea of the architect/builder dichotomy and a presumed artificiality in the division of labour between the architect and the builder in colonial America. Pointing out the fallacy of assuming that the designer is armed with 'taste' and the builder works within 'tradition' he notes that the building process of Anglican parish churches in colonial Virginia, was accomplished by a 'bewildering variety of people'.<sup>25</sup> The size, basic plan, and materials were set and articulated in a contract given to the builder. Architectural drawings – typically a plan and elevation and perhaps a roof-framing plan – supplemented written specifications. The use of drawings was fairly routine, and these could be drafted by the vestry, by a carpenter paid to that work, or by someone else with some experience in construction: 'by far the most common tactic was for the vestries to publish general dimensions, and to require each bidding undertaker to bring a plan that met the specifications along with a bid for building his design.'<sup>26</sup> It is within the parameters of a contract, crucial for anticipating the expenses for such a project, that the builder used his creativity to bring the larger idea/image to fruition. Invariably, the builder received additional compensation for amendments and additions to the original contract as changes to the original idea was considered necessary by the vestry. The process, however, he argues, 'could not be an improvisatory one'.<sup>27</sup>

Innovation in these two models is secondary, and limited by financial, cultural, and technical constraints. Upton's model allows more processual dynamism than Glassie's or Hubka's, but the site is assumed to be in a sort of steady state, if not quite fixed. The ideal form is adjusted to be sited in a particular location.

Twenty-first-century *pandal* design is a far cry from colonial church or residential design that concern historians of American vernacular architecture. My point is not to assert any strange symmetry, nor to valorise innovation and improvisation over tradition and continuity. Rather, I suggest that the Durgapuja *pandal* helps us reimagine the process of vernacular/popular architecture that structuralism and a presumption of permanence preclude. This is to say, first, that an adherence to structuralism might have unduly limited the interpretation of vernacular architecture, and skewed our view of its process and constraints, and second, that *pandal* design, precisely because it is temporary, clarifies a large set of relations about materiality that tend to remain beyond the purview of architectural inquiry. It encourages us to shift our focus beyond tradition



17 *Pandal* of Bakulbagan Sarbojanin, Kolkata, 2018, designed by Bimal Samanta.

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and continuity as the two characteristics of vernacular building.

The process of *pandal* design is the product of a nominal contract made between the organisers and the designer. The budget and date of completion are the only strong parameters of the informal agreement between the two parties, and the clients have little sense of what is going to be delivered at the end. The club organisers might have various degrees and kinds of input, but no design approval takes place. The informality of the process is rooted in an ethos of accommodation that gives *pandal* design, with its claim to short duration, its characteristic softness.

The two primary components of the design ethos of Durgapuja *pandals* – site specificity (rootedness) and ephemerality (their transitory quality) – are not viewed as contradictory, but as complementary. *Pandals* are ephemeral by intention and thrive on improvisation. But they also leave traces, perpetuating habits of space use. A gathering space during Durgapuja might become the site for a clubhouse, or the teashop that thrived during festival days might become a perennial fixture. The most effective designs indeed help create a sense of place even when the structure is gone. The site becomes an active player.

*Pandal* design is an art of putting together ‘parts’ (Samanta’s term), some of which are created anew, and some of which are appropriated from the urban context. *Pandal* design poaches on, draws within its ambit the everyday urban fabric in a manner that forces us to think of the street edge and urban public space as a soft entity – malleable, connectable, appropriable. If we describe this work as that of a bricoleur, we must do so in a manner differently than Hubka intends. The bricoleur, according to Claude Lévi-Strauss, parlays on contingency; it is not structure but contingency that rules. The original

sense of the verb *bricoler* ‘applied to ball games and billiards, to hunting, shooting, and riding’, always used ‘with reference to some extraneous movement: a ball rebounding, a dog straying or a horse swerving from its direct course to avoid obstacle’, might be more pertinent to our analysis here.<sup>28</sup> These actions describe a spirit of responding to contingency that is absent from the manner in which the term bricolage has been adopted in anthropology, vernacular architecture history, and cultural history. As in much popular culture, the creative process thrives on contingency, even when the situations are not of one’s own choosing. The temporary location of the *pandals* in public space – where they exist because of the goodwill of the community, even though the construction is a positive inconvenience – must respond to the contingencies of everyday life in that community. It must be agile: bend, shift, make room for other intentions to fulfill its own goals.

In the 2017 design of Bakulbagan Sarbojanin, Samanta inserted a sitting space – an outdoor lounge of sorts – in a rather unsightly unpaved vacant lot, typically used for parking cars. This space defined the edge of the Durgapuja venue: it was an important element, both formally and socially. Whereas a traditional design response might have been to block off the space with a fabric screen to hide the peeling paint of the boundary walls and the unfinished look of the lot, Samanta’s design left the wall and the parking space untouched. Instead he focused on the ceiling of the sitting space [17]. The intriguing filigree pattern of the ceiling moved attention away from the site’s unsightliness and towards the sky, taking advantage of a tree that brightened the corner of the lot. One of the last spaces to be finished, this improvisation parlayed on ephemerality: the chance breeze, the bits of shadow cast by the ceiling, and the patterned sunlight under the tree.

## Notes

- For an expanded discussion of this, see Swati Chattopadhyay, 'Hacking the Urban Code: Notes on Durational Imagination in City-Making', in *The Handbook of Global Urbanism: Essays on the City and its Futures*, ed. by Colin McFarlane and Michele Lancione (London: Routledge, Taylor and Francis, 2021), pp. 233–40.
- For spatial analysis of such religious practices at various scales, see *Kumbh Mela: Mapping the Ephemeral Megacity*, ed. by Rahul Mehrotra and Felipe Vera (Hatje Cantz Verlag, 2015); William Elison, *The Neighborhood of Gods: The Sacred and the Visible in the Margins of Mumbai* (Chicago, IL: University of Chicago Press, 2018).
- For more on the courtyard plan, see Swati Chattopadhyay, *Representing Calcutta: Modernity, Nationalism and the Colonial Uncanny* (London: Routledge, 2005).
- See Anjan Ghosh, 'Spaces of Recognition: Puja and Power in Contemporary Kolkata', *Journal of South African Studies*, 26:2 (2000), 289–99; Swati Chattopadhyay, *Unlearning the City: Infrastructure in a New Optical Field* (Minneapolis, MN: University of Minnesota Press, 2012), ch. 7; Tapati Guha-Thakurta, *In the Name of the Goddess* (Delhi: Primus Books, 2017); Swati Chattopadhyay, 'Fabricating Community and Public Space in Kolkata's Durgapuja', *Perspecta*, 52 (2019), 208–20.
- The documentation is part of a citywide study of Durgapuja undertaken by the Calcutta/Kolkata Co-Lab in 2018.
- In a temple this separation would be fairly strict, and often delineated in terms of caste, gender, and other forms of social hierarchy, and varied depending on regional, sectarian, and familial practices. There is a substantial literature on the social life of temples. See, for example, Arjun Appadurai and Carol Appadurai Breckenridge, 'The South Indian Temple: Authority, Honour and Redistribution', *Contributions to Indian Sociology*, 10:2 (1976), 87–211; Sita Anantha Raman, 'Popular Pūjās in Public Places: Lay Rituals in South Indian Temples', *International Journal of Hindu Studies*, 5:2 (2001), 165–98.
- Swati Chattopadhyay, 'Ephemeral Architecture: Toward Radical Contingency', in *Critical Approaches to Contemporary Architecture*, ed. by Swati Chattopadhyay and Jeremy White (New York, NY: Taylor and Francis, 2019), pp. 138–60.
- For a more elaborate explanation, see Chattopadhyay, *Unlearning the City*, ch. 7.
- Bimal Samanta's journal, October 2016 to September 2017.
- Ibid.
- Ibid.
- Ibid. For more on the labourer's role in the process, see Chattopadhyay, 'Fabricating Community and Public Space'.
- Bimal Samanta's journal, October 2016 to September 2017.
- Ibid.
- Chattopadhyay, *Unlearning the City*, ch. 7.
- Henry Glassie, 'Eighteenth-Century Cultural Process in Delaware Valley Folk Building', in *Common Places: Readings in American Vernacular Architecture*, ed. by Dell Upton and John Michael Vlach (Athens: University of Georgia Press, 1986).
- Ibid., p. 397.
- Ibid., p. 404.
- Ibid., p. 417.
- Thomas Hubka, 'Just Folks Designing: Vernacular Designers and the Generation of Form', in *Common Places: Readings in American Vernacular Architecture*, ed. by Upton and Vlach, p. 430.
- Ibid.
- Ibid., p. 431.
- Ibid.
- Dell Upton, *Holy Things and Profane: Anglican Parish Churches in Colonial Virginia* (1986; repr. New Haven, CT: Yale University Press, 1997), p. 28.
- Ibid., p. 34.
- Ibid., p. 32.
- Claude Lévi-Strauss, *The Savage Mind* (Chicago, IL: University of Chicago Press, 1962), p. 29.

## Illustration credits

arq gratefully acknowledges: Swati Chattopadhyay, 1–10, 15–17 Bimal Samanta, 11–14

## Acknowledgements

I am grateful to Bimal Samanta and his team of builders for giving me their time and assistance and for sharing their expertise with me.

## Competing interests

The author declares none.

## Author's biography

Swati Chattopadhyay is Professor in the Department of History of Art and Architecture at the University of California, Santa Barbara, and a Visiting Professor of Architectural History at the Manchester School of Architecture. She is the founding co-editor of PLATFORM.

## Author's address

Swati Chattopadhyay  
swati@arthistory.ucsb.edu