

Edward Ford

THE GRAND WALL

Kengo Kuma & Associates, Great Wall (Bamboo) House, Beijing, 2003



RK OF FICTION

THE DETAIL AS NARRATIVE

The steel and wood frame is barely visible behind the bamboo screens.



OMA, Kunsthall, Rotterdam, 1992

According to OMA's Rem Koolhaas, the condition of the joining of a wall and roof or any other surface should not create a third element, a 'detail', but in reality the stone wall has a small cap.

A practising architect and Professor at the University of Virginia School of Architecture, **Edward Ford** is the leading expert on the architectural detail and the author of three seminal books on the subject. Here Ford explains that, though the decision ‘to abstract or to articulate’ architecture ‘may be largely subconscious’, it is never ‘arbitrary’. For ‘in the well-designed building, it is done in the service of the creation of a larger narrative, a unity of vision’.

Architecture .. is a grand work of fiction based on ‘truth in the details.’

— Kunio Maekawa, 1985¹

I am not certain what Rem Koolhaas meant when he said that ‘how the roof meets the wall can never be an idea’.² Given the context in which he said it, defending the detailing of his Rotterdam Kunsthal (1992) by criticising Carlo Scarpa, I think he meant that the junction should not be an object, that the meeting of these two parts should not generate a third. Much of the detailing in the Kunsthal could be called collaged, or rather a collision. Two surfaces of different materials simply run into one another. To Koolhaas, the modern joint is ‘clamped, folded, glued, or fused’. He wrote: ‘detailing ... is now a transient coupling waiting to be undone, unscrewed, a temporary embrace with a high possibility of separation ... the abrupt end of a system’.³

To many the desirability or absence of this third object, trim, is a discussion of no consequence, or at least soon will be. Lorenzo Marasso writes:

Building form is traditionally understood from the assembly of discreet building components. Today digital variability ... disengages form from the economy of repetition and makes smooth curvilinear composite structures feasible. We may consider form to be a composite whole and no longer the sum of parts.⁴

One could write a long, rather technical article examining and probably questioning this premise, and asking whether the ‘composite whole’, if technologically possible, is technologically desirable given thermal expansion, post-construction shrinkage and expansion, and contemporary practices of open-jointed, porous screen walls. Likewise, one can argue that Koolhaas’s joint as collision is no less the product of carefully orchestrated planning and execution than an Ionic volute, requiring a good deal of concealed, albeit less precise, construction. It is no less a detail than the cornice of Scarpa’s Bank of Verona (1993). This, however, is not the issue.

This discussion, like many over the detail, centres on the issue of joints, but the critical question is not whether the composite whole, the material collision or articulated trim, as universal solutions, are technologically superior, but where and when they are good architecture. To answer this question we must recognise some realities and realise that we are asking the wrong question.

Articulation

Detailing, as an act of design, requires the selective presentation of information. In any building a myriad of technical problems must be solved. In most cases there are multiple solutions. Some details solve the problem in a way that leaves no visible result, inside or out. These details are abstract. Others will solve the problem in a way that is visible, creating an architectural element in the process. These are articulated details. Given the overwhelming number of such conditions in the modern building, most detailing is abstract and involves the suppression and not the expression of information. Only a small number of details can be articulated, and only a small fraction of solutions can be demonstrated.

What type of information the articulated detail articulates varies – the hidden gutter versus the exposed one, the hidden window frame versus the oversized one – and the information presented may be exaggerated, simplified, misleading or fictitious – and often is. Although the process of deciding to abstract or to articulate may be largely subconscious, it is not arbitrary. In the well-designed building, it is done in the service of the creation of a larger narrative, a unity of vision. As a result the typical modern building is a constructional reality wrapped with a constructional narrative that simplifies, omits, exaggerates and often deceives. Many of these narratives are about concealing rather than describing programme, construction or even spatial layout, but many, and arguably the most important, articulate some aspect of the building’s assembly, details that tell us about the building’s construction and how we perceive the relation of the part to the whole. The exteriors of Kengo Kuma’s buildings are narratives of wood, thatch, stone and other traditional materials, but they clad



Greene and Greene, Gamble House, Pasadena, California, 1908

The structure in the foreground is a handcrafted, heavy timber frame, while the shingles in the background cover a standard wood stud wall of the day.

frames of heavy timber, concrete or steel that are sometimes completely and often partially concealed. The frame is the constructional reality, but it is clad by narrative outer layers of context and tradition.

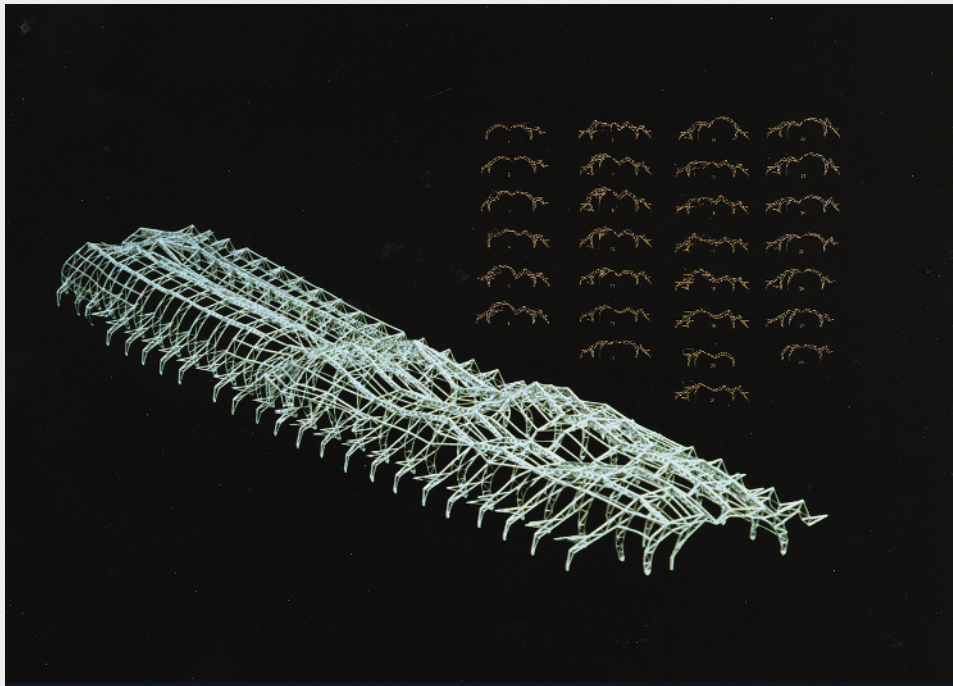
Modernist narratives of the architectural detail focus on the appearance of consistency, on making the detail conform to the totality. This is understandable. Architecture abounds with buildings with strong concepts compromised by poorly chosen or poorly executed details – the transparent wall that appears opaque, the curved wall that is crudely segmented, the Minimalist volume that bristles with oversized trim. But often the motivation for this consistency goes well beyond visual coherence to an insistence on details that are not only formally, but also ideologically, consistent. This invariably is some version of a technological zeitgeist, the spirit of the times. The process is simple. The architect seizes on a technological development – mass production or digital fabrication – then creates a series of architectural forms based on projecting this trend towards its complete realisation. To Le Corbusier, the zeitgeist of mass production demanded standardisation, so the typical sliding windows of the Villa at Garches (1927), the Villa Savoye (1931) and the Swiss pavilion (1930) are a single, identical size. To Reiser + Umemoto, the zeitgeist of digital fabrication demanded that all parts be unique, so all the frames of their Yokohama Port Terminal competition entry (1995) are different. Other areas of focus have included energy self-reliance (for example, the Solar Decathlon House competitions sponsored by the US Department of Energy), material efficiency (Buckminster Fuller) and off-the-shelf products (Charles and Ray Eames),

but each forms the basis for deciding what details are articulated and which are abstracted.

The fact that these predictions have proved partially and often completely wrong seems to matter not at all, since the results provide a compelling if invariably inaccurate set of images. The executed buildings that result from this process are consistent only in appearance, masking more complex realities, and the technological trends on which they are based rarely develop into the anticipated systems. Think of Greene and Greene's Gamble House (1908), a crafted timber exterior interlocking with an internal normative platform frame. The reality of modern construction is almost universally the hybrid: the steel house filled with wood, the digitally fabricated ceiling in the conventionally framed box.

These narratives of detail are inevitable in a building of any size, and technology alone will not determine their nature. The problem is that we fail to recognise their existence and in many cases we are debating a representation rather than a reality of construction.

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Reiser + Umemoto, Yokohama Port Terminal, Yokohama, Japan, 1995

Digital fabrication makes it possible to make each transverse truss unique.



Herzog & de Meuron, MH de Young Memorial Museum, San Francisco, 2005

A seamless wrapper of long, perforated, apparently jointless copper panels covers a normative construction of steel framing, metal studs and gypsum board.

Two Examples

Herzog & de Meuron's MH de Young Memorial Museum in San Francisco (2005) and Tod Williams Billie Tsien's Barnes Foundation in Philadelphia (2012) appear to be very different buildings, constructed in very different ways and embodying very different narratives of joinery. One has highly articulated joints; the joints of the other are continuous.

The design of both facades draws on patterns that are contextual. The pattern of perforations of the de Young wall is based on a pixelated photograph of the nearby tree canopy, translated into a fine grain of circular perforations and dimples. The wall is composed of long, horizontal copper panels and appears continuous, and the pattern of dimples and holes for the most part ignore the joint locations. While both facades are panellised, the joints of the de Young are suppressed and are barely perceptible from a distance.

The character of the Barnes wall can be attributed to the architects' desire to make reference to the walls of the older classical home of the institution's collection, but they also wanted to express both the joints of the wall and its porosity. The pattern of stone joints in the Barnes is also contextual in a way, drawn from Kente cloth, a textile from Ghana reminiscent of the African art in the collection. The wall is formed of limestone panels in sizes that vary from roughly 0.5 x 3.5 metres to 3.5 x 3.5 metres (2 x 12 to 12 x 12 feet), each composed of six to 10 smaller stone panels. While the larger panels are separated by wide stainless-steel strips or recessed windows, the joints of the smaller panels can be seen only because of the veining of the stone. At one point exposed bronze clips were considered to demonstrate the connection of the 5-centimetre (2-inch) stone veneer to the steel behind. In contrast to the de Young, the joints of the Barnes are articulated in dramatic fashion, but in a selective way.

An examination of the totality of these two assemblies reveals a different story. Their similarities greatly outnumber the differences. Both use steel frames hidden between the exterior and interior finish layers. Both have suspended gypsum-board ceilings, above which are located the major services: mechanical, lighting and wiring. Both have exterior surfaces supported by tightly spaced steel studs. Both have precisely constructed exterior finish surfaces connected to imprecisely constructed interior frames with fasteners, hidden from view, that allow for adjustment. The differences in the technical narratives are limited to the outermost 5 centimetres (12 inches) of each building's volume. The reality is that in terms of joining methodologies, both are hybrids of joint types, mixing the separated, the articulated and the continuous. While there are different philosophies of detailing and joinery in these two buildings they are confined to a thin surface layer and represent modes of detailing very different from the normative construction of what is enclosed. They are constructional narratives, not realities.

So if the detail is not the result of technological inevitability, how is it determined? How does one decide what to articulate, and particularly, how does one decide when to articulate a joint?

Three Axioms of the Detail

THE GOOD JOINT IS OFTEN THE IMPERFECT ONE.

Advocates of the digital millennium speak with the assumption that the perfect is its own reward. The seamless and the jointless are virtuous in themselves. Writers of the Arts and Crafts era, William Morris or Mackay Hugh Baillie Scott, spoke with the assumption that irregularity is virtuous. The joint was the embodiment of labour, the evidence that others had had a role in the making – the trace of the hand. The slight irregularity and the mark of the tool were the evidence. Imperfection has other types and other virtues. There are the imperfections of nature – the weathered surface, the wood joint that creeps open due to shrinkage, the concrete joint that cracks with curing. These add character and the sense of material reality to abstraction, but more importantly they enable buildings to embody labour and history as much as they embody capital. The perfect joint leads only to abstraction and distancing from reality, the imperfect one to a consciousness of craft and material. The modern structure may not bear the trace of the hand, but it may show the marks of its realisation.

THE AFFIRMATION OF SCALE IS A NECESSARY CONDITION FOR ARCHITECTURAL UNDERSTANDING, REQUIRING THE PERCEPTION OF PARTS, THAT IS, ITS JOINTS.

Peter Rice, engineer of the Centre Pompidou (Paris, 1977), said of the building that the joint was the essence of the solution, arguing that it was the quality of joints that gave traditional buildings their 'friendly feel'.⁵ To the Japanese Metabolists of the 1960s, such as Kisho Kurakawa, the individual parts of their structures did not just accommodate the individuals that made up a society; they were its concrete representation. These are arguments for the articulation of parts, the ability to perceive a building as an assembly, in large part because it makes possible an association between the building and ourselves.

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Tod Williams Billie Tsien Architects, Barnes Foundation, Philadelphia, 2012

Wide, deeply recessed panels of stainless steel are set between the joints of some, but not all of the limestone panels to highlight the joinery and the porosity of the wall.

THE UNDERSTANDING OF A BUILDING REQUIRES NOT JUST AN UNDERSTANDING OF THE PARTS, BUT OF THE FORCES BETWEEN THEM.

The historian Paul Frankl saw the semi-autonomous parts of buildings like Donato Bramante's Tempietto (Rome, 1502) as not just friendly, but 'happy'. He writes: 'They confirm the naïve belief that it could be given to a man to determine his own fate, to move effortlessly through this world, to be unoppressed, to be in control of himself without effort.' This is a result of their highly articulated partiality, that they are 'active, independent and generators of forces'.⁶

Beyond the issue of scale is the issue of empathy, the concept that we understand a building in relation to ourselves not just in terms of the size of the parts, but also in terms of internal forces between them. Heinrich Wölfflin wrote: 'Physical forms possess a character only because we ourselves possess a body. ... We read our own image into all phenomenon,'⁷ meaning that the act of self-projection involves not just size, but weight, and this is a necessary condition for architectural understanding. The appreciation of a building involves not just identifying a building, not just seeing a building, but feeling it, and the method for doing this is the animation of the joints. The Ionic volute is an example of sculptural animation, but Modernism abounds with structural animations, from HP Berlage to Renzo Piano, in which the movement is quite real.

Narratives and Realities

That building technology has become exponentially more sophisticated in the last 100 years is undeniable, but the assumption that these developments are driving the development of style is at best an oversimplification. When such influence does occur it is often metaphorical and literally superficial, as in the two cases described above.

One could write an illuminating history of Modernism based on which of the three types of detailing narrative described above – the articulated element, the seamless joint or the material collision – was dominant at any given point. Even a cursory glance at the 20th century reveals that while architecture underwent the greatest technical transformation in its history, at this time the prevalence of one or the other of these approaches to the joint occurred in a fairly cyclical way: continuous (Anatole de Baudot's concrete structures); animated joints (Victor Horta and early Berlage); continuous (late Berlage and Frank Lloyd Wright); fragmented (Constructivism, Gerrit Rietveld); continuous again (the International Style); articulated (High Tech); fragmented again (Deconstruction); and continuous again (parametric design). Technical explanations for these changes fall apart rather rapidly under examination. While technologically enabled they were not technologically driven. They are the result of aesthetic preference, not technical progress. We ended the century with a radically changed technology. Stylistically we are back where we started.

But in any case we are discussing the narrative of the building, not the reality. The true technological revolutions are taking place below the surface, blithely indifferent to our

unified visions of the technological future. The normative condition is the hybrid and while its specifics may change, the particular technology of a building will always be in a transitional condition.

If architecture is to embody ideas and values it must transcend architectural understandings based on glib association, superficial 'readings' and pop symbolism. A richer palette of details would make possible a wider range of architectural understandings independent of some overriding, oversimplified, inaccurate narrative of the technological present. Should we not pursue deeper understandings that come by perceiving that a building is an assembly of forces in a precarious equilibrium, constructed of parts of a comprehensible size, crafted by both the hand and the machine?

As to the future of the detail, it is, in its technical specifics, a mystery, but as to whether it is to be Koolhaas's collision, Scarpa's ornament or simply nonexistent, whether it is to be continuous or fragmented, precise or irregular, sophisticated or archaic, organic or mechanical, we can say with a certainty that at various times it will be all of these. The future of detail is not a technical question any more than is the future of architecture. ▢

Notes

1. Kunio Maekawa, *Kosumusu tu hoho (Cosmos and Method)*, Kenchiko Sekkei Jimusho (Tokyo), 1985, pp 209–10. Quoted in Fumihiko Maki, *Nurturing Dreams*, MIT Press (Cambridge, MA), 2008, p 200.
2. See Arie Graafland and Jasper de Haan, 'A Conversation with Rem Koolhaas', *The Critical Landscape*, 010 Publishers (Rotterdam), 1997, p 229.
3. Rem Koolhaas, *Content*, Taschen (Cologne), 2004, p 164.
4. Greg Lynn and Mark Foster Gage (eds), *Composites, Surfaces, and Software: High Performance Architecture*, Yale School of Architecture (New Haven, CT), 2010, p 56.
5. Peter Rice, *An Engineer Imagines*, Artemis (London), 1994, p 26.
6. Paul Frankl, *Principles of Architectural History*, MIT Press (Cambridge, MA), 1968, p 130.
7. See Harry Mallgrave and Eleftherios Ikononou, *Empathy, Form and Space*, Getty Publications (Santa Monica, CA), 1994, p 151.