

A reflection on how the plan of Le Corbusier's Chapel at Ronchamp is open and incomplete, like a frayed edge which allows us to examine how carefully its fabric is woven.

## Bringing heaven down to earth: reading the plan of Ronchamp

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*The sky is bare.  
The smoke floats.  
The wall shines.  
Oh! How I should like to think clearly!*<sup>1</sup>  
(Paul Valéry)

*How can I tell what I think till I see what I say?*<sup>2</sup>  
(E. M. Forster)

Valéry's cry for clarity stiffens my resolve to write from the position of a working life in architectural practice. Sometimes we need to raise our heads above the heat of daily battle with budgets and restrictive regulations, to remind ourselves of what it was that made architecture such a compelling field of study in the first place. Personal experience of works of architecture persuades us that architectural design provides useful evidence of human intelligence. And there is a case to be made for connecting the widely accepted value of historic architecture to the less well-established position of contemporary architecture in the culture, to pay attention to what Robin Evans once called 'the small poetic voice of modern architecture'.<sup>3</sup>

By way of example, I will refer to my own study visits to one of the well-known works by a master of twentieth-century architecture, Le Corbusier's Chapel de Notre Dame-du-Haut at Ronchamp. I will concentrate on the resonant manipulation of its plan [1], and focus on Corbusier's humanist approach to form finding. I am not declaring this building my all-time-favourite, nor even the one that brought the most comforting pleasure. It is interesting, very interesting indeed, although certain distinctive elements are ugly to my eye and remain resistant to my taste. And, yet, Ronchamp has stayed in my mind for a long time. It continues to bother me in different ways. This aggravation ought to make fruitful ground for further investigation. It could be that levels of residual friction will provide the necessary purchase for patient enquiry. E. M. Forster writes:

*Why do the characters in Jane Austen give us a slightly new pleasure each time they come in, as opposed to the merely repetitive pleasure that is caused by a*

*character in Dickens? [...] the best reply is that her characters, though smaller than his, are more highly organised. They function all round [...].*<sup>4</sup>

Ronchamp, compared to more easily digested buildings, could be described as round rather than flat, in the sense of Forster's famous distinction between characters, between two-dimensional type caricatures or fixed-in-place personalities, like Mrs Micawber who simply believes in her husband, and more subtly constructed individuals, like Madame Bovary, whose character is the more complex result of an author's direct control of every pulsating detail, where the writer:

*[...] seems to pass the creative finger down every sentence and into every word [...] The test of a round character is whether it is capable of surprising in a convincing way. If it never surprises, it is flat.*

Willa Cather described one of her early novels as having been written before 'the time in a writer's development when his life line and the line of his personal endeavour meet'.<sup>5</sup> For Le Corbusier, this crucial work emerged from just such moments of intersection, when external circumstances and private purposes coincided. He had reached a milestone in his life's ambition with the construction of the *Unité d'Habitation* in Marseilles. He had republished his early book *Precisions*, with a new introduction describing the living arrangements of the *Unité* as detailed proof of his original argument. Marseilles marked a monumental fulfilment of his radical ideas about social living and acted as a practical demonstration of his commitment to the Home of Man. Having had to abandon work on a strange project for a chapel dug into the hillside of St Baume, he expressed initial reluctance to begin again with this work on another religious hilltop. Perhaps he wanted to gain some private space away from larger public projects, to use a small project as a chance to reflect on larger questions.

As W. H. Auden wrote, 'Whatever his defects, a poet at least thinks a poem more important than anything which can be said about it, he would rather it were good than bad, the last thing he wants is that it should be like one of his own [...].' Having

<sup>1</sup> Ground Floor Plan, Chapel de Notre Dame-du-Haut, Ronchamp, 1951.



advised us how to approach other people's work, Auden provides two useful questions to ask when reading a poem:

*The first is technical – 'Here is a verbal contraption. How does it work?' The second is, in the broadest sense, moral: 'What kind of a guy inhabits this poem? What is his notion of the good life or the good place?'*<sup>6</sup>

Those two questions, proposed as an aid to reading poetry, could help us read some of Le Corbusier's poetic intentions. To understand a few fundamental aspects of his philosophy of architectural design, we could learn how to read the plan and how to interpret the resultant form. To quote Robert Frost, 'A poem is best read in the light of all the other poems ever written.'<sup>7</sup>

In what follows, Ronchamp will be selectively described, and other works by other architects mentioned in passing to illustrate particular points of view. Observations made, although informed by some reading around this well-documented work, are reaffirmed by sight-reading the actual work on site. Consciously designed buildings exist in some kind of silent conversation with those that have gone before. Their interdependent narrative is a factor of the secret life of architecture. Any deliberate design, if it is a good one, embodies the memory of its author's experience of architecture. It is said that Aalto was so impressed with Frank Lloyd Wright's site-specific concept for *Falling Water* that he spent some time looking for a stream to span with his own design for the Villa Mairea. That is, when he didn't have the white elevations of the Villa Savoye on his mind as inspiration for the same, wholly original, and independent work. And Ronchamp obviously lurks behind Aalto's Vuoksenniska church in Imatra completed in 1959. Old ideas live again in new work.

Seamus Heaney, in his introduction to *The Poet's Chair*, refers to his musician uncle as 'one through whom succession passes'. Heaney says that no poet stands alone, but is, in Yeats's phrase 'a true brother of a company'. There are relevant comparisons to be made between the disciplines and practices of poetry and architecture, with certain evident similarities in vocation and purpose between the two professions. Architects and poets seek to find new possibilities for meaningful form that can be shaped out of a limited vocabulary. By writing and by design, they work to extract resonant expression from the everyday language of their surroundings. Not all writing is poetry, some architecture has poetic intent. As Le Corbusier put it, 'to be an Architect is nothing, you have to be a Poet'.<sup>8</sup>

#### Reading the plan

*Without scholarship no classical text could survive and be read, but scholarship alone cannot preserve a poet as a vital presence. That is the task of poets and good readers of poetry, from generation to generation.*<sup>9</sup> (D. S. Carne-Ross)

For the working purposes of architectural design, the plan is represented as a flattened plane. Three dimensions are collapsed into two, providing a floating platform on the paper's surface, as if a horizontal slice of the building had been suspended

in the air. The portico of the Pantheon faces north onto its piazza and the altar window of a Romanesque chapel must face east towards the rising sun. We know that buildings somehow have to be tied to place and sometimes even fixed in their orientation. And yet, as it floats on the page, and in the mind's eye, the plan remains free to swivel, to pivot about every fixed point of the plan-maker's choosing, or from any point of view of the plan-reader's interpretation. Seen in this way, freed for this moment from gravity and function, the plan is not simply a set of boundaries delineating utilitarian space, or a network of lines describing the relative positions of walls, doors, and windows. It is also a contraption of its own, an organism abstracted from reality, one that lives by received rule systems that are related to old ideas.

If the plan is a horizontal section, the corollary does not apply. The section cannot properly be described as a vertical plan. The section sits fixed upright on the page, it is not at liberty to swivel in the mind. Every section must be read 'this way up'. The vertical slice does not free the section to spin about any notional centres of gravity. In section, gravity is not a metaphor, the force of gravity is an unescapable fact. The compass needle spins as we travel across the surface of the earth, but up always remains up, and down still stays down. Gravity rules the section, making it somewhat secondary, slightly simpler and a lot less abstract than the plan. Alvar Aalto seems to have designed in plan and section simultaneously. The sketches of Vuoksenisska and Maison Carré show this to be his habitual way of working. Le Corbusier and Louis Kahn seemed to have first figured a scheme out in plan and only then followed it up in section. Kahn's volumes are plans extruded vertically, flatly capped off at various parapet levels.

Le Corbusier's crab-shell sits awkwardly astride the wall-form of Ronchamp, a dolmen capstone deliberately disconnected by a line of light, as if to refuse the further offer of any spatial relationship. Only the side chapel light-shafts connect the sky to the ground in an integral gesture. His work has mostly Cartesian origins, made evident in the setting out of the plan. And even when the plan is curvilinear, those ship's curves are unshiply, being two-dimensional in the main – Ronchamp excepted, once again.

Aalto wrote about his approach to form in his influential essay 'The Trout and the Mountain Stream'.<sup>10</sup> He provides access to his design process by way of analogy, restating a classical definition of the concept, something that is not *born fully grown*, but developed with difficulty, like a trout struggling upstream. Designs are gradually uncovered in the process of inquiry. Drawing, and long periods of parallel study, eventually lead, through a process of conscious and unconscious crystallisation, to 'an interweaving of the section and ground plan, and to a kind of unity of horizontal and vertical construction'.<sup>11</sup>

We have noted how the crab shell roof hovers over the plan of Ronchamp, cut away from the inner volume by a line of 'signifying light'. Similar patterns

of disconnection in form between plan and section can be found in Le Corbusier's buildings from Chandigarh to Zurich. In Aalto's best work, the interior is nested loosely but inseparably inside its housing, like an animal inside its shell, or an instrument snugly fitting its case. Aalto seems to have been more interested in hollowing out the volume, specifically moulding interior space to reflect light and sound, than in any sacred atmosphere. He wanted the interior figure to develop its own form inside its exterior shell. Sketching out his projects in plan and section, he was working on an idea for the form. He continued to explore the effects first described by John Soane as 'lumiére mystérieuse', and seen in Aalto's work in the reserved space held between the layers of space and structure.

We can track this thinking back ten years to the timber mould casting of the Savoy Vase, and ten years back from there to his 1926 essay 'From Doorstep to Living Room', where he made the case for an extended threshold between the exterior and interior experience of a building.<sup>12</sup> Aalto uses Fra Angelico's fresco 'The Annunciation' to illustrate the spirit of his argument, citing the reversed imagery of the angel in the garden and the virgin in the house. The interest lies in the ambiguous relationship between the apparent spatial containment of the exterior and the sense of an interior instilled with the openness of the outside world. 'Turn your garden into an interior', he wrote, 'make your hall into an open air space.'<sup>13</sup>

A century after the age of modernism, we find ourselves no longer hidebound by the proportional certainties of the classical orders, released by architectural revolution from religious adherence to hierarchical procession, and not compelled to any repetition of conventional typologies. We might like to think of ourselves as free from the restrictions that controlled the plan-makers of the past. But despite these developments, the duty remains: the architect's duty to the plan.

We carry responsibility for the inherent code by which thoughts are transferred to the page and through which architectural ideas are communicated back to ourselves and out to the wider world. The continuity of a craft can transcend cultural changes, but to survive as a practice it must be kept in practice. The origin of the word design, *disegno*, refers to both the drawing and the discipline required to make a drawing. We design by drawing. Drawing is a process of expression, in the literal sense of the word, pushing out propositions; a process of extraction, to speak metaphorically, pulling water from the wells of inspiration; a process of exploration, investigation and evidence gathering, in an effort to put fleeting perceptions down on the page. Drawing out, drawing down, drawing up. And when the plan begins to find its form, by the hesitant progress of slow labour and with sudden jumps of logic, we experience a sense of homecoming, because the architect's home territory is the plan.

We return to the plan to translate our intentions, to see again what we have seen. Buildings themselves are not experienced in plan. Spatial awareness

happens in three, or in fact four, dimensions. It has been suggested that architectural perception prefigures the invention of cinema, establishing images, tracking shots, lighting direction, narrative sequences – all well-rehearsed comparisons. Architecture is neither frozen music nor freeze-frame movies, although, as a form of notation, the plan is perhaps more sheet music than screenplay.

Buildings, perceived in spatial terms, and remembered in images, are better understood via the diagram that is captured in the plan. Beyond the intellectual satisfaction of recording the physical footprint, the potato-print stencil, the rubber-stamp imprint made by slicing through walls and structural columns, the plan itself remembers more subtle readings of the refined reality of three-dimensional space. Lighter drawn lines indicate changes in ground level or differences in floor surface. Differently dotted lines represent platforms and rooflights above, spaces hidden below the datum, or structure passing overhead. Close reading of the complex construction of a carefully made plan can thus yield deeper levels of perception, defining surface, texture, and volume. Behind the pictorial space lies the precision of the compositional grid. Geometry provides an invisible skeletal structure. Linear traces of underlying geometries may not remain fully legible in every finished floorplan, but there is a deep satisfaction to be gained from the exact placement of every element of the plan. A staircase properly pocketed away can play its part in the synthetic order of the whole. Axial convergences and columnar alignments may not present themselves on initial reading, but steady scrutiny of a good plan will reveal the extent of substructural activity to be found clustered in energy points, or distributed along the meridian lines of its animal form. As Gustave Flaubert remarked, 'Poetry is as precise as geometry.'<sup>14</sup>

#### Bringing heaven down to earth

*Greek churches do not impress by their great length or height. They are buildings of mass, not lines. The whole is tied together in complete structural unity. It is often said that whereas the large Gothic buildings of the West strain upwards to reach the heavens, Greek churches, by contrast, seek to bring heaven down to earth.*<sup>15</sup>

After years of anticipation, I wish I had liked Ronchamp better when first I saw it. My initial exposure, the moment when I opened up to Le Corbusier, was as a second-year student at UCD, in the Architecture Library in Earlsfort Terrace. At that time, I wasn't ready to take on the challenge of Ronchamp. Seen only in books it looked gawky, lopsided, and raw. To my inexperienced eye, compared to the taut elegance of the white purist works, it seemed weakened by not being sharply honed to prismatic perfection. I still remember the excitement and sense of discovery of the first two volumes of the *Complete Works*, starting off by exploring the section of the Citrohan house. Then followed a happy disciple's journey of discovery, with study trips to Paris to find what remained of the early purist buildings, and eventually leaving college with



the sadly unrealised ambition to work for somebody who had actually worked for Corbusier. I visited Immeuble Porte Molitor, the 1934 rooftop apartment at 24 rue Nungesser-et-Coli, hoping to be interviewed by André Wogensky, former assistant, keeper of the flame, then working out of the master's old studio. As soon as Wogensky opened the door, I saw up the famous blue spiral stairway [2, 3]. It seemed strangely empty, and I realised that the real hero had already left the scene:

*Yesterday upon the stair  
I met a man who wasn't there  
He wasn't there again today  
Oh, how I wish he'd go away.*<sup>16</sup>

With no luck to be had in Paris, I retreated to London, where I got lucky and began my second five-year education in architecture working for James Stirling, whose best buildings, including the early three red university buildings, were whittled down in outline to a three-dimensional clarity. Some years later, I went to see Ronchamp, which had been a stumbling block for Stirling's understanding of Le Corbusier. And, more recently, I went back again, just before the site lost its sense of timeless isolation, forced to suffer the intrusion of strident new structures by another architect; one who should have known better.

The significance of that extraordinary building, completed in 1955, is such that Le Corbusier's career, and all the related architectural world, can be simply divided in two parts: before and after Ronchamp. Before Ronchamp, Le Corbusier's *modus operandi*, his usual game, was to contrast incidental and gestural forms against a given grid. In the pre-Ronchamp

works, sweeping entrance sequences, coiling cubicles, and bending non-structural screen walls worked their formal play by staying within the rectilinear control of strict compositional frames. With Ronchamp, that is to say, with the plan of Ronchamp, which is more than enough to cope with for the purpose of this analysis, the entire organism is active, alive inside, and self alert.

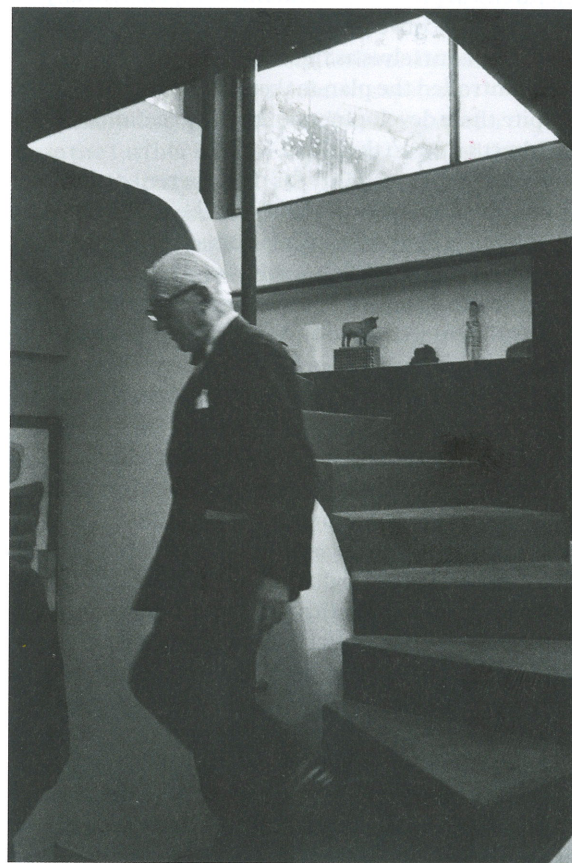
Alexander Calder's beautiful little book, about how eyes should see so that hands could draw, was published in New York in 1926. He wrote:

*There are two processes gone through in making each stroke of a painting or drawing. First, the eye and the brain, or the brain alone, must act and determine what it is desired to place on canvas or paper. This is a mental process. The second process is physical, for the hand must so control pencil or brush that the desired effect may be obtained, that the image the eye has carried to the brain may be correctly transmitted to canvas or paper. An artist may do great things after he has mastered one or other of these processes, but he cannot achieve real heights with only one of them at his command. He must see and conceive things and also be able to execute them as he wishes. There is no better way to master the two processes than to learn them simultaneously.*<sup>17</sup>

2, 3 Blue Stair:  
Apartment Atelier  
Le Corbusier, Rue  
Nungesser et Coli,  
Paris, 1931–1934  
1959/1960. Le  
Corbusier at home  
in his 'Atelier of  
Patient Search'.



2



3

Le Corbusier's manifesto *Towards a New Architecture* was published in Paris the following year. It contains a key chapter on transatlantic liners, entitled 'Eyes Which Do Not See'. The sculptor and the architect would not meet each other until Le Corbusier came to see a show of Calder's *Circus* in Paris. Some years later, they met again when they both attended a very large party to celebrate the opening of Aalto's Maison Carré in 1959, a commission lost to Le Corbusier because – despite their well-established relationship, having been neighbours at Nungesser-et-Coli, having collaborated on the inaugural exhibition, 'Primitive Arts in the Modern House' installed between their two apartments – the art-dealer client must have felt that, in this French landscape situation, on this occasion, Ronchamp notwithstanding, Aalto would work more easily with his preference for a house with a pitched roof.

The sketchbooks and statements of Le Corbusier and Aalto show that both architects drew inspiration from the vernacular, anonymous traditions of building. When Bernard Rudofsky published *Architecture Without Architects* as a catalogue to the eponymous MoMA exhibition in 1964, it became a bestseller with architects everywhere; a book no architect could do without. It was a sourcebook of images, assembled without reference to geopolitical, social, or historical context, illustrating forms of construction that were evocative of a collective continuity, a continuity that was rapidly vanishing from local cultures across the world. As a matter of our own local interest, the most recent reissue carries a cover photograph of the monastic chapel and round tower at Ardmore, although this diminutive example of Irish Romanesque architecture might seem to distract from the focus of his study of non-hierarchical buildings. Rudofsky was following a well-established pathway of architectural pilgrimages, from Le Corbusier's *Voyage to the Orient* onwards.<sup>18</sup> Many disciples of Le Corbusier and Aalto had taken their lead and tracked down their own inspiration, by research in ethnic African villages and Mediterranean vineyards.

Calder's youthful proposition, that drawing is thinking, was echoed by Le Corbusier, speaking one year before his death, at the opening of the enamelled door at the Chandigarh Assembly:

*I will confide that I have a head that has two hands at its disposition. I am an intellectual with hands. When I was young I was an engraver of watches. Today only the dimensions have changed.*<sup>19</sup>

Writing in *Sketching Animals*, about drawing cats, Calder asks that we 'Remember that "action" in a drawing is not necessarily comparable to physical action. A cat asleep has intense action.'

At Ronchamp, the bending walls do more than carry their own considerable weight. The walls themselves perform, both as backdrop for the landscape and as actors making way for the pilgrims' progress, their solid and stationary slumber prodded into waking by liturgical and topographical vectors. It is a hard fact that the walls are static, as inanimate structures must be, but they also possess 'intense action', in the sense that Calder means to capture the

vitality, the potentiality, of a sleeping cat. The site demanded a physical response, a response made poetic by means of Le Corbusier's 'visual acoustics'. The religious ritual required several focal points – tabernacle, confessional, pulpit, altar table – a fixed menu to which the ardent atheist architect added something extra: sacred and pagan moments of his own to thicken the plot.

The direct influences of the little chapel of Notre Dame-du-Haut are numerous, widespread, and in some cases, career-defining. Regional examples include Liam McCormick's three landscape-specific churches in Donegal, who sailed from Limerick to France in a 39-foot cruiser, eventually travelling up the waterways of France to see Ronchamp. Giovanni Michelucci's Church of S. Giovanni (1964), is a more indirect descendant, overlooking the Autostrada outside Florence. Aalto began designing his voluminous Vuoksenniska church in 1955, his ambition motivated by reports of Ronchamp's completion. Regrettably, the novel freshness of Ronchamp's spot-fenestration became an instant cliché, destined to be loosely applied in lame and trivial imitations.

More profound, less obvious, perhaps oppositely positioned, but undeniably indebted successors include the primitivist protestantism of Lewerentz's St Peter's, Klippan (1962–6) and the swaying, leaning swell of Siza's nave at Marco de Canaveses. The unfolding plan and rising floor of Lewerentz's dark and spiritual cave echo the glowing gloom of Ronchamp. The knowing innocence of Siza's elegantly crafted work stands at another extreme of sacred white sculptural lightness. His masterly church at Marco de Canaveses plays with the delamination of softer layers of inner volumes from the hard crust of their outer shells. These original-minded architects, wholly caught up with the creation of their own cat's cradles, are nonetheless indebted to the complex precedent of Ronchamp.

#### Release from the right angle

Another, more specifically focused question might be asked: whether the exceptional sculptural presence and plasticity of Ronchamp would be significantly different, or diluted, if its plan were rectilinear? That is to say, does Ronchamp rely for its aura, its awe, and its effect, on its release from the right angle?

Robin Evans addressed the question of rectilinearity in what was to be his last lecture, delivered one week before his untimely death, to the AAI in Dublin in 1993. Ronchamp was the subject of his memorable and – given the mid-performance breakdown of one of two carousel projectors – brilliantly improvised lecture, restructured to suit an out-of-sequence slideshow. The content of the lecture was posthumously published as 'Comic Lines', an important chapter of his book *The Projective Cast, Architecture and its Three Geometries*.<sup>20</sup> Robin Evans mesmerised his Merrion Square audience that night; his slow-to-start, gathering presentation culminated in a taperecorded excerpt of Xenakis's music, a soundtrack of undulating rhythms blaring out over



the final slides of strong shadows slanting across the floors of La Tourette.

In 'Comic Lines', Evans essays, as no other could essay, on some of the mysteries of Le Corbusier's design, drawing attention to straight lines and measured geometries that lay hidden in plain sight within the curves at Ronchamp. He traces the crucial role of Xenakis and other assistants at the Rue du Sèvres studio, and explains their application of the science of ruled surfaces to control the complex setting out of its construction. In a sideways digression, he refers to Robert Slutzsky's remarks on the church designed by Alberto Sartoris at Lourtier, Switzerland, in 1932. Le Corbusier had written an introduction to Sartoris's *Elements of Functional Architecture* published in the same year.<sup>21</sup> Evans perceptively extemporises on Slutsky's compositional comparisons of Notre Dame du Bon Secours with Ronchamp:

*Ronchamp is a version of Lourtier with the functions scrambled. Lourtier is a rectified preliminary for Ronchamp. Le Corbusier may well have taken everything from Lourtier except the rectangular framework for architectural proportion; he took everything except that which it was almost impossible to refuse. Reversibility is a feature. Ronchamp turns inside out. Mass can be performed on either side of of the east wall, and the venerated Virgin, ensconced within the wall, can be cranked by hand to face either direction.*<sup>22</sup>

D'Arcy Thompson's treatise *On Growth and Form* contains a remarkable set of graphic manipulations of animal form.<sup>23</sup> A speculative analysis on the role of physical laws in evolutionary transformation, the diagrams illustrate similarities between particular categories of fish, with typical relationships between species demonstrated by stretching their shapes on the rack of a distorted grid. For D'Arcy Thompson, particular forms result from forces applied. It is not difficult to imagine an architectural transfer of Thompson's grid-mapping analogy, and to see how such mathematical transformations might help us to recognise the type-plan origins of Lourtier in the segmented and twisted plan of Ronchamp.

Later in the text of 'Comic Lines', Evans says a lot in one short sentence: 'Ronchamp is androgynous, it is dangerous, and it is funny.'<sup>24</sup> Architectural analysts and historians have worried and fretted over the rupture in rationalism, the rampant unorthodoxies, the conceptual excesses and even the concealed construction technology of Le Corbusier's work at Ronchamp. As Robert Harbison wrote:

*Towards the end of his life one of the arch-Modernists began to have his doubts and shocked many of his followers by a dramatic turn to the irrational, most dramatically in a religious building, of all things. [... At] Ronchamp the modernist geometry comes completely unhinged. Ronchamp poses a conundrum hard to resolve.*<sup>25</sup>

The young James Stirling, influenced by his formalist training with Colin Rowe, wrote dismissively of Ronchamp as regressive, before trying his hand at some Corb-enabled vernacularism of his own with his flats at Ham Common: 'Since I had been drawing

on Le Corbusier's work of the 1920s and 1930s [...] I was disoriented by his new direction, though it soon became important to my work.'<sup>26</sup> Stirling had gone to Paris in the company of Alan Colquhoun shortly before the completion of the Maisons Jaoul, where he witnessed at first hand Le Corbusier's unpredictable changes of direction. He wrote two influential articles for publication in *Architectural Review*. 'Garches to Jaoul' and 'Ronchamp and the Crisis of Rationalism' were published in 1955, immediately after Ronchamp's completion.<sup>27</sup> Admitting the three-dimensional power of this strange new building, with its 'superb acoustics, marvellous sculptural integration',<sup>28</sup> Stirling nevertheless complained that Le Corbusier was deliberately destroying his own concepts. Ironically, similar complaints of betrayal would be made by some of Stirling's own followers when he moved on from the early red-tiled English university object-buildings to more contextual European city projects.

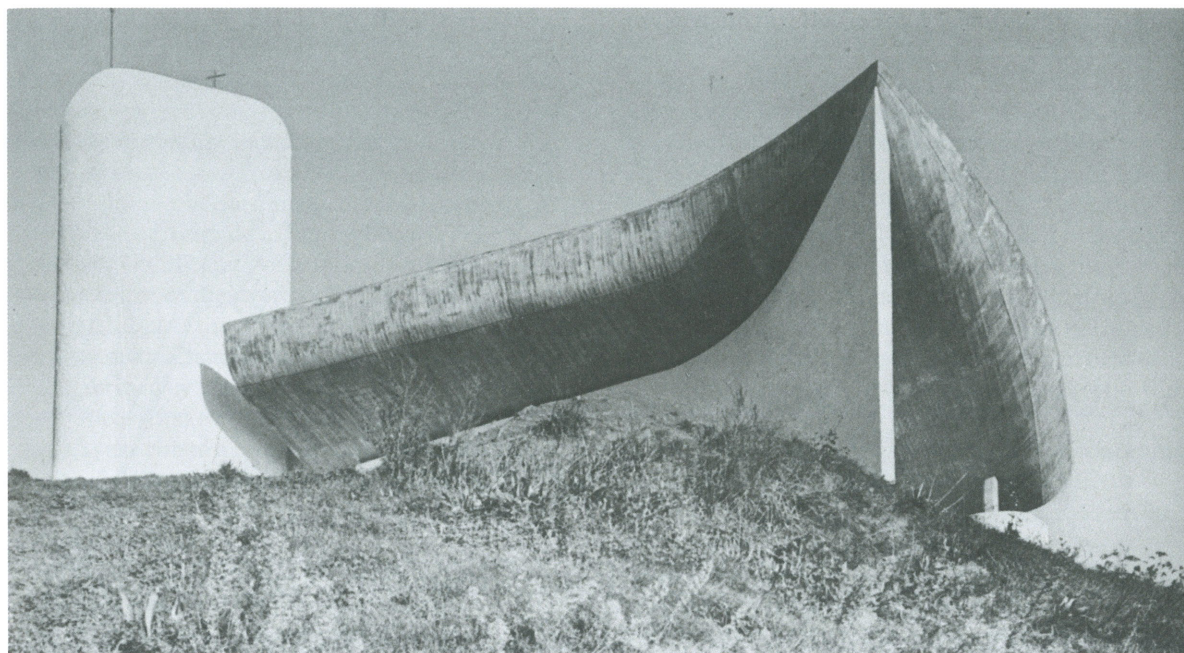
Stirling's early doubts about Ronchamp were repeated later by Alan Colquhoun in *Modern Architecture*, a survey that entirely passed over the work of his friend and former travelling companion, and which swiftly glosses over Ronchamp, as 'one of the most striking post-war examples of [...] non-historicist monumentality'.<sup>29</sup> Colquhoun goes on to declare himself in favour of the more rationalist aspects in Le Corbusier's late work, acknowledging its inspirational value for his generation of postwar English architects. This generation includes Kenneth Frampton who, with characteristically comprehensive compression, has summarised the scope of Le Corbusier's project at Ronchamp:

*Here a peculiarly dense fusion is achieved between a number of different types; grounded, in the first instance, in the white vernacular of the Mediterranean but going on to combine in its astonishingly complex form sources as varied as the Acropolis, subterranean Bronze Age crypts in Malta, the Hebrew Temple in the Wilderness (via the Pavilion des Temps Nouveau), and even something as innocent as a crab shell found on a Long Island beach.*<sup>30</sup>

#### Reading the plan of Ronchamp

Critical discourse to one side, and returning to the work itself, simpler questions survive: how does it work; how do the parts make up the whole; how do we read the plan of Ronchamp?

I would like to look at the plan, to concentrate on the plan and the volumetric spaces that are produced as a direct consequence of the plan itself. If this downward-blinkered focus dodges the difficulty of crab shells and praying hands, then so much the better. I would not seek to avoid any discussion of the daylight or the weightiness of the interior space, but I would prefer to settle for the temporary limitation of looking selectively at these things without being swept away by the imagery of nun's hats and flying boats. This is a complicated building, with many divergent routes to lead us astray with airy ideas, with invocations of the occult, free-masonry, gender symbolism, and other distractions. Reversing the viewpoint of Hervé's sky-angled photography [4], I



would like to look down behind the grassy mound, to deal with the ground plan at every scale from site to detail, to see what can be learned from the topographical aspects of its architectural design.

Al Avarez advises:

*In order to find out what's going on in a work of art, a critic must let go of his own sensibility and immerse himself in that of another writer, without theories and without preconceptions. All that is required of him is attention and detachment – an attentive state of detachment – listening, thinking, and giving himself up at the same time.*<sup>31</sup>

Let us proceed, taking Alvarez's advice, in 'an attentive state of detachment', undistracted by the distancing effect of literary criticism, or by the correspondingly offputting extravagance of much of Le Corbusier's own rhetoric. Let us try to look at the site plan [5] itself more closely, by means of the tactic that Francine Prose describes as 'close reading': '[...] the halting method of beginning at the beginning, lingering over every word, every phrase, every image, considering how it enhanced and contributed to the story as a whole [...].'<sup>32</sup>

The chapel of Notre Dame-du-Haut is situated on Bourlemont hill, replacing the ruins of a war-damaged chapel, above the market town of Ronchamp. The site had been occupied by the Romans, was reputed to be the location for a pagan cult, and had a centuries-old tradition of Christian pilgrimage on the feast of the Nativity of the Virgin. The road winds up from Ronchamp through woodland, and arrives from the East at the gate below the chapel. Demolition started on the old church the day after the pilgrimage on 9 September 1953. Some traces remain visible, although most of the rubble was reused in the new building. The approach passes an old walled graveyard and cuts up between the pilgrims' guesthouse and the the chaplain's house, the first buildings to be built, their retaining walls rising out of the archaeology of the site. These two houses, one part-painted to echo

4 Looking up: Vue prise du sud-est, Chapelle Notre Dame Du Haut, Ronchamp, 1951.

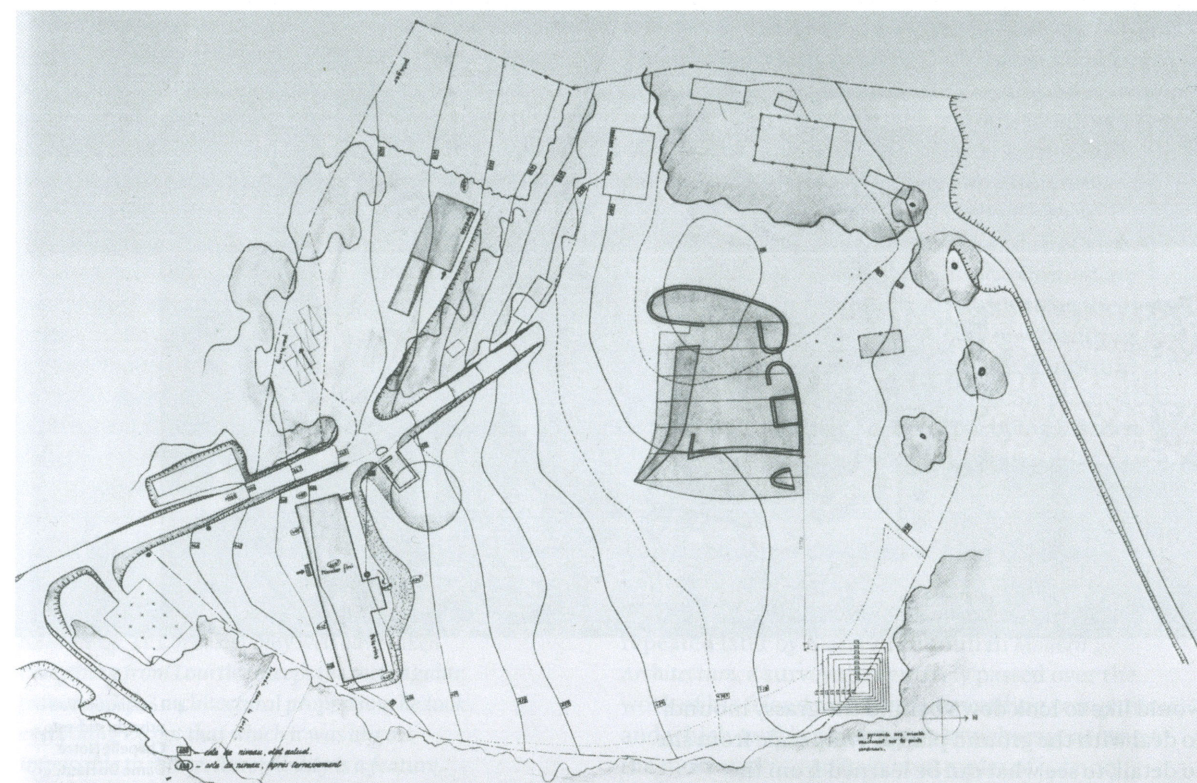
archaic Greek architecture, the other left raw with rough stones puncturing the concrete skin, remind us of Irish farm buildings and feel familiar in a way that exaggerates strange sensations provoked by the expression of the chapel. (On our last visit, new construction works designed by Renzo Piano were just beginning to be cut in along the lower contours; these works were intended to be invisible and asking to be ignored). Le Corbusier had intended in his early designs to turn up the the edge of the site platform like a tray along its southeastern boundary. The grass roofs of the two concrete houses are the more modest realisation of this grand intention, framing the view to the horizons from above and forming a visual gateway from below along the path of approach.

The scheme for the site brings to mind Le Corbusier's description of the plan of the Acropolis, with its angled approaches to the Parthenon:

*The whole thing being out of square, provides richly varied vistas of a subtle kind; the different masses of the buildings, being asymmetrically arranged, create an intense rhythm. The whole composition is massive, elastic, living, terribly sharp and keen and dominating.*<sup>33</sup>

Unlike at the Acropolis, no sea is visible on any of the four horizons of Ronchamp, and yet an Aegean sense of geomancy lies behind the architect's first moves on the site. 'I am Mediterranean Man!' declared the architect, and that wishful thought might explain much more than the incongruous painted window titled *La Mer*. The sites of the ancient Greek temples were considered sacred first, and the platforms constructed on such sacred sites were man's means of marking the holy ground of the *temenos*. The seat of the oracle at Delphi was built over a pre-existent crack





5 Site plan, Chapelle Notre Dame-du-Haut, Ronchamp, 1951.

in the geology. Sulphorously heady fumes emerging from below must have further mystified many pilgrims' understanding of the entranced woman's garbled prophecy. Some of his contemporaries thought of Le Corbusier as an oracle and the cultish aspects of his own lifeworld would indicate that he did not discourage such considerations among his disciples. At his state funeral it was declared that earth from the Acropolis should be mingled with the soil of Le Corbusier's grave.

Straightforward comparisons might be made with the setting and site conditions of Palladio's Villa la Rotonda, but at Ronchamp the strategy differs. On a similar hilltop location, less loaded with legend, Villa la Rotonda was likewise conceived by its architect in relation to the four horizons. Palladio's impassive response was to set the house at the centre, visible from all sides, its architecture structured as a stable viewing device, the four landscapes of avenue, valley, farmland, and forest presented as allegorical scenes, with four porticoed faces equally regarding their respective vistas. Axial lines pass clean through the plan from side to side, pinned in place at the crosshairs by the vertical axis of the Rotonda: 'Palladio borrowed the sacred form of the dome from centralised church buildings to fix the position of this suburban villa, elevated in its landscape and gaining the significance of a secular monument by analogy with historical precedent.'<sup>34</sup>

On the contrary, Ronchamp finds its form only in reaction to the different pressures of its surroundings. Le Corbusier referred to his particular collection of bones and stones, fossils and seashells, as *Reactions Poétiques*. He thought of the form of the chapel as an extension of scale from such natural objects and animal shapes, a functioning organism

formed by the rough forces of nature. Having previously imagined the Parthenon sending out 'waves and cries' to the four cardinal points, Le Corbusier now proposed the concept of 'visual acoustics', with the impact of site vectors working their way inwards from the greater arena to influence the configuration of the plan. 'Acoustic Forms' is the title of a pastel composition made in New York in 1946. It shows uncanny similarities to the composition of Ronchamp, scrambled elements of the plan floating on the page, four years before the first design sketch was made.

Returning to our visit, and as advised by the architect, we should approach the building in an *architectural promenade*, turning once around the chapel before proceeding indoors. Climbing uphill from the the Belfort plateau in the east, we pass along the south façade overlooking the valley of the Jura Mountains. The trees to the west help to screen our view to the plain of the river Saône. The deep valley to the north reveals the foothills of the Vosges mountains. Although there might be four sides to our circumnavigation of the building, the composition of the plan consists of only three continuous wall elements; the thick window wall to the south, the convex choir wall that hooks around the northeast corner, and the magnificent blind wall that rolls along between two of the three rooflit side chapels. Each wall ends at a doorway from where the next wall begins. There are three doors, each different in scale and material: one to the south in enamelled steel, one to the north in timber, and one

to the east in concrete. In this way, the shape of the plan is jointed into parts, like the diagrams hanging in butchers' shops to identify different cuts of meat. The dismembered unity of the plan form is anticipated in earlier paintings. Le Corbusier was not only an obsessive collector of objects, he was also a fanatical painter of the female form. He painted every morning, isolated in his studio at 24 rue Nungesser-et-Coli, and the compositional elements of those figure studies were simplified into abstracted shapes that remain legible in the formal language of Ronchamp. 'Nu Feminin' of 1932 has been described by Niklas Maak as 'Ronchamp on legs'.<sup>35</sup> The 1942 sketch 'Icône' ('Woman with a Candle') gave rise to a related series of works, a process similar to repeated overlay tracings in the development of an architectural design. The 'Icône' paintings represent:

*[...] a woman he had observed praying in a cathedral during a storm. 'I was impressed' he explained to Nivola, 'by the natural concentration of the simple ritual expressed in the gesture of her hands with fingers interwoven, the low table with candles and the broad forms of her chest and head frankly staring at the invisible object of her faith.' The relation of the trajectory of her breasts to the hood of her head is more than evocative of the scheme for the roof and towers of the chapel of Ronchamp.*<sup>36</sup>

To understand the jump from the restrained composure of the earlier work to the more physically rounded presence of Ronchamp, it is useful to look at the parallel activity of Le Corbusier as an architect and painter, and to consider the effect of his long-distance collaboration with Joseph Savina. The Breton cabinetmaker seems to have acted as a catalyst in this regard, translating the spatial implications of Le Corbusier's libidinous compositions into carved sculptural form. Savina transmitted the contours of forty-eight rough sketches into wooden sculptures that were then further transformed into polychromatic 'plastic acoustics' painted by Le Corbusier and described by him as 'forms that both speak and listen'. The effect of seeing his drawings turned into three dimensions might have triggered a sympathetic reaction of release in architectural form making, allowing him to abandon previous schematic oppositions of grid and gesture. Ronchamp proposes a strange new synthesis of archaically primitive body language with architectural form. The south wall is a 'receiver', the east wall a 'transmitter'.

Entering through the enamel door, we discover the essentially topographical power of the building. Many visitors remark on the surprise they experience from the sloping floor. The room is dark. The ceiling bellies down at the back of the space and opens up towards the altar. Light pours in from the south through the spectacular coloured windows. But, more fundamentally, the floor slopes down from the entrance, turning to slope up again on the stage floor of the altar. The floor of the outside altar slopes away towards the distant horizon. From outside, we perceive the building to be occupying a position of prominence on the hilltop. From inside we

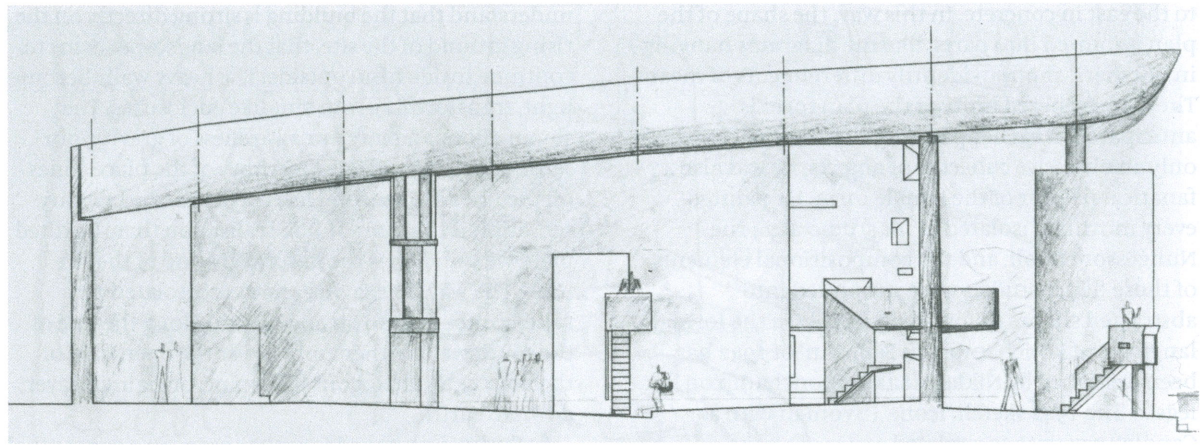
understand that the building is sitting directly on the rising ground of the site, that the landscape seems to continue inside from outside. The heavy walls become light, transforming into tent-like enclosures. The sloping floor anchors our awareness of gravity, our sense of belonging to the territory of the place. Lines on the floor are a second level of detail, the primary sensation is the more subtle realisation that the tilted plain we stand on is the natural ground of the site itself. The way that Savina's pews are isolated on a raised timber platform and skewed along the line of the south wall further emphasises the open field of the floor as an analogous landscape, bringing heaven down to earth.

Le Corbusier worked for many years on a conceptual proposal that eventually found expression in the Heidi Weber pavilion in Zurich, a project realised by others after his death. The consistent idea in the various versions of this scheme was to float a canopy that controls the ground below like a tree suspended over the land, or the space under a cloud in the sky. The folded roof structure of the Heidi Weber pavilion is a steel version of earlier concrete designs. The interesting space here is between the rectilinear box and the canted underside of the roof. His Indian work further explored the diagrammatic strategy of horizon line and over-arching sky. Ronchamp is different in that the experience is internal, as if in a cave, connected to the land and the light outside but contained within [6]. The key to the connection of inside to outside is the unlikely operation of the concrete door.

The concrete door leads from one contemplative world to another, from the carved out space of the inside shrine to the cast space of its outer arena. Ingeniously, the statue of the virgin can be rotated within her window box so that she turns to face in or out depending on the direction of the religious service. Procession from altar within to altar without is via the concrete door. It has a body shaped bronze handle, an alchemical symbol of its significance. In effect, the line between the pivot door and the concrete door creates a side aisle along the leaning south wall, creating a parallel line of orientation with the central axis and making an interesting place to linger between the inner world of the dark interior and the firework display of the painted glass windows.

Finally, Ronchamp serves to remind us of something we might have already known. The fact of its realisation, however problematic in concept, coarse in construction, and lacking in subtle restraint, helps us to realise an urgent truth in relation to our understanding of the communicative presence and ready-for-action responsiveness of works of architecture. Ronchamp leans towards us, reaching outside itself, involving us in itself, reliant on site-specific engagement and human involvement for its coming to sense, and making extraordinary sense as a spatial operation in the everyday world. Reading the plan of Ronchamp reminds us that our own experience of architecture happens in the realm of vital space and lively relations, in the arena of spatial relationships made palpable between poetic intentions and the lived-in, manmade world.





6 Sloping floor: Mur du Nord, Chapelle Notre Dame Du Haut, Ronchamp, 1951.

### The imperfect conditions of an uncertain world

The first Kahn plan that I studied as a student was that of the Escherick House. Nearly forty years later I had the satisfaction of spending a morning at the house, and an afternoon in the archive, leafing through the portfolio of working drawings. I could compare my experience of the actual architecture with the detailed documentation of the development of its design. Walking between the shelves of the Kahn archive in Philadelphia, I was shown a framed drawing of the interior of Ronchamp, quickly sketched by him on a detour from the Otterlo conference. Admittedly, the chapel looks a little squared off in his perspective, but at the time Kahn had confessed, to Anne Tyng's ready disapproval, that he was 'completely in love with Le Corbusier'. At least in the Escherick house, it shows. Kahn designed this house in 1959, the same year that he visited Ronchamp. Not only its studio section, but also the surface tension of its tautly stuccoed elevational scheme, shows signs of the influence of Le Corbusier.

History is not linear. It is told and seen from many different points of view. Architects accumulate awareness by looking at actual buildings, seeing them with a sense of purpose, drawing them in their notebooks, and drawing lessons from their observations. We can follow streams of thought, and we notice ideas merging from different sources. Such confluential thinking is what Venturi describes in the 'complex intricacies' of plan and section that he discovered in his studies in Rome, and later published in *Complexity and Contradiction in Architecture*.<sup>37</sup> Evans reminds us that:

*When Louis Kahn was asked why he did not design buildings like Aalto, he replied that a building composed of designed responses to casual activity would be a monument; it would monumentalise casualness, freezing and preserving the ephemeral activity that other monuments left unspecified. Kahn was, of course, adversarial in protection of his own capacious architecture, but he had identified a genuine hazard. Architects such as Aalto were obliged to steer between the Scylla of over-determinate differentiation at a smaller scale and the Charybdis of indeterminate differentiation at a larger scale.*<sup>38</sup>

Despite these words of warning from Evans, and the undeniably classic perfection of Kahn's built work, I remain drawn towards the relational qualities of buildings composed of designed responses, towards coherent plans impacted by local forces, and resistant forms resultant from contingent factors.

There is so much to learn. We must know the history of architecture and train ourselves in the tools of the trade. We have to internalise the archetypes that give consequence, significance, and certainty to the inherited culture. These things being known, and with due attention paid to the technical demands of a strict discipline, something else, something other, needs to happen to bring our buildings to sensible life, to connect the definite act of building through deference to the imperfect conditions of an uncertain world outside, a communication that transcends the self containment of silent isolation. Architecture is understood to be an intrinsic participant in a human conversation.

Metaphor, the Greek word *meta* meaning the same as the Latin *trans*, means taking something from one place to another. In metaphor, as in translation, the meaning is carried across from one language to another, for instance from everyday life into the art of architecture. An interesting aspect of Le Corbusier's Ronchamp, and one that makes it particularly accessible to us in this discussion, is that the finished building form is rarely fully closed or completely sealed at the edges. Patrolling the ragged boundaries of Ronchamp in the round, some signs of the real and given world seem to intervene from beyond to prevent the work cohering into perfect self-containment, and so closing itself off from discourse with its necessary context. In this vision of order, something remains open and incomplete, like a frayed edge that allows us to see how the fabric is woven.

*[...] and perhaps the greatest lyric poetry occurs where the naturalness of speech is only partly corseted by form.*<sup>39</sup> (John Montague)

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John Tuomey is a founding director of O'Donnell+Tuomey, Dublin, and Professor of Architectural Design at University College Dublin. O'Donnell + Tuomey have won the AAI Downes Medal for Excellence in Architectural Design seven times and in 2005 were awarded the RIAI Gold Medal. Sheila O'Donnell and John Tuomey are the 2015 recipients of the Royal Gold Medal, the world's most prestigious award in architecture. John Tuomey is author of *Architecture, Craft and Culture* published by Gandon Editions.

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