

PRESS PACK

informal

Cecil Balmond
with Jannuzzi Smith

Prefaces by Charles Jencks and Rem Koolhaas
Edited by Christian Bensing

Price £29.95, Hardcover, 400 pages, c.470 illustrations, 270 in colour
Printed on Munken Lynx 130gsm, 115 x 186 mm, ISBN 3-7913-2400-4

Publication 7th November 2002

The definitive account of Balmond's investigative approach to structural engineering

"informal has a typographic elegance that makes it look like no previous engineering book...its glimpses of a hidden order of things, of the occult properties of numbers and shapes, suggest it could be the next *Brief History of Time* – but with pictures"

Deyan Sudjic, The Observer

"Balmond has, almost single-handedly, shifted the ground in engineering – a domain where the earth moves very rarely – and therefore enabled architecture to be imagined differently."

Rem Koolhaas

the book's thesis

The world is changing in social values and its institutions, there is also a breakdown in fixed ideologies – a more fluid and *informal* approach is called for. Hierarchies and dogma are being replaced by interdependence, self help and improvisation are concepts now proposed as new principles of organisation. *informal* anticipates this in the design of buildings. Ideas such as *local*, *hybrid* and *juxtaposition* are taken as providing start points for design in the interrogation of space, and architecture is viewed as a formative process arising out of a seminal structural logic. Instead of dumb skeleton there is *network* – a connective patch through pattern.

The book invites the reader to enter the dialogues between the author and the architects he works with, sharing the intimacies of the design process through sketches and first principles.

Projects range from a Villa in Bordeaux to a large Transport Interchange in Arnhem, from a large canopy in Lisbon to the V&A Spiral in London and an Exhibition Centre in Lille, highlighting the collaborations Cecil Balmond has had with the architects Ben van Berkel, Daniel Libeskind, Rem Koolhaas, Alvaro Siza and Peter Kulka with Ulrich Königs. What is constant is a search for the magic in making a form, using numbers, music and mathematics as vital sources. What comes through ultimately is that the lyric or elegiac is always present, even in that hardest of pursuits to make a building take shape, defy gravity and be pragmatic. *informal* captures this essence that beyond craft and technique there is art and poetry.

Translation of these ideas into tangible book form involved cultural historian and critic Christian Brensing, who acted as the editor and introduced Balmond to Michele Jannuzzi and Richard Smith. They in turn provided a seamless innovation of text and image adding to the content another kind of potent structure.

VIII

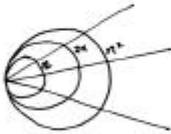
We assume numbers like 1, 2, 3, etc... go on for infinity. If we place these numbers in a one-to-one correspondence with another set of numbers, say, like the even numbers, then these new numbers can be said to go on so infinity as well. This defies common sense for what we think of as 'fewer', the even numbers, are found to be as populous as the integers. Both sets of numbers are said to be enumerable to infinity.

1	2	3	4	5	6	...	...	...
2	4	6	8	10	12	...	...	...

Using such mappings, Georg Cantor (1845-1918), shocked the world with the idea of separate and overlapping infinities. His demonstrations gave to infinity a self-similar concept where a part has the character of the whole.

IX

Since a line has an infinite number of points, and a point radiates lines in an infinity of ways, a diagram can transform into a mathematical universe if each possible point is ascribed a number.



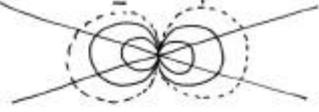
For example, a circle is a set of points which could be thought of as a set of numbers. In the diagram the inner circle is the set of integers 1, 2, 3; the second circle, the set of even numbers for example, the third circle a set of square numbers, ... and so on.

1	2	3	4	5	6	...	...	n
2	4	6	8	10	12	...	...	2n
1	4	9	16	25	36	...	...	n ²

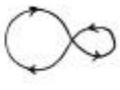
The numbers of each series may get larger but the count of the events on each circle is the same; the radiating lines running through the circles govern this, yielding an equal infinite number of intersections through each circle.

376

To capture the full range of numbers, negative numbers should be allowed into the picture. The circles need reflections.



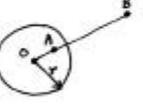
Since there is no difference between plus or minus infinity in terms of quantum, the circles do not touch or cross but flow one into the other.



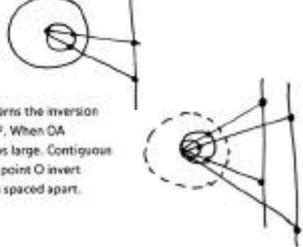
Number fields are not static. Our multiplication tables for example are algorithms that radiate to infinity and their structure may be represented in similar overlapping circles (see Bibliography - 'Number 9: The Search for the Sigma Code').

X

From a topological point of view a straight line is a circle. They are both continuously connected and one is the inversion of the other.

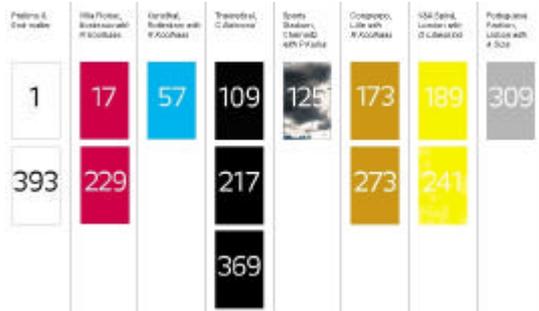


The expression that governs the inversion is given by $OA \times OB = r^2$. When OA is small, OB grows large. Contiguous circles passing through point O invert to parallel lines spaced apart.



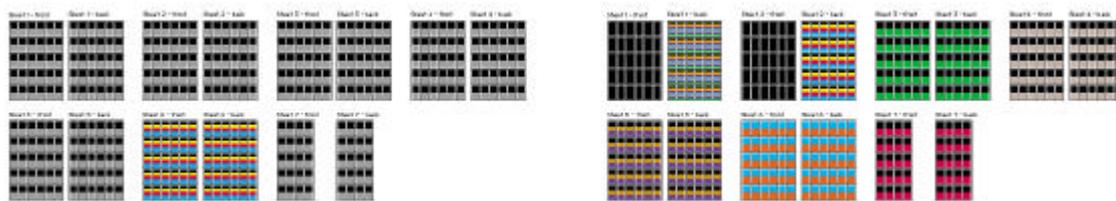
the book's creation

"I was introduced to Michele Jannuzzi and Richard Smith" Balmond says, "as people who would help me resolve a difficult problem – how to communicate the essence of something." The resulting collaboration – a seamless innovation of text and image – mirrors Balmond's own creative collaboration with leading architects, a blurring of the boundaries between one discipline and another.



The book presents Balmond's unorthodox ideas through a series of interlinking stories. This approach enables each story (or chapter) to focus on a particular aspect of Balmond's problem-solving methodology without replicating the already well-documented perspective of the architects on each of these iconic projects.

Stories relating to each project are dispersed throughout the book, each free to graphically explore its own theme. Counterpoint comes from placing different projects alongside each other. Pace, tone and emphasis vary to suit content. Design is inspired more by mathematics books and children's fiction than by books on architecture or engineering.

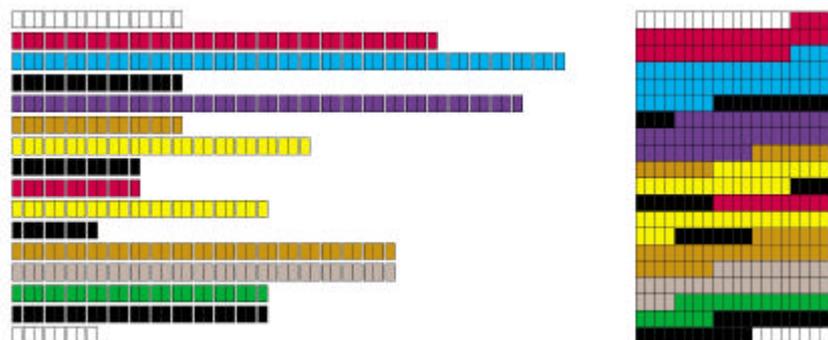


initial imposition

reconfigured imposition

The production question was how best to reconcile editorial and design intentions with the publisher's initial assumptions – the answers helped to define the book as an object. The standard components of a medium format book of 200 pages printed mostly in two colours (the publisher's initial assumption) were dissected and reconfigured to produce a 400 page book the size of a novel. Some sections employ just one colour, giving opportunity for others to have three or four.

Each project has a 'signature' colour, thereby visually reuniting the different stories. The contents page and cover map the rest of the book using these colours.



Underpinning the whole is a typographic treatment designed to relay the simple elegance of Balmond's ideas, and to retain the flow of words and doodles of his hand-written manuscripts. Conventional left, right or centred text settings were abandoned in favour of an 'internal alignment'. This allows drawings, photographs and documents to be interwoven, and softens the hard right angles of the book.

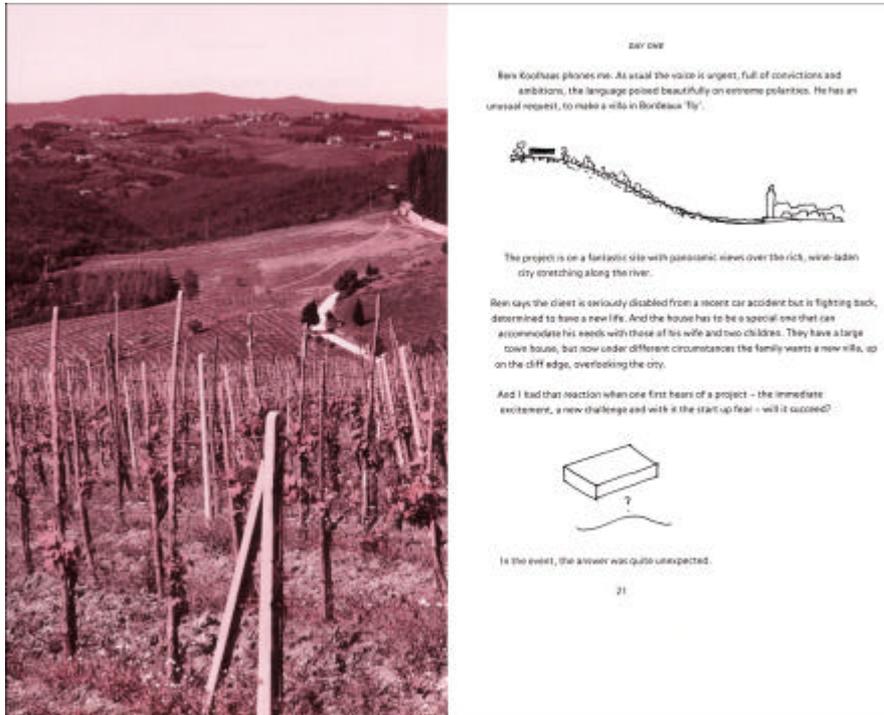
informal has received an award from Stiftung Buchkunst as one of "Die schönsten deutschen Bücher 2002".

the book's projects

The ideas set out in the book are explained through 7 seminal projects that Balmond worked on in collaboration with architects Rem Koolhaas (OMA), Daniel Libeskind, Alvaro Siza, Ben van Berkel (UN studio), and Peter Kulka with Ulrich Königs.

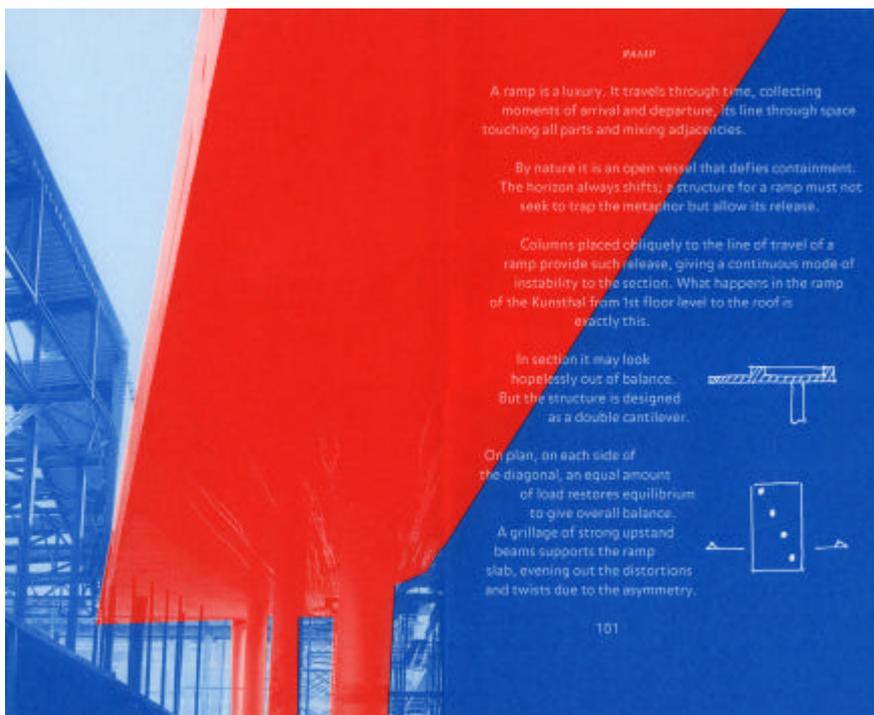
“The idea of a table is destroyed. Instead, the dynamic is launch.”

Villa Floriac, Bordeaux: diary of making a box 'fly'



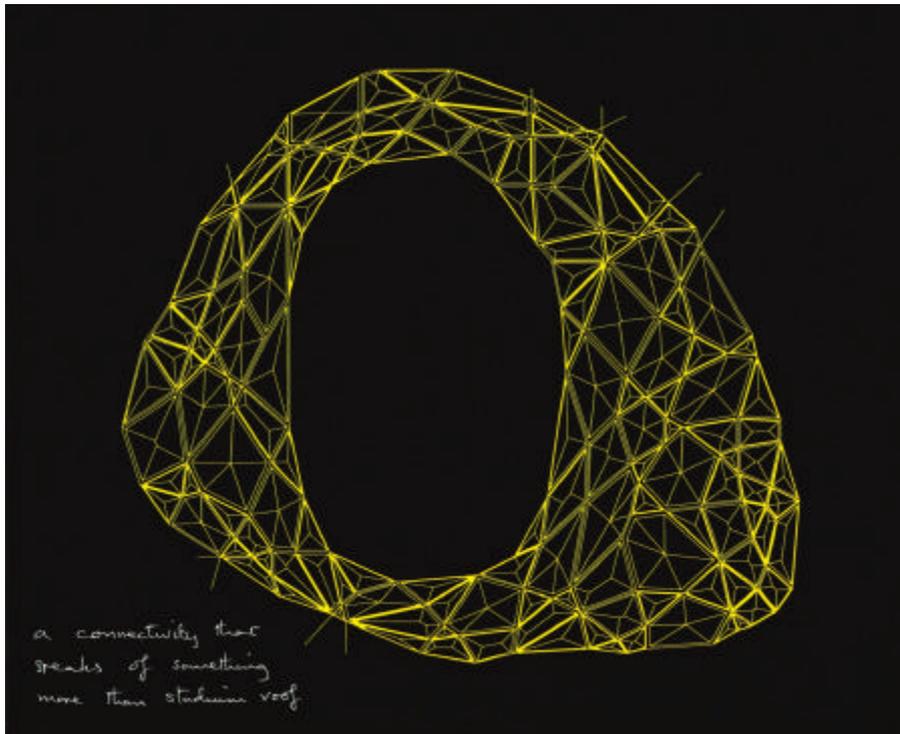
“Let the *informal* in. Have a syncopation instead of the dull metronomic one-two repeat of post and beam.”

Kunsthal, Rotterdam: breaking the Cartesian cage



"We wanted something different, eccentric orbits, a release of the wild energies that Nature seems so easily to control."

Sports Stadium, Chemnitz: algorithm versus mimesis



"It was essentially a one storey, shed-like building. But what a shed it turned out to be."

Congrexpo, Lille: city within city

MANUFACTURE

What was striking about the 'blank' was that it was put together by pressing several smaller pieces of timber in a special laminating machine. The strips went in one end, a finished timber plank came out the other.

The diagonals were welded onto the top steel tee section and arrived at site as an assembly ready for bolting to the timber strip. It was easy to build and put up. The whole enterprise was a 'do-it-yourself' kind of beam put together by a lot of parts; hybridisation ran free along the Expo roof. What was heartening was that the roof came within budget and what could so easily have been a deadening industrial type roof turned into the beauty of a laminated boat hull, bringing steel and timber together in very unusual circumstances.

Finding the hybrid 'do-it-yourself' beam was the highlight of the project for me.

Other aspects of Expo that are worth noting are the main beams, the columns with integral air conditioning systems, the bracing and roof geometry.

MAIN BEAMS

A tension tie drops down in a fine line below the soffit to be framed by two vertical struts along the 24-m span, to form a tie-beam for the principal line of support.

Disruption to the soffit is minimal.

The line of the tie helps break the space under the roof in a counterpart to the sweep of the timber stripes. (At tender stage the tie was formed by rods, but changed later to the flat, which was cheaper and better architecturally.)

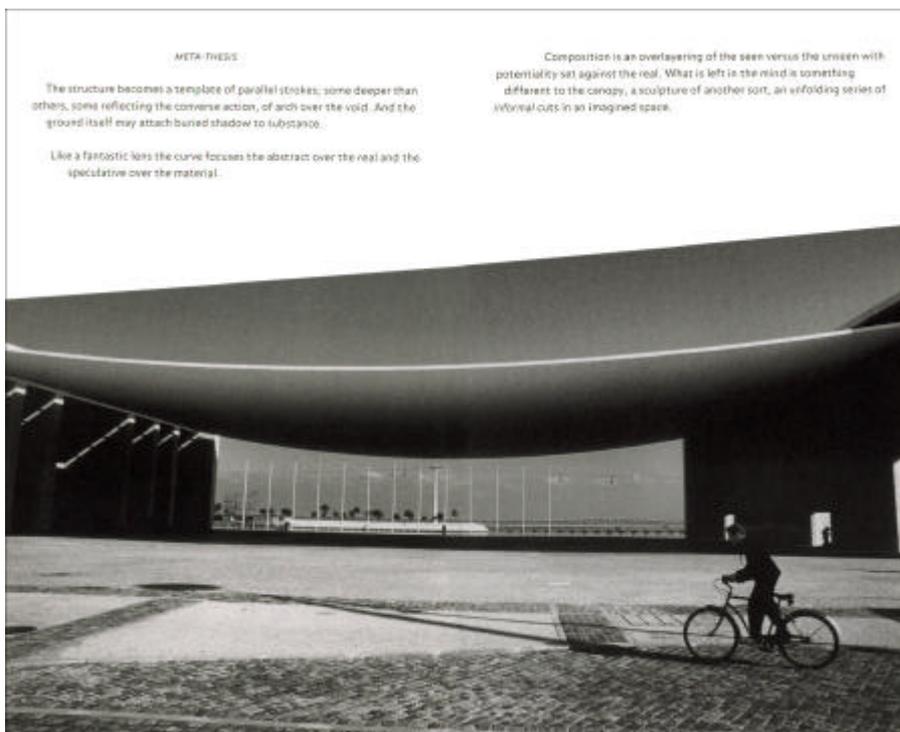
“Does space have to be container-like and neutered to house works of art?”

V&A Spiral, London: animated geometries



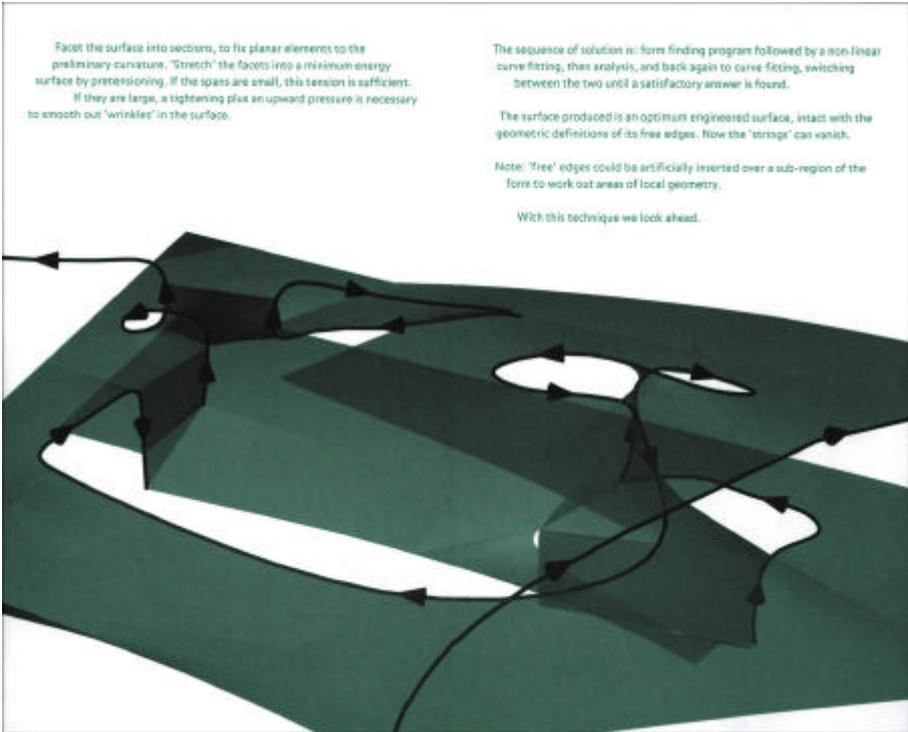
“The mystery is in the unseen calculation of exact balance, of up versus down.”

Portuguese National Pavilion, Lisbon: structure as a cut in space



“Layering and folding take over and the concerns of a Newtonian mechanics fall away.”

Central Station, Arnhem: flow diagram as enzyme





Cecil Balmond (above left)

Cecil Balmond is an engineer, designer, master builder, mathematician, thinker and writer. His theory of the *informal* is grounded in his collaboration over the last 25 years with many notable architects including **Rem Koolhaas**, **Daniel Libeskind** and **Alvaro Siza**. Charles Jencks remarked, when asked to list the fifteen most important buildings and projects that were changing architecture, that "to my amazement, Balmond scores higher than any architect, if the engineer is credited with partial creation". Balmond's recent projects include the Serpentine Gallery Pavilion with **Toyo Ito**, and the largest fabric sculpture in the world with **Anish Kapoor**, recently opened in the Turbine Hall at Tate Modern.

Balmond was born in Sri Lanka, where he studied at university, before leaving for further education in England. His interest lies in the genesis of form and the overlap of science with art, using music, numbers and mathematics as vital sources. He is Saarinen Professor at Yale, was Kenzo Tange Visiting Critic at Harvard, is a member of the Arup Group Board, and Chairman of Arup's Europe Division. He was recently appointed a Fellow of the RIBA and was awarded the honorary Diploma of the AA. He lives in London.

Balmond's first book *Number 9: the Search for the Sigma Code* was also published by Prestel (1998).

Michele Jannuzzi and Richard Smith (above centre and right)

Michele Jannuzzi and Richard Smith are the directors of cross-media design consultants Jannuzzi Smith and authors of *dotlinepixel* published by GCE, Mendrisio (2000). They are graduates of the Royal College of Art in London.

Recent projects include the design and production of Central Saint Martins College of Art and Design course information (online and printed) and work for Royal Mail on the special stamps programme. Besides printed material they have many web oriented projects, including a suite of online design and marketing content and applications for Sainsbury's.

They have judged on a number of the most prestigious design awards, and are regular speakers at business conferences and academic institutions (including Royal college of Art, Central Saint Martins College of Art and Design, Università della Svizzera Italiana).

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Additional material and downloadable images from the book are available at www.theinformal.com

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