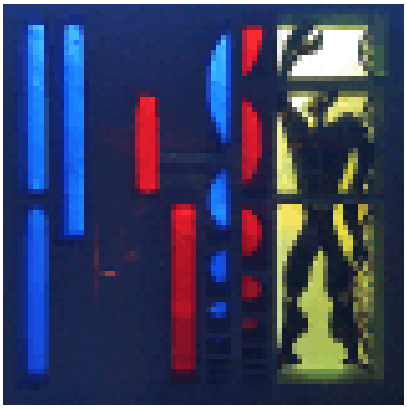


Le Corbusierâ??s error

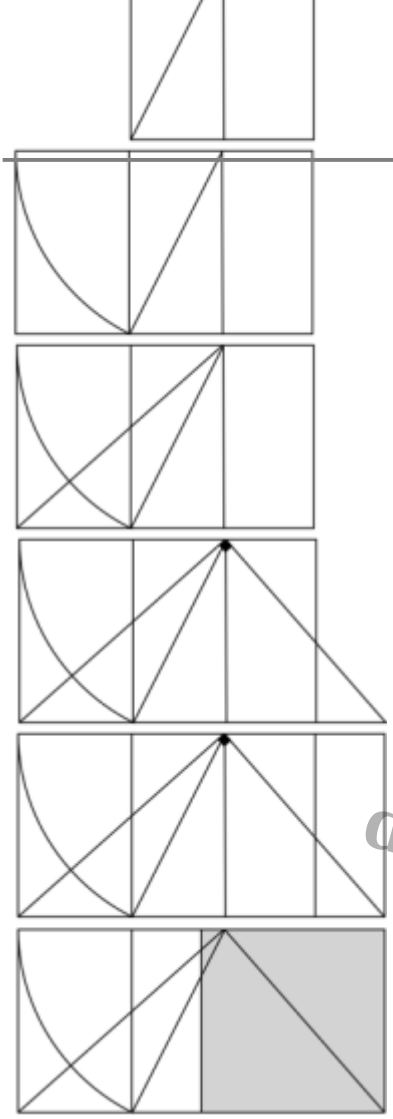
Description

We all make mistakes. Take comfort though from the advice of cybernetician Ranulph Glanville: â??error is, in itself, neither bad nor good, but endemic â?? it cannot be eliminated. . . . it is error that drives the system!â?• (p.1181)

When I was at school we were taught geometrical proofs: eg to demonstrate that all the interior angles at the corners in any triangle add up to 180 degrees. It was a while before I realised that it was insufficient to draw lots of triangles, measure their angles, and see if they always totalled 180.

Le Corbusier must have made a similar mistake when he demonstrated that you can derive two perfect squares from the construction of a Golden Rectangle. Careful drawing with a compass and ruler seems to give the required result, but not quite.

The Golden Rectangle is constructed simply from a square divided with a line drawn orthogonally down the middle. By simple manipulation of a compass, the diagonal of the half square can be added to the short side to produce a new rectangle with sides in the Ï? ratio.



Le Corbusier thought that by using a simple geometrical extension you could derive a rectangle with sides 1:2 from a rectangle with sides of the ratio 1:Ï?. After all, adjacent squares make plans and facades that fit the modernist aesthetic of symmetry and simplicity.

In a book on architectural proportion Richard Padovan records that when this error in constructive geometry was pointed out, Le Corbusier consulted a mathematician friend. The mathematician confirmed that Le Corbusierâ??s constructive method was out by 0.006 from what he expected (Padovan 1999).

In other words, adherence to the rules and methods of geometry does not always produce the results, or preserve the simplicity, expected. The blighting of geometrical expectations and the introduction of pragmatic adjustments pervades Le Corbusierâ??s more extensive geometrical system, the modulor, and its application (Loach 1998).

When Le Corbusier discovered the error in his attempt to derive two squares from the Golden Rectangle, he thought this revealed something about the difference between architecture and philosophy. He wrote: â??In everyday practice, six thousandths of a value are what is called a negligible quantity, a quantity which does not enter into account; it is not seen with the eye. But in

philosophy (and I have no key to that austere science), I suspect that these six thousandths of a value have an infinitely precious importanceâ?• (Corbusier 2004: 235-236).

This indicates Le Corbusierâ??s relaxed approach to the rigours of mathematics: the amateurâ??s first instinct that measuring a carefully made drawing is a substitute for mathematical proof. It also suggests a lenient attitude to architectural detail and the cumulative effect of errors. A discrepancy of 6 millimetres over a metre is not insignificant in building.

But he concludes the above statement by celebrating the error.

> the thing is not open and shut; it is not sealed; there is a chink to let in the air; life is there, awakened by the occurrence of a fateful equality which is not exactly, not strictly equal â?¦ And that is what creates movement.

There is a concession here to the power of the discrepancy. He precedes his statement about movement with an ellipsis, as if an afterthought, and doesnâ??t seem to develop the concept further as an impetus to design and invention.

Drawing attention to the discrepant is a recent architectural tactic: those left over spaces, the non-places, the spaces between unaligned grids, those other spaces that donâ??t conform, the geometrical surpluses. This is often where the action is. The remaindered canâ??t necessarily be planned for.

Soon weâ??ll encounter 29 February, another indication of â??endemicâ?• discrepancy, if not an error in the calendar â?¦ or nature. Hereâ??s another observation; this time from Adrian Snodgrass on South Indian architecture. In his analysis of the VÃ¢stu Mandala, Adrian indicates how the discrepancy evident in calendar cycles, and expressed in rituals and architecture, kept things moving.

> as there is a remainder there is no end, the cycle recommences, and time continues on. The residue is thus the seed of the next cycle â?¦ No further motion is possible without the discrepancy between one cycle and the next (Snodgrass 1990).

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Postscript. News Saturday 11 Feb, 2012: â??One of Franceâ??s most important landmarks of modernist architecture, La CitÃ© Radieuse [aka UnitÃ© dâ??Habitation] housing estate in Marseille, built by the architect Le Corbusier, has been damaged by fire.â• http://www.guardian.co.uk/world/2012/feb/10/marseille-cite-radieuse-fire-damge?INTCMP=SRCH

Someoneâ??s error.

Category

1. Body

Tags

1. architecture
2. bodies
3. error
4. Le Corbusier
5. leap year
6. remainder

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