

The underrated right angle

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You might have thought that architects would have tired of the fad for complex geometries by now. But in fact, it seems to be going from strength to strength, and is no longer just in the hands of 'advanced drivers', as software developments make such geometries easier to handle.

The right angle, though, has as much going for it as it ever did. A trip to the builders' merchants reveals that the right angle is as much in fashion there as ever. Bricks and blocks, ply and tiles are still made in that boring old right-angled style. And at a larger scale, horizontal floors and vertical walls are likely to be with us for a while. Or is that kind of 'real world' thinking now just a bit, well, square?

Before CAD, the use of the parallel motion and set square paralleled the physicality of the building process; the hassle of drawing funny shapes by hand led the unthinking or lazy to stick to the simplest solution - and reminded the thoughtful of their consequences for the builder and occupier. The former point still applies with CAD; but for the movers and shakers of the wonderland of the avant-garde, disappearing down the rabbit-hole of the virtual world, connections between what can now be drawn or modelled and the realities of manufacture sometimes seem rather tenuous.

Parametric models generated in the drawing office can, you will be told by their fans, link directly to computer-controlled manufacturing processes, so complex shapes need not be any harder to make than square ones - in theory, and with the right kit. But they still need to be put together. If you look at Foster's City Hall building in London and try to work out how many different exterior panels there are, it's hard not to reconsider your previously dim view of the merits of 'value engineering'.

There's a lot to be said for not wasting plywood, and for rooms where you can put in blinds and furniture without causing headaches. But that all sounds a bit dull by comparison with the wonders of non-Euclidean geometry, so perhaps it's timely to point out that the right angle is not just a default condition or 'degree zero', but has positive cultural and aesthetic qualities.

Consider the controlled, centralising perfection of the Parthenon or Mies' Crown Hall; the hierarchical ordering of the *cardo* and *decumanus*, and the contrasting Cartesian, democratic extensibility of the Manhattan grid; the spatial richness and complex, interlocking sequences of spaces found in Hardwick Hall or the New Art Gallery at Walsall; the typological reductionism of Ungers or Grassi; the abstract compositions of interlocking planes found in Rietveld's Schroder House; the component-based architecture of Walter Segal. For all the variety in that list, the aesthetic of each is clearly to do with the right angle - and as a bonus, you can get the bookshelves to fit.

The late Philip Powell, a master of the laconic put-down, dismissed a project with a plan made of funny shapes in two words: 'nothing fits'. With the right angle, everything fits - in theory and in practice. The right angle, so powerful in architecture, both as aesthetic principle and as organising tool, readily connects the abstract and the everyday. You can use it at home. The language of classical architecture grew from the facts of the case of putting up buildings, and in turn offered something back to the everyday, as in the vernacular of the Georgian house. Modernist architecture has had a different relation with the act of building, but is not at odds with it - and as a domestic style, has (very slowly) shown itself capable of filtering down from high-status artist's studio chic to the world of Ikea.

The architecture of complex geometries, by contrast, struggles to serve the purposes for which buildings are required in the first place, and is at odds with the world of construction.

Its abstractions, unlike the Cartesian grid, engage with little in the mundane world. Its proponents - many talented, many sincere, some both - may believe that what they are up to is acute, but to me, most of it just comes across as obtuse - a road to nowhere. Don't write off the right angle just yet.