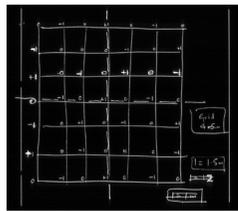


Intro

When Cecil Balmond was invited to give the 2015 Peter Dormer lecture, the topic naturally led to an exploration of material and craft. Traditionally there has been a gap between those who chase fine art and look down on craft. Balmond has never seen a distinction. For him, numbers are material itself.



It's a complex, not a complicated world



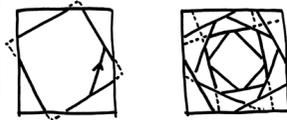
There are templates we use: classical ones, or contemporary ones. It's always some kind of principle of organisation driving us between the material and the product. And in a primitive sense there are tools also. But, as we get more sophisticated, the tools themselves become the process which influences material and product. When numbers are the material, the in-between is swollen up to absorb it all. It blurs the distinction. It's a modern condition that categories are being eroded. It's uncomfortable for those who want simple classification. But we have to face up to a complex world. It's not a difficult world, it's complex. It's not simplicity, it's not reductive. Its additive, its compiled.

Playing with Numbers – Expo 2000



Balmond took a simple Sine curve. He took the top as 1 and the bottom as -1 and began shunting curves along the grid. He then gave it actual dimension, 4.5 for the grid and 1.5 for the amplitude of the wave. A lovely doubling curved surface came out. You could not have second guessed these kinds of waves.

The 2002 Serpentine Pavilion



This is the classical legacy - start within a boundary and then subdivide, reduce. The fixed boundary comes from the idea of a fixed source. One God. Everything emanates from a principal origin. But what if you start with $\frac{1}{2}$ and go to $\frac{1}{3}$ on adjacent sides of a square. You have to go out of the original boundary and keep going. Now you are compiling, not reducing. The oblique lines, when you fold, take your eye around the corner. You don't have a corner definition which is fundamental to have a sense of release and no confinement. This is only 17m square but, surprisingly, when you are in the pavilion you never feel confined. The whole thing is a network. You get moments of great transparency and opacity.



Abstraction in Numbers



The pavilion is an active meditation of geometry, a kind of animate sense of things being made. In the design there is ornament everywhere and everywhere is structure. All is architecture.

Using the Golden Ratio numbers, you can have a Golden cube or rectangle and extract forms and subdivide again. This recursive action can go on and on and everywhere proportions are the same. A simple algorithmic spiral in 3D, wrapping round and taking away from the big blocks first, then getting smaller and smaller. You get a kind of erosion that is a fractal in physical terms. Spiralling from the ground up, pixelating at the top to smaller and smaller spaces, so ultimately it is left open. You get big forms and smaller forms all in proportion to each other. It is not just a box form that covers space and boundary, but is interstitial, cut in mezzanines, stepping up in space and then fracturing. It is self-supporting.

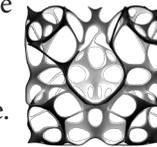
Prime Numbers

Prime Numbers are amazing- they cannot be divided and have no factors. No one has found the secret, they are just there. It's a permanent mystery in our middle of rational thought but we use it all the time to encrypt data and other things. You see the serial nature and also the fact that this is something fundamental in our midst.

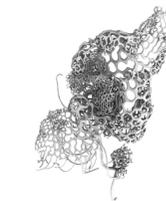


Snow Words is a light sculpture in Alaska inspired by Balmond's template of primes. LED acrylic lights are gapped on stainless steel bar and stainless steel plates. It is 9m high, about 2.7m wide. There are two rings, one within the other. A computer controls the LED lights to create a growing, swelling, diminishing around in two circles. It won a national award in America.

Dynamic Growths



When Balmond began to think about material and numbers he questioned how to get energy into numbers. Because geometry is static he wanted to make something different, something of dynamic equilibrium. His latest research is grown within a unique environment of numbers. When you get somewhere, look back to where you were; get some information because you have depleted what there was in energy terms. Utterly beautiful, completely closed and completely modular. The emergent forms could be blown up to a huge size and made into structures or shrunk down to ornament. It is the same thing, pattern and scale at work.



Within this environment of numbers, take a choice and move. Then look forward and keep going. These simple worm forms grew, emerging from a centre in every direction. The experiments continue. All this research shows that material can turn into environment. Products are now not definite, they are partials, they happen in time. This is an evolutionary process. One may think data should be information, but information is environmental. Data is product.