

Discussion on Episode 1

There was interesting discussion and some really good questions. A biologist described specifying some animal behaviours (as it were 'theoretically') then going to the rich variety of nature and – not so surprisingly – finding it occurs! Are the patterns I was describing a similar situation? Are the patterns 'really there'? Or did we both invent and find them? Cue for, 'is maths discovered or created?', 'Both!' was the emphatic answer from another quarter.

[I'd say now - lacking the presence of mind at the time – that my point was (or should have been) not that it is *surprising* to find those patterns, more that it is genuine *mathematics* to both create and discover them.]

Why do we appreciate Georgian architecture so much? Is it us?, or the architecture?, at work, or both because of the maths behind both? Similar point was raised about music. [Here Hermann Weyl raises the same issue in his first chapter of *Symmetry*, I think his answer is it is the maths behind both nature and art that provokes our admiration.]

The golden ratio (section) was mentioned in this connection. [Ian Stewart's *Nature's Numbers* is very relevant – has a splendid explanation of the 'double spirals' in a sunflower.]

If you like to add anything – pending we get a proper (managed) blog here – just sending comments/questions and I'll post them here.

Steve