

Clever Cartoons at the Science Festival

☒ One of the joys of the Edinburgh International Science Festival is its ability to bring the arts and science together in the most engaging way. Writer and broadcaster Simon Singh joins the festival to point out what we in Edinburgh have always known – that clever people have the best sense of humour. Fans of comedians from the inimitable Stephen Fry to polymath Robin Ince know that comedy is not the stuff of fools; it's a clever man's (and woman's) game. But did we know that the Americans are in on this too? Apparently they are, as Simon Singh takes pains to point out in his event 'The Mathematics of the Simpsons'.

For years we have laughed at Homer's antics as the head of his dysfunctional family, the mindless violence of Itchy and Scratchy, and the satirical take on America's environmental policies. But how many of us have noticed the high level mathematics liberally sprinkled among the silliness like choc chips on a Krispy Kreme donut? I know I haven't. It turns out that the clever, funny writers of the Simpsons realise that their audience are not daft. From Maggie deriving Einstein's equations with her building blocks, to Lisa's books on complex mathematics as she tries to run her baseball team, the scripts are littered with mathematical gags that the writers refer to as 'increasing the comedic nerdic density.'

Did any of us notice the cinema called Googolplex Theatres? The mathematicians and fans of funny musical geek Helen Arney among us will recognize that a googolplex is a mind-bogglingly enormous number. In a conversational and accessible style, Singh shows us this and other mathematical oddities such as 'narcissistic numbers and 'perfect numbers' that pop up all over the place if you know where to look. It turns out that even humble Apu, proprietor of the Kwikemart is a

mathematician, who, in the episode 'Marge in Chains' offers to recite pi to 40,000 decimal places. Once Singh points out these clever jokes, it seems incredible that we have missed them for so long. So how did what is superficially such a simple cartoon come to have advanced theories of infinity such as Hilbert's Hotel tucked away among the punchlines?

The answer is surprising but simple: among the writers of the Simpsons are mathematicians from the top universities in the country, including some with PhD's and, incredibly, a former Professor from Yale. These smart cookies are encouraged to spread their love of mathematics and add another layer of comic complexity to this outstandingly successful TV show. They specialise in the 'freeze-frame gag' which is only on screen for second, and is easily missed.

In an episode called 'the Wizard of Evergreen terrace' Homer decides he wants to be an inventor. Singh allows us to look closely at the equations he scribbles on his blackboard, and incredibly these include equations which predict the mass of the Higgs Boson, fourteen years before its discovery at CERN.

My favourite moment was realising that a 'taxicab number', was, you've guessed it, displayed on a taxicab. Thanks to Simon Singh I'll never look at a cartoon in the same way again.