The Herald
Section: News
Edition: 01
Date: 06 September 2008
Page: 5
Circulation: 66381
Source: ABC August 2007
pressdata

Do numbers have personalities? You can count on it

Professor to reveal secret world of mathematics

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IF you're used to seeing the number five as a regular digit, talk of its magical and surprising properties might not come naturally.

But for those of us who find mathematics less of a calling than an irritating obstacle to working out your shopping bill, Professor John Baez is here to open up this hidden world to public inspection.

The renowned mathematical physicist, and cousin of 1960s folksinger Joan, is travelling to Scotland from his base at the University of California later this month to deliver a series of public lectures exploring the "personalities" of his favourite numbers and explain what makes them tick.

For his first lecture, on the number five, he is hoping that school children and others with a "limited" understanding of the world of maths will attend.

A further two talks, delivered at Glasgow University for this year's Rankin Lectures, will be given on the numbers eight and 24 – though he conceded that this will involve issues that would probably stretch the capabilities of most amateurs.

While it may sound like a brainier version of Sesame Street, the professor is convinced that the esoteric concerns that absorb an elite group of the world's leading thinkers can be communicated to a wider audience.

Explaining the popular potential of his ideas, Professor Baez said: "I've noticed over the years that different numbers have their own 'personalities'. If you're a mathematician doing a calculation and you get the answer 248, it means something completely different than if you get 247 – because the number 248 shows up in all sorts of amazing places, while 247 is just dull. So, I thought it would be fun to explain this idea with some examples."

Professor Baez says he is drawn to the number five because of its "quirky and intriguing" properties. Much of this is due to its relation to the golden ratio – the "most irrational" of irrational numbers – which has fascinated scholars from Hellenic Greece onwards.

The prominence of the number eight, meanwhile, is because of an eight dimensional number system called octonions.

In previous articles, Professor Baez has linked the number 24 with certain versions of string theory, the hotly contested and hypercomplicated theory of the physical university which claims that a number of invisible dimensions exist which are wrapped in on themselves.

Professor Peter Kropholler, head of mathematics at Glasgow University, said: "The department is delighted that Prof Baez will be giving the Rankin Lectures this year. Not only is he an internationally renowned mathematician, he is also a highly gifted communicator with a special gift of being able to explain complex ideas in simple, often highly visual, ways."

Maths has a longer pedigree as one of the purest branches of knowledge which has provoked a passionate following among its advocates.

Plato, who believed mathematical relationships to be truer than perceived reality, had the message "let no-one ignorant of geometry enter" inscribed on the entrance to his academy, while his predecessor, Pythagoras, pursued the subject with a religious fervour.

Popularising some of the abstract notions that make up contemporary mathematics research is something Professor Baez would appear to be particularly well qualified for. As well as leading advances in areas such as spin foams, loop quantum gravity and category theory, he has written a regular internet column which has garnered a worldwide following.

The current edition of This Week's Finds in Mathematical Physics sees Professor Baez pondering whether humans have managed to create a more efficiently constructed beehive than bees, the construction of the "Water Cube" National Aquatics Centre in Beijing and the theories of Lord Kelvin.

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Professor John Baez will deliver the Rankin Lectures on September 15, 17 and 19 in the Department of Mathematics at Glasgow University. Entrance is free and no ticket is required.

Five is magic

Hands
Humans, along with other primates, have five fingers on each hand, a reason commonly given for our system of numerics being divisible by 10, as opposed to eight.

PROFESSOR JOHN BAEZ

Islam
The five pillars of Islam are the duties incumbent on all Muslims, who are also required to pray five times a day.

Cults
A five-sided star, or pentagram, has long held an association with witchcraft and magic, although Pythagoras used it as a symbol of health and Christian knights used the symbol in Medieval times.

Olympic Rings
The five rings which make the symbol of the Olympic Games were designed in 1913 by Baron Pierre de Coubertin and stand for passion, faith, victory, work ethic, and sportsmanship

Famous Five
There were five children in Enid Blyton's romantic paean to innocent youth.

Ref: 16935351