

# MANY CHEERFUL FACTS

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## What is Noncommutative Geometry?

a talk by Patrick Barrow

13:10 – 14:00 on Thursday, October 11, in room 1015.

The matter of existence of a short answer to the question posed in the title is still up for debate. One version might go something like ‘aspects of or pertaining to the work of Alain Connes.’ Seeing as how this isn’t really coordinate independent, one might hope for a more intrinsic definition. Seeing as how we only have an hour, as well as a limited imagination, we will present a few motivating examples, intending to answer the simpler question, ‘What is noncommutative geometry, at least?’

*I am the very model of a modern Major General,  
I've information vegetable, animal, and mineral,  
I know the kings of England, and I quote the fights historical  
From Marathon to Waterloo, in order categorical;  
I'm very well acquainted, too, with matters mathematical,  
I understand equations, both the simple and quadratical,  
About binomial theorem I'm teeming with a lot o' news,  
With many cheerful facts about the square of the hypotenuse!*

- Gilbert & Sullivan  $P \circ P$

The website for Many Cheerful Facts is  
<http://www.math.berkeley.edu/~mcf>