

The Simple Truth About Truth



Horse, Pipe and Red Flower by Joan Miro, 1920

by Christopher Ormell (January 2022)

In two recent articles ([Sept 2021](#), [Nov 2021](#)) I have shown that there are new, more satisfactory ways of looking at the

meaning of mathematics, and its dubious way of dealing with Russell's dangerous Contradiction –than the gurus of the mathematic establishment have ever been willing to let us see. For all their brilliance in handling seriously abstract concepts, the gurus tend to be myopic when it comes to the big picture. They are wedded to the idea that their subject is superior and timeless, but they seem to have overlooked the fact that, in today's world, this "timelessness" looks wooden, dull and old hat. Much of the best of today's life experience is "just on time" and ephemeral, but the Pandemic has taught us that we need to steady-up and take a longer view. So we *do* need mathematics, but somehow melded with a view of the world which properly appreciates the transience of everything.

We also have to remember that the gurus introduced ZF fog into their subject in the 1920s –a fudged way they used to try to get rid of the Russell Contradiction. This is no longer needed. Dynamic contradiction theory will do the job. So it might appear that removing ZF theory could lead to a revival of the idea of mathematics as the Heartland of Truth. There are hundreds of theorems in mathematics which offer striking, intellectually marvellous truths. But they are only meaningful in this way if you first fully understand the uncanny mathematic facts they were devised to explain. Unfortunately the gurus of mathematics have long since drifted towards explaining *very obscure* mathematical facts, which only they know and understand. This has succeeded in producing a vast diaspora of abstract theorems, which are so esoteric that each one can only be understood by a tiny circle of specialist gurus... and no single guru understands what hundreds of other circles of specialist gurus have discovered. This is extraordinary: a way of bringing lucidity to a tiny audience, but in a way which will inevitably baffle everyone else. It adds up to another kind of fog in mathematics: the existence of a vast archive of "truths" over which no one, however clever, can get an over-view. Each guru understands his or her

niche area –perhaps about 0.1% of the whole– but the rest of the archive remains vast, impenetrable, and daunting. This problem is called ‘Ulam’s Dilemma’, after Stanley Ulam who realised that this situation had come about in 1976. It has left higher maths as a subject which has lost its *raison d’etre*.

By condoning this vast over-production of highly diversified, esoteric work, the gurus of 20th century mathematics managed to produce a *reductio ad nebula* of their own previously highly regarded subject. There is no hope of re-launching this vast fogbank as a ‘Heartland of Truth’ which the public could consult and treasure.

The gurus have also tended to treat truth as a superordinate mathematical quality –one they can denote by the letter T, which, they think, follows its own calculus. This silly idea was roundly debunked by the charismatic philosopher John Lucas (1931-2019) in 1969 when he wrote a paper in the journal *Philosophy* entitled ‘True’. He says (p. 175):

A true friend is one I can trust. And trust, too, is what I can repose in true propositions. In telling you that a friend, a die, a line, or a proposition is true, I am telling you that that you can trust him [or her] or it, that he [or she] or it is trustworthy, that he [or she] or it is worthy of your trust and will not let you down.. [Squarebrackets added by today’s author.]

This is a philosophical insight of the greatest importance, but one which, sadly, has been almost totally ignored. Philosophers such as Bernard Williams, Simon Blackburn and many others have since written well-worked books on the subject of truth, without even mentioning Lucas’ breakthrough. Its importance is partly that it tells us that there can never be a satisfactory philosophical ‘theory of truth’. We can understand personally what it means to say that a mathematical (or any other kind of) statement is true. But not what ‘truth’

itself is.

So the brotherhood and sisterhood of higher mathematics needs to mend its ways and consign a huge fogbank of obscure results to tacit oblivion. In its place a *Special Catalogue* is needed of those many luminous mathematical truths which every well-educated person could understand and enjoy. Each item would be introduced with a preamble showing how the question arose –in easily understandable language. Then the proof that the pattern revealed was necessary would be set out. Higher maths can only hope to retain general public support if it makes this effort to engage transparently with the maths-educated public.

We can absolutely trust these results because they are timeless and, by repeated checking, the probability that there is a mistake can be reduced to zero. Of course we are currently going through a period in which there is a lot of careless and ambiguous judgment about. Hopefully there is still a small scattered residue of thoroughly trustworthy people around to carry such a project through. Absolutely certain mathematical truth established by reasoning was probably the original basis of Western Civilisation, because it must have been this intellectual *eros* which originally prompted questing minds to apply the same methods to patterns observed in the night sky. This Greek insight really pre-dates Greek Science, because it sets an ideal for science to try to match.

Alvin Toffler made much of 'future shock' in the 1960s, but what has happened is that almost everyone has gone off sustained rigour. They have switched instead to muddling through by adopting groupspeak. By introducing the key fudge of ZF theory in mathematics, the gurus blew the idea that rigour needs to be wholly (rigorously) maintained. So there is not much chance that these ideas will be rigorously followed through. But a Catalogue of Accessible Luminous Truth in Mathematics might come about --if enough people turn out to

care sufficiently.

[Table of Contents](#)

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