

New research method aims to unlock academia's biggest problem

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Scientists at Keele University have found a solution to one of life's great mysteries: Why people often fail to see the answer to a problem when the solution is right in front of them. The researchers have created a new method, called the Verifier approach, which promises to help scientists unlock answers to some of the most complex problems in science.

The Keele team believes the ground-breaking new approach could help scientists working in virtually any field of study, from worldwide [medical research](#) to the [origins of the universe](#), helping drive research forward in areas where scientists might be too involved in the detail to see an obvious solution.

Developed by Dr Gordon Rugg, senior lecturer at Keele University and an expert in [human error](#), the Verifier approach uses a combination of methods to identify potential errors in reasoning by experts tackling difficult long-standing problems.

Dr Rugg explains this approach in a new book entitled *Blind Spot: Why we fail to see the solution right in front of us*.

The Verifier approach has already been used to identify a previously-overlooked solution for one of the world's most mysterious documents - the Voynich Manuscript. Previous researchers had believed the complex regularities in the text of the manuscript were too intricate to have been produced as a [hoax](#). Using the Verifier approach, Rugg showed key errors in their assumptions, and demonstrated how those complex

regularities could have been produced using nothing more complex than a penknife, a quill pen, and some tables of meaningless syllables.

Other outcomes from this work include:

- The development of new software for online search, that lets users do things that no other [search software](#) can do:
www.searchvisualizer.com
- Discoveries made using this software that give new insights into texts such as Genesis and the works of Shakespeare – for instance, the recent discovery by Rugg and his colleague Dr David Musgrave of the so-called "Genesis Death Sandwich" (searchvisualizer.wordpress.com)
- New ways of visualising statistical forensic evidence for juries in complex trials

Dr Rugg says: "There has been a lot of work over the years on why people make mistakes. In the past, though, that work didn't go all the way. For instance, it would only tell you whether a chain of reasoning was faulty, given its initial assumptions; it wouldn't give you any guidance on how to find out whether those initial assumptions were actually true or not. What we've done with the Verifier approach is to put together the set of toolboxes that you need to do the whole job."

"People make much the same types of mistakes regardless of how expert they are, or what field they're working in, so once you know how to spot those mistakes, you can go after them in any field."

The Verifier approach involves four main "toolboxes" of methods: 1. A collection of methods for gathering accurate information about a problem 2. A collection of methods for choosing the best way of representing that information 3. A collection of methods for spotting errors in how experts are using that information 4. A collection of

methods for conveying the correct information, to reduce the risk of misunderstandings

This work builds on Dr Rugg's previous research in these fields, taking methods that had previously been scattered across a wide range of disciplines, and assembling them into a powerful framework for helping researchers to spot where they can break logjams in their research by identifying faulty assumptions in previous work. The book contains numerous worked examples from a wide range of fields, and gives powerful insights that readers can use to get fresh insights into their worlds.

Speaking about Dr Rugg's method, Klaus Schmech, Voynich Manuscript expert and blogger, comments: "Rugg has not only made an important contribution to cryptology, but to critical thinking as a whole." One review of Dr Rugg's methods adds that his book is: "A series of spellbinding Holmes-like stories about how supposedly sound reasoning can go awry, even in the hands of renowned experts."

For downloadable information packs on the Verifier approach and the book *Blind Spot: Why We Fail to See the Solution Right in Front of Us*, click here or go to bit.ly/VerifierPress.

Provided by Keele University

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