

# Spreadsheets, Risk, and the Legal Presumption of Correctness

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## Outline

Spreadsheets contain mistakes or bugs

This fact does not sit well with the legal presumption in England & Wales that computers are reliable

The development of machine learning (also 'artificial intelligence') will make matters worse

The implications are both practical and legal

## The legal problem

‘In the absence of evidence to the contrary, the courts will presume that mechanical instruments were in order at the material time’

*In short:*

Computers are presumed to be reliable

## Law Commission

In 1997, the Law Commission published a paper *Evidence in Criminal Proceedings: Hearsay and Related Topics*

Reviewing the problems faced by prosecutors, the Law Commission considered the law to be unsatisfactory and expressed its view that PACE 1984 s69 served ‘no useful purpose’

It proposed that s69 should be repealed (and not replaced) with the effect that:

‘In the absence of evidence to the contrary, the courts will presume that mechanical instruments were in order at the material time.’

The Law Commission considered that the words ‘mechanical instruments’ would extend (by default) to include computers

The Post Office (31 July 1995), Inland Revenue (16 October 1995), BT (27 October 1995), CPS (1 November 1995) and DTI (9 November 1995) supported the presumption that computers are reliable

<https://journals.sas.ac.uk/deeslr/article/view/5649>

## No evidence

Those that assert must prove

The Law Commission did not provide any evidence to indicate their assertion was correct

In fact, it was worse than that

## Utter failure

'A study of the papers and articles quoted in the consultation paper and final report reveals that the Law Commission misunderstood, or misrepresented, the opinions of the sources cited as being in favour of repeal.

The Law Commission failed to address the strongest arguments against repeal without replacement, and it focused instead on the issue of the admissibility of evidence.

It ignored the advice of the experts they cited who all argued that the focus of courts should be on the reliability of computer evidence, rather than its admissibility.

The Law Commission's comments and conclusions showed that it had not understood the nature of computers and complex software systems as described in the sources upon which they relied.'

James Christie, 2023 (reference below)

## This led to injustice

Possibly the worst legal scandal in England and Wales: the Post Office Horizon IT system

*Bates v The Post Office Ltd (No 6: Horizon Issues) Rev 1* [2019]  
EWHC 3408 (QB)

<http://www.bailii.org/ew/cases/EWHC/QB/2019/3408.html>

The full transcript of the trial was published in 2021 in the *Digital Evidence and Electronic Signature Law Review* with a summary, including a list of further resources, and the related judgments that were not published

<https://journals.sas.ac.uk/deeslr/issue/view/584>

## The problem with software in essence

errors in computer systems, specifically software defects (bugs), *may not be readily apparent* and, on the contrary, be difficult to identify

bugs may cause a computer system to work very differently from the intended behaviour, with unexpected – sometimes devastating – consequences

the effects of such bugs in the Post Office Horizon IT system were not readily observable or identifiable to subpostmasters and subpostmistresses prosecuted by the Post Office

*it must be emphasised* that all systems controlled by software suffer from the same problem – it is not unique to the Post Office Horizon IT system

## Consequence

Hundreds of subpostmasters and subpostmistresses were

convicted

sentenced to terms of imprisonment, fined

or

had their property confiscated

Appeal courts have quashed more than 70 convictions to date

## The Law Commission?

It cannot be overemphasised how important this article is:

James Christie, The Law Commission and section 69 of the Police and Criminal Evidence Act 1984, 20 *Digital Evidence and Electronic Signature Law Review* (2023) 62 – 95

<https://journals.sas.ac.uk/deeslr/article/view/5642>

## UK government 'response' – to ignore advice requested by MoJ

The article 'Recommendations for the probity of computer evidence'

Slightly revised version of a report submitted to the Ministry of Justice in response to the invitation by Mr Alex Chalk MP to Paul Marshall, Barrister, in August 2020.

He wanted recommendations for improving the existing approach under rules of court for the disclosure in court proceedings of computer-derived evidence.

Ministry of Justice received the recommendations in November 2020.

The report is understood to have been referred by the Under-Secretary of State to the Attorney General and the Chair of the Criminal Procedure Rule Committee for their consideration.

There has been no response.

Additionally, the Royal Society has been trying to prepare a primer for courts in relation to electronic evidence: <https://royalsociety.org/about-us/programmes/science-and-law/>

I have it on authority that they cannot agree, so nothing has been produced.

## UK government response – retain the presumption

Written Question tabled on 10 May 2022 by Mr Kevan Jones, Labour, North Durham:

To ask the Secretary of State for Justice, whether he has plans to assess the legal presumption of reliability of computer evidence.

Answer

James Cartlidge, Parliamentary Under Secretary of State (Ministry of Justice), Assistant Whip, 17 May 2022:

'We have no plans to review the presumption, as it has wide application and is rebuttable if there is evidence to the contrary.'

<https://questions-statements.parliament.uk/written-questions/detail/2022-05-10/79#>

## UK government response: legislation

The slow pace of dealing with appeals and providing for compensation over the Post Office Horizon IT scandal escalated dramatically and rapidly after the broadcast of a four-part British television drama series for ITV, 'Mr Bates vs The Post Office' in January 2024

On 10 January 2024 the government announced it will quash the convictions by Act of Parliament

Post Office (Horizon System) Offences Act 2024 (applies to England & Wales and Northern Ireland)

<https://www.legislation.gov.uk/ukpga/2024/14/enacted>

Open letter to postmasters

<https://www.gov.uk/government/publications/post-office-horizon-system-offences-act-2024-open-letter-to-postmasters>

For Scotland, see the Post Office (Horizon System) Offences (Scotland) Act 2024

<https://www.legislation.gov.uk/asp/2024/6/contents/enacted>

## The implications for users of present and future levels of software technology

The equivalent presumption in Singapore became a paper presumption that was easily satisfied with statements from poorly qualified operators who claimed that in the course of their use of the computer system, it was behaving properly (as under s69 PACE 1984)

It is difficult to refute such assertions. This meant the evidence was admitted.

That changed:

To explicitly state that this is an evidential presumption, so that all that the opponent needs to do is to suggest that something is wrong

Then the proponent of the evidence is now required to fully support the electronic evidence

This is what the English position was (and remains). But judges refuse to order appropriate disclosure of evidence. Result: legal scandal (but also: judges, lawyers and law students not educated in electronic evidence)

Will this continue?

I don't know.

Few lawyers or judges have read or are aware of our practitioner text, so it seems to me that the only thing to do is keep your fingers crossed.

## Further examples

See my presentation from 2017

<https://eusprig.org/wp-content/uploads/stephen-mason-2017.pdf>

This includes the prosecution of nurses from the Princes of Wales Hospital (*Regina v Cahill and Pugh*) involving spreadsheets

There are many more examples – including *Regina v Cahill and Pugh* – in Chapter 5 in *Electronic Evidence and Electronic Signatures* (see last page for details)

## Quick reads

Stephen Mason, 'Evidence from computers – the unreliable legal presumption that, without more, it can be relied upon', *The Barrister*, Number 95, 11 January – 5 April 2023, 34 – 35

<https://barristermagazine.com/evidence-from-computers-the-unreliable-legal-presumption-that-without-more-it-can-be-relied-upon/>

Stephen Mason, 'The cause of the Post Office Horizon scandal? The Law Commission? Judges? Lawyers?' *Computer Weekly*, 1 November 2023, online

<https://www.computerweekly.com/opinion/The-cause-of-the-Post-Office-Horizon-scandal-The-Law-Commission-Judges-Lawyers>



## Articles dealing with the 'reliability' of computers

Peter Bernard Ladkin, Bev Littlewood, Harold Thimbleby and Martyn Thomas CBE, 'The Law Commission presumption concerning the dependability of computer evidence', 17 *Digital Evidence and Electronic Signature Law Review* (2020) 1-4

<https://journals.sas.ac.uk/deeslr/article/view/5143>

Peter Bernard Ladkin, 'Robustness of software' *Digital Evidence and Electronic Signature Law Review* 17 (2020) 15-24

<https://journals.sas.ac.uk/deeslr/article/view/5171>

James Christie, 'The Post Office Horizon IT scandal and the presumption of the dependability of computer evidence', *Digital Evidence and Electronic Signature Law Review* 17 (2020) 49-70

<https://journals.sas.ac.uk/deeslr/article/view/5226>

## Articles dealing with the consequences when relying on the 'reliability' of computers

James Christie, 'The Post Office IT scandal – why IT audit is essential for effective corporate governance', 19 *Digital Evidence and Electronic Signature Law Review* (2022), 42-86

<https://journals.sas.ac.uk/deeslr/article/view/5425>

Paul Marshall, 'Scandal at the Post Office: The Intersection of law, ethics and politics', 19 *Digital Evidence and Electronic Signature Law Review* (2022), 12-28

<https://journals.sas.ac.uk/deeslr/article/view/5395>

Paul Marshall, 'The harm that judges do – misunderstanding computer evidence: Mr Castleton's story', 17 *Digital Evidence and Electronic Signature Law Review* (2020) 25-48

<https://journals.sas.ac.uk/deeslr/article/view/5172>

Tim McCormack, 'The Post Office Horizon system and Seema Misra', 13 *Digital Evidence and Electronic Signature Law Review* (2016) 133-138

<https://journals.sas.ac.uk/deeslr/article/view/2303>

## Miscarriage of justice and legal advice

Richard Moorhead, Karen Nokes and Rebecca Helm. Independent Review, 'Miscarriages of Justice, and Computer Evidence: Brian Altman KC's General Review and the Post Office Scandal', 20 *Digital Evidence and Electronic Signature Law Review* (2023) 96 – 119

<https://journals.sas.ac.uk/deeslr/article/view/5643>

## The Post Office Horizon IT scandal

For a brief chronology of the Post Office Horizon legal scandal:

<https://journals.sas.ac.uk/deeslr/article/view/5390>

**Other references:**

Post Office Horizon IT Inquiry

<https://www.postofficehorizoninquiry.org.uk/>

The Justice For Subpostmasters Alliance

<https://www.jfsa.org.uk/>

<https://www.postofficescandal.uk/>

University of Exeter Law School: Post Office project

<https://evidencebasedjustice.exeter.ac.uk/current-research-data/post-office-project/>

<https://postofficeproject.net/>

## Additional resources in the context of the conference

Daniel Seng and Stephen Mason, 'Artificial Intelligence and Evidence', (2021) 33 *Singapore Academy of Law Journal*, 241 – 279

<https://journalsonline.academypublishing.org.sg/Journals/Singapore-Academy-of-Law-Journal-Special-Issue/Current-Issue/ct/eFirstSALPDFJournalView/mid/503/ArticleId/1602/Citation/JournalsOnlinePDF>

Stephen Mason, 'Artificial intelligence: Oh really? And why judges and lawyers are central to the way we live now – but they don't know it', *Computer and Telecommunications Law Review*, 2017, Volume 23, Issue 8, 213 – 225

Thank you

Founder of *Digital Evidence and Electronic Signature Law Review*, open-source

<https://journals.sas.ac.uk/index.php/deeslr>

Stephen Mason and Daniel Seng, editors, *Electronic Evidence and Electronic Signatures* (5th edn, Institute of Advanced Legal Studies for the SAS Humanities Digital Library, School of Advanced Study, University of London, 2021), open-source

<https://uolpress.co.uk/book/electronic-evidence-and-electronic-signatures/>

Stephen Mason, editor, *International Electronic Evidence* (British Institute of International and Comparative Law, 2008)

[https://www.biicl.org/files/3404\\_electronic\\_evidence.pdf](https://www.biicl.org/files/3404_electronic_evidence.pdf)

Stephen Mason, *The Signature in Law From the Thirteenth Century to the Facsimile* (Institute of Advanced Legal Studies for the SAS Humanities Digital Library, School of Advanced Study, University of London, 2022), open-source

<https://ials.sas.ac.uk/oa/publications/signature-law>