

Response to NCFS Commission consultation

Testimony using the term ‘Reasonable scientific certainty’

The Royal Statistical Society supports the view of the National Commission on Forensic Science (NCFS) that

‘the scientific community should not promote or promulgate the use of this terminology [‘the opinions or facts stated are offered ’to a reasonable scientific certainty’].’

We also believe this stricture should be extended to the terms ‘is consistent with’ and ‘could have’.

In guidelines published by the European Network of Forensic Science Institutes (ENFSI, 2015, page 20), the phrase ‘could have’ is approved when the scientist is considering an explanation for the evidence, rather than propositions. Thus:

”In the context of a forensic science evaluation, an explanation has been recognised as an intermediate consideration for use when exploring less formal alternatives. A key characteristic of explanations is that they are generated after the forensic findings have been obtained. While an explanation has the potential to account for particular observations, it does not qualify as a formal proposition because - often - it may be a statement of the obvious, speculative or fanciful.”

The provision of explanations does have a role in ‘investigative’ aspects of a forensic scientist’s work but the scientist, in providing this form of opinion, does have to recognise the different inferential basis of such opinions. A description of the differences between ‘investigative’ and ‘evaluative’ opinions is given by Jackson *et al.* (2014, p.21). The authors provide examples of explanations:

- The mark could have been made by the defendants shoe;
- The blood staining on the wall could have been caused by multiple blows to the deceased’s head;
- The injuries are consistent with having been caused by the end of a claw hammer;
- The defendant cannot be excluded as a source of the partial DNA profile seen in the mixture of DNA on the swabs.

Another comment from Jackson *et al.* (2014, p.39) is pertinent:

”A range of other linguistic expressions has traditionally been used to express forensic scientific findings. . . . Stock phrases include: ‘provides a link between’; ‘there is evidence of association between’; ‘is consistent with’; ‘could have originated from’; ‘there are no significant findings’; ‘cannot be excluded’.

”Some of these phrases have perfectly legitimate forensic uses. But they require careful contextual interpretation. Although they express conclusions that are strictly speaking true (or perhaps, ‘not false’), vague or ambiguous expressions may be incomplete to the point of becoming positively misleading to certain audiences. Thus, findings of consistency or potential origin may easily give the impression of strong association, whereas, in strict logic, findings may be ‘consistent with’ the prosecution’s allegation of guilt and with the defendant’s denials. To take an extreme case for the sake of

illustration, a forensic scientist might accurately report that ‘the footwear mark is consistent with the accused’s shoe’, but fail to mention that ‘the footwear mark is also consistent with the co-accused’s shoe’, or with 90% of training shoes worn by young people, etc. Extremely unlikely possibilities may still be ‘consistent with’ the evidence. If all that is said is that two items ‘could have’ a common origin or that common origin ‘cannot be excluded’, it is doubtful that this would be understood, according to the ordinary canons of communication and conversation, to cover cases of vanishingly small probability.”

European Network of Forensic Science Institutes (2015) A Guideline for Evaluative Reporting in Forensic Science. See [http://www.unil.ch/esc/files/live/sites/esc/files/Fichiers 2015/ENFSI Guideline Evaluative Reporting](http://www.unil.ch/esc/files/live/sites/esc/files/Fichiers%2015/ENFSI%20Guideline%20Evaluative%20Reporting)

Jackson, G, Aitken C., Roberts, P. (2014) Case Assessment and Interpretation of Expert Evidence: Guidance for Judges, Lawyers, Forensic Scientists and Expert Witnesses, Practitioner Guide No. 4, Royal Statistical Society, 2014, [http://www.rss.org.uk/ statsandlaw](http://www.rss.org.uk/statsandlaw).