

Inference and Justice: The Bain Case

by Keith Rankin, 13/12/12

Most of the decisions we make in life are based on inferences drawn from incomplete information. The place in education that inference is most explicitly studied is in statistics courses.

Sadly, statistics is one of those subjects that is often prejudged as boring, nerdy and difficult. Hence the wider understanding of the process of inference, by the public and in the media, is inadequate. This inadequacy is brought into sharp focus by the issue of David Bain's innocence or guilt with respect to the deaths of his family in 1994.

The criterion for conviction in a New Zealand court is 'beyond reasonable doubt'. A statistician would understand this as meaning that there is either a five percent or a one percent level of doubt. For the purposes of this comment, we'll use the five percent definition.

Thus, to convict a person, each juror must believe (or at least be persuaded in the jury room) that, having heard the evidence presented, the chance that the accused is innocent is less than five percent.

The concept is particularly easy to understand in the Bain case, because it is generally accepted that it could only have been David Bain or his father Robin who perpetrated these homicides. (The scenario that both may be responsible - eg Robin Bain killed four family members and David killed Robin - has not, to my awareness, been investigated.)

When the jury acquitted David Bain, they said, in effect, that the probability that David was the culprit was less than 95 percent, and that the likelihood that Robin was guilty was greater than five percent.

If the jury believed that there was, say, a 20 percent chance that Robin killed his family, then they were obliged to come to a 'not-guilty' verdict in David's trial. This may indeed be what the jury did believe.

The Canadian judge (Justice Binnie) was asked to determine David Bain's guilt or innocence on 'the balance of probability'. Hence, if Justice Binnie, after reviewing the evidence, believed that the odds were 60:40 in favour of Robin being the killer, he would have found David innocent on the balance of probability.

For public compensation to be awarded, however, the publicly acceptable criterion is that a person is innocent 'beyond reasonable doubt'. If a complete judicial review of the evidence suggests that the likelihood of David being guilty is between five and fifty percent, then I suspect that the public would not support the payment of substantial compensation.

Rather, the public would wish to be at least 95 percent certain of David's innocence. Indeed, in the cases of Arthur Allan Thomas and David Docherty, who did receive substantial compensation, the likelihood of their guilt is clearly well below five percent.

In the Bain case, the judicial review presumably could have been set up as an investigation of Robin Bain's likely guilt. If the reviewing judge could find that the probability of Robin's guilt

was greater than 95 percent, then David would then have been cleared sufficiently to justify the award of substantial financial compensation.

It seems clear that Justice Binnie has not found Robin Bain guilty 'beyond reasonable doubt'; only on 'the balance of probability' (eg 60:40). On this criterion, we continue to be left with an open verdict that the killer of the Bain family was either Robin or David.

Part of the problem in considering compensation is that the defence in the second David Bain trial relied so much on the issue of doubt. This was mirrored in the recent acquittal of Ewen MacDonald of the homicide of Scott Guy. In each case the successful defence was based on the level of doubt being greater than five percent, and not on overwhelming evidence that another person committed the crime.

In the absence of significant new information, we are unlikely to ever be at least 95 percent sure of the innocence of David Bain, of Ewen McDonald, or of Rex Haig for that matter. (Rex Haig, convicted in 1995 for murdering Mark Roderique, was released ten years later as probably innocent.)

Of the three, all of whom are effectively subject to 'not proven' verdicts, and based upon the available evidence, possibly Rex Haig falls closest to the 'innocent beyond reasonable doubt' criterion.

Only two verdicts are possible in New Zealand courts, unlike Scotland where three verdicts are possible. In New Zealand, 'guilty' means 'proven beyond reasonable (eg 5%) doubt', and 'not guilty' means 'not proven beyond reasonable doubt'.

In the David Bain case, if compensation is awarded, the NZ public will have no choice but to accept that his father has been found guilty beyond reasonable doubt. The case before the government today is no less than a trial of the late Robin Bain.

The issue in the Bain case is conceptually very simple. Is there enough evidence to convict Robin Bain, albeit *in absentia*, on four counts of homicide? Are we more than 95 percent sure that Robin Bain murdered his family?
