

The Evidential Value of Neuroscientific Findings

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The emergence of neuroscientific methods has provided insights into the link between the activity of specific brain regions and behaviour. An emergence and rapid development of two new disciplines occurred: neurocriminology and neuropsychology. There have also been increasing attempts to use neuroscientific findings in courts of law to examine the existence of causal links between specific features of brain structure or function and behaviour at the time of offending. Neuroscientific evidence is supposed to provide insight into individual decision-making and behaviour and to provide justification for the legal consequences of criminal behaviour, but despite rapid developments over the last two decades, neuroscientific methods (e.g., fMRI) still do not allow reliable conclusions to be drawn.

Neuroscientific evidence is mainly used in courts to prove diminished sanity or insanity, and incapacity to understand the judicial processes. Images of brain activity give the impression of expertise, objectivity and accuracy, but this impression is often deceptive. The review of research in this paper shows that fMRI in particular, does not yet meet the minimum standards of admissibility of evidence in courts of law. Indeed, its use is non-standardised, and its accuracy and reliability are unknown and questionable. Results of studies related to fMRI are often methodologically flawed and unverifiable, and the technique is not widely accepted as reliable and valid in the scientific community. For these reasons, neuroimaging has only an indicative value and no evidentiary value, and if the court accepts the neuroscientific findings of experts as evidence, there is a high risk that the court's decision is flawed.

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