



## Letter to Editor

Dear Editor,

Several statements are made in the paper of Winburn and Clemmons "Objectivity is a myth that harms the practice and diversity of forensic science" [14] that should be viewed in a critical perspective. These concern predominantly statements like this one:

*Still, in contrast with scholars in other scientific disciplines, many forensic scientists have resisted the idea that our own values, theories, and experiences might bias the analyses we conduct and the conclusions to which we testify. This commitment to the ideology of pure objectivity continued within the forensic sciences for decades past the post-positivist movements in other fields—until a wave of studies turned the lens, clearly and specifically, on us.*

In my (subjective, statistically untested) impression, most investigators are already well aware that "objectivity" is an idealistic concept (like e.g., justice or "the" truth). Thus, it is a target that must constantly be pursued, although it can never be fully reached let alone be secured permanently. There is a profound and growing body of literature (e.g., [1–6,8,9]; for Refs. see also [10] on how to identify, manage and potentially reduce bias. So statements like "... in contrast with other scholars ..." or a "... commitment to the ideology of pure objectivity ..." seem rather polemic unless substantiated by facts (e.g. a valid poll). I acknowledge that much remains to be done in this respect, but generally accusing forensic practitioners of being less critical or more dogmatic than any other investigators seems unsupported.

*Alternately, a practitioner's research and publications may actively engage with ideology and issues of social injustice if they themselves have experienced social marginalization.*

May that be so, but any influence of personal history on research data or their interpretation might be regarded as bad science. These factors are already included in a general system of coping with bias (likely as "personal factors" - e.g. [6]. Furthermore, there are organisational measures that can be taken against such effects (e.g., double blinding, four-eyes principle, peer review, etc.). The ISO-based accreditation and quality management systems (e.g. ISO/IEC 17020 and 17025) aim to insure adequate technical standards and analytical procedures. Even acknowledging that the goals of impartiality and objectivity - as formulated in these conventions - are difficult to reach and maintain, it cannot be denied that progress is made in handling these questions (see e.g., [11]).

Additionally, it is the duty of every examiner, expert and scientist in forensic work, to pass a case if he or she feels prejudiced or biased in any way. This is explicitly stated in several legal systems. However, such a denial is inherently based on subjective ethics as nobody else could or should remove an expert from a case based on e.g., their social

experiences. The latter would constitute a severe case of discrimination in itself. For example excluding coloured women from analyses concerning white males as an institutional/regulatory routine measure, based on their previous social experiences, would clearly be unacceptable.

*The consensus that emerges from this body of research is clear. Forensic science data are theory laden. Pure scientific objectivity is a myth.*

While it may be seen in that way by some philosophical concepts, other theories (e.g. [12], apparently reach different conclusions. Consequently, no "consensus" exists - it seems that this statement just illustrates a postmodern/critical/constructivist ... notion.

*If forensic scientists imply that our results are scientific certainties—facts rather than interpretations—we contribute to misconceptions by jurors and other members of the public and potentially mislead the court from administering justice.*

This is certainly true. As mentioned above, there are many approaches aiming to avoid also overconfidence (as one of many frequent biases). Nevertheless, it seems that the authors just raise this point to "deconstruct" it. The conceptual differences between reductionist (linear) reasoning  $A \Rightarrow B$  and stochastic (statistical) reasoning  $A = p(\sum \text{values})$  are ignored in this paper, although the latter is more commonly used, part of the Daubert-standard and eo ipso avoids the "scientific certainty" trap. Unfortunately, this line of reasoning is not mentioned in this paper.

*This rejection of 'subjective advocacy' in favour of 'objective neutrality' plays a particular role in a socio-political climate in which race, racism, and social injustice are at the forefront of our consciousness.*

Whatever the "socio-political climate" may be - it certainly differs in many countries/cultures/legal systems outside of the USA. As this argument is just generally employed, it is quite difficult to respond to it. Just adding "wokeness" to the system of evaluating legal proofs may be not helpful either or even be harmful. Racial prejudice may be regarded as another bias that must be taken care of in analysis. If that is the point of the authors, I fully agree, however, it could have been formulated more specific.

Several statements in the following text may just be interpreted as political opinions. However, I would like to warn against propositions like:

*This commitment to scientific objectivity thus betrays extreme privilege. Eschewing passion, empathy, and advocacy in the name of 'remaining objective' veils a deeper goal to maintain the status quo.*

Passion and empathy are (subjective) feelings, that should be kept

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strictly apart from (legally crucial) facts. They may go one way or the other and can be manipulated relatively easily (e.g., by framing, see [13]). Empathy and advocacy (especially for victims), is certainly important and indispensable in post-traumatic care. Nevertheless, the pursuit of objectivity in generating valid results remains at the core of reaching a (hopefully fair) verdict. Additionally, the "status quo" is not specified regarding national legal systems and cultural conditions. As mentioned before, this obviously differs widely between the USA and e. g., GB, Congo, Pakistan or China (just to name a few). Thus, areproval on seemingly privileged investigators seems rather vaguely reasoned.

The assignment of an investigator, analyst, expert, etc. in court is clearly to depict facts relating to the specific case - as neutral, factual accurate and technically adequate as possible (among other requirements). "Mitigated objectivity" seems therefore a concept that is more appropriate for juries who usually will consider the personal history - in one way or another - for reaching a verdict. Let therefore the pursuit for objectivity remain in the responsibilities of forensic practitioners.

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