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Response to letter to the editor of *FSI: Synergy* regarding *Objectivity is a myth that harms the practice and diversity of forensic science*

Dear Editor,

We appreciate the opportunity to respond to this Letter, and we welcome the chance to engage with this author and the broader readership about the content of our recently published *FSI: Synergy* Perspective, “Objectivity is a myth that harms the practice and diversity of forensic science.” Amplifying the sentiments of the Letter author, we agree that not just “several”¹ but *all* statements in our piece should be viewed in a critical perspective: one of our goals in writing this piece was to bring to the forefront of discussion a stance on objectivity not typically considered by scientists who still take the validity and reality of scientific objectivity as a given. In our response, we address the author’s critiques and explain instances where our perspectives diverge. Interestingly, however, we perceive more commonalities with this author than might be expected given the tone of their critique, and we begin by highlighting these areas of overlap.

Principal among these commonalities, the author describes objectivity as “an idealistic concept ... a target that must constantly be pursued, although it can never be fully reached,” noting “a profound and growing body of literature on how to identify, manage and potentially reduce bias” while acknowledging “that much remains to be done.” Our critic has, in essence, described *mitigated objectivity*—our own preferred theoretical perspective, and the one which we propose should be employed throughout the forensic sciences. Mitigated objectivity (sensu [1]) holds that objectivity, while unattainable, can be approximated through scientific rigor, in which implicit biases and the theory laden-ness of data are constrained with strong methods, informed with good theory, and shaped by the existence of reality. We are also familiar with the body of cognitive-bias literature highlighted by this author, and we do agree that the tide is turning, with more forensic science practitioners beginning to acknowledge the potential for implicit biases to undermine the objectivity of their practice. Like the Letter author, we agree that overconfidence in our conclusions can contribute to misconceptions by jurors and other members of the public and that, in their words, “racial prejudice may be regarded as another bias that must be taken care of in analysis.” Indeed, our cognizance of racism’s pervasiveness was another of the factors motivating us to write our Perspective. We, like our critic, are optimistic that quality-control practices like peer review and linear sequential unmasking can serve to curb biases—both implicit and explicit. Finally, we agree, in part, with our critic’s statement that merely “adding ‘wokeness’ to the system of evaluating legal proofs may be not helpful.” We do think it would be helpful for forensic science practitioners to be aware of oppressive systems and how they affect and influence our practice. However, the term

“woke” does not even appear in our piece, nor is it regularly invoked by individuals working toward greater equitability within these systems. Rather, consistent with our critic’s usage, this term is frequently co-opted to stifle conversations about the history of structural racism in systems worldwide and the social marginalization of peoples globally—a usage which we agree is unhelpful indeed.

We diverge from the Letter author on other perspectives. First, we do not share their optimism that most forensic scientists are “well aware” that objectivity is a myth—or, to use the author’s terms, “an idealistic concept.” While we have conducted no polls, the forensic science literature supports our claim that many of our fellow practitioners have remained committed to the ideology of pure objectivity even after the rejection of positivism by other scientific disciplines. The reaction from forensic practitioner communities to studies indicating that cognitive bias can impact their observations and conclusions is often extremely negative (e.g., see Ref. [2] and commentaries). Further, the effects of cognitive bias, despite several decades of dedicated study, are still incompletely understood. In our discipline, for example, there have been 37 times more forensic anthropology publications dedicated to understanding method reliability ($n = 744$) compared with observer bias ($n = 20$; [3], and only one forensic anthropology publication to date has investigated the possibility that bias might impact metric as well as qualitative methods [4]. We thus feel that our stance regarding forensic scientists’ reluctance to eschew positivism is indeed “substantiated by facts.”

We also reject the idea that a quantitative analysis (“e.g., a valid poll”) is necessary to establish those facts. Contrary to the normative Western scientific emphasis on quantitative data, many social science disciplines value qualitative, subjective data. Sociocultural and medical anthropology come to mind as disciplines that do not labor under the misconception that data must be numerical to be valid. In that vein, our own subjective experiences with our fellow forensic anthropology practitioners have not evidenced the sort of “critical” self-awareness that this author attributes to us. In fact, one impetus for our Perspective was a highly visible conversation begun at a virtual academic conference and continued on a listserv, in which leaders of the forensic science community stated that it was not only possible, but *desirable*, to separate personal experiences, expectations, and emotions from one’s work—and further, that individuals incapable of achieving this separation should not practice forensic science—in essence, that pure scientific objectivity was a positive, attainable, and necessary goal for forensic practice.

The past four decades of research undermine these harmful myths. Yet, curiously, the Letter author denies that a consensus has been reached regarding the theory-laden nature of forensic science data and

¹ Please note that all uncited quotes in this text originate from the author of the Letter to the editor.

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the mythic status of objectivity— after spending several paragraphs detailing how objectivity is merely an “idealistic concept,” introducing various practitioner subjectivities, and discussing ways to remediate them. “No ‘consensus’ exists,” they state, contradicting their previous positions that objectivity “can never be fully reached” and that we must “identify, manage and potentially reduce bias.” We find this contradiction problematic: either there is a consensus that forensic science is theory-laden, and everyone knows objectivity is, at best, a heuristic (earlier point), or there is no consensus that forensic science data are theory-laden, and pure objectivity must be pursued (later point). It is unclear to us how both could be true, as this author suggests.

We feel that the author has perhaps missed a crucial point—another on which we agree—that despite its theory-laden nature, *science works*, and its iterative processes constrain subjectivities and ultimately reveal consensus truths. In fact, we see in this author’s citation of Karl Popper yet another commonality between our approaches, as Popperian falsification is just one of the ways that mitigated objectivity functions to keep us from going off the deep end of subjective speculation. We should note, however, that science also includes non-Popperian ways of knowing the natural world. In their dismissal of the consensus that data are theory-laden, the Letter author asserts that our summary of this consensus “just illustrates a postmodern/critical/constructivist ... notion” (ellipsis original). Yet, far from being characterized as a mere “notion,” postmodern, critical, and constructivist theoretical perspectives have been applied productively in a myriad of scientific disciplines, lending important methodological insights like the importance of multivocality and reflexivity. Compared to these disciplines, we do feel, contra the author, that forensic scientists have indeed remained “less critical” and “more dogmatic.”

We certainly appreciate the importance of the technical standards and analytical procedures referenced by the author as vital bias-mitigation techniques, as this is a body of work which we detail not only in our Perspective [5] but also in our related research (e.g., Refs. [4, 6]). Yet, if forensic scientists apply quality-control methods with the unrealistic expectation that these controls will enable them to achieve pure scientific objectivity, they are misinformed. There is no way for human scientists to keep the “(subjective) feelings” of “passion and empathy ... strictly apart from (legally crucial) facts.” Even if we were able to pinpoint exactly which subjective factors (e.g., emotions, experiences, expectations) are biasing us or to what extent we are being influenced—something cognitive research indicates we are *not* able to do [7–10]—we cannot merely eliminate those implicit biases through sheer force of will [11]. The professional self cannot be put on and taken off like a lab coat, effectively obscuring the experiences brought to the work bench by the personal self. Even if it could be, we argue that this would be a detriment to forensic science practice. We cannot expect forensic scientists, unlike all other scientists (indeed, unlike all other humans), to exist outside of society and culture. Rather, we can encourage forensic scientists to acknowledge the sociocultural contexts of their roles, noting that their actions, both personal and professional, have real, everyday consequences not only on decedents and defendants but on entire groups of people. Those consequences are lasting and can affect persons and methods long after the lifetime of the forensic practitioner. Engaging with the sociocultural ramifications of our research and casework is productive, as is well illustrated by the recent critical focus on ‘ancestry’ estimation within our discipline—a nuanced and ongoing debate which has led some scholars to commit to refining methods of parsing human skeletal variation and others to reject it altogether [12–16].

The Letter author mentions the need to recuse oneself from any case about which they feel “prejudiced or biased in any way,” and we suspect that this concern gets to the heart of the matter. There seems to be a preoccupation, not only on the part of our critic, but also more generally within the forensic sciences, with the idea that positionality is inherently detrimental to forensic casework and expert-witness testimony. We simply do not see this as a compelling reason for forensic scientists to

disengage from issues of social importance. As established above, there is no way for us to identify the ways in which, and the degrees to which, we have been “prejudiced or biased.” We all bring implicit biases to the table, regardless of how neutral we may choose to believe ourselves. The fact that we have these inherent subjectivities is precisely *why* we craft strong methods. It is *why* we develop valid statistical frameworks, *why* we use quality control, *why* we apply multifaceted bodies of theory. In essence, it is *why* we pursue mitigated objectivity—because it checks our subjectivity but does not force us to reject our humanity—it allows us to be not only scientists but *people who do science*. We must be able to articulate the rhetoric of mitigated objectivity to our lay stakeholders—including on the witness stand. Yes, objectivity is a myth, and yes, striving to pursue it has the potential to marginalize practitioners who do not have the privilege of pretending to that degree of remove. But no, this does not mean our science is unsound.

If, as this author claims, “any influence of personal history on research data or their interpretation might be regarded as bad science,” this would render much of scientific knowledge “bad science,” considering that methods and theories in nearly all scientific disciplines were derived from, and created within, oppressive systems by individuals benefiting from those systems. Scientific findings are inextricable from the cultural milieu in which they are produced, and the vast majority of world societies were established, and still operate within, segregated or otherwise oppressive systems. Racialized sociocultural inequities are by no means unique to the United States. If our reference to the privilege implicit in forensic scientists’ continued resistance to addressing these inequities previously seemed “vaguely reasoned,” allow us to be clear herein: while cultural concepts of racial categorization differ cross-culturally, and the historical and contemporary structures that disproportionately injure racialized minorities vary around the world, Whiteness is overwhelmingly privileged, in many cases egregiously so. This is the status quo being maintained when scientists working within those systems choose neutrality over a humanitarian approach.

The Letter author acknowledges this in their example of why it would be impossible, and discriminatory, to “remove an expert from a case based on e.g., their social experiences.” In their hypothetical 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.” We critique the language used herein—the term “coloured” is generally considered offensive—and we assert that the experiences of BIPOC women are themselves heterogeneous and diverse. However, we see in this hypothetical example evidence that the author does perceive the reality that, globally, BIPOC have lived experiences of discrimination that differ from White people. Perspectives informed by these experiences should, we argue, be better represented within the ranks of forensic practitioners.

Finally, we wish to address the critique that several of our statements “may just be interpreted as political opinions.” As we state in our Perspective [5]:3,

“we must reject the dangerous assumption that adopting a humanistic stance on social issues undermines a forensic scientist’s ‘objectivity’ with ‘political’ advocacy. Supporting historically marginalized groups is not a political issue; it is a human rights issue. Politicization of identity is designed to maintain the power of those whose identities—and, in this case, whose scientific perspectives—are deemed neutral.”

We feel that this point was clear as written and does not need to be further belabored.

Perhaps the author thinks we have created a Straw Man of the forensic scientist who refuses to abandon the myth of objectivity. We maintain that such forensic scientists do indeed exist. Even if they do not, the fact that the public still struggles with this misconception of objectivity behooves us to do better in communicating the realities of our capabilities to lay stakeholders who take their cues from public-

facing scientists. In turn, however, the Letter author seems to have created their own Straw Man: from our relatively rational and evidence-based Perspective, a “political,” “vaguely reasoned” Straw (Wo)Man arises, with the “polemic” goal of promoting “wokeness.” We will get nowhere with such approaches.

Of course, we have our differences. The Letter author values neutrality, which we view as a subjective stance in and of itself—a stance with the potential to further marginalize not only case decedents but fellow forensic practitioners. In reality, however, we are in agreement with our critic on many points, including, we argue, a shared pursuit of mitigated objectivity. Mitigated objectivity is not, as the Letter author alleges, a means to “consider the personal history” rather than “depict facts”—a “concept that is more appropriate for juries” than scientists. It is a valid, post-positivist scientific epistemology. It is a way for us to be honest about both our disciplinary capabilities and our shortcomings, freeing us from the confines of a dangerous myth. It is a more realistic and ethical approach that constrains the theory-laden nature of our data and the inherent subjectivities that we all bring to our analyses with quality control, bias mitigation, and the practice of sound, iterative science. It allows us to be full, emotionally and cognitively complex human beings without fear that our compassion will compromise our conclusions. It is, we feel, the only viable way forward for forensic science. Let’s pursue it—together.

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