

# Bending the Light of Social Science in Family Court: Epistemic Injustice and Epistemic Exceptionalism Matter

by

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## I. Introduction

More than a century ago, the renowned federal judge, Learned Hand, wrote that “[n]o one will deny that the law should in some way effectively use expert knowledge wherever it will aid in settling disputes. The only question is as to how it can do so best.”<sup>1</sup> Over the ensuing decades, federal and state courts created mechanisms for determining the admissibility of expert opinion in tort and criminal cases involving physical sciences like epidemiology, medicine, neuroscience, physics, astronomy, biology, genetics, and chemistry.<sup>2</sup> The descriptive “hard” science, as

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<sup>1</sup> Learned Hand, *Historical and Practical Considerations Regarding Expert Testimony*, 15 HARV. L. REV. 40, 40 (1901). Portions of this article are drawn from an earlier article but expanded upon here. See Dana E. Prescott, *Forensic Experts and Family Courts: Science or Privilege-by-License*, 28 J. AM. ACAD. MATRIM. LAW. 521 (2015). For purposes of this paper, the distinction between the terms “expert” and “forensic” will be ignored or the words used interchangeably. As a matter of practice, *expert* is a designation (or noun) conferred by a court upon qualification and *forensic* is a role (or verb) related to the particular legal mandate or environment. See DAVID CANTER, *FORENSIC PSYCHOLOGY: A VERY SHORT INTRODUCTION* 2 (2010) (“Furthermore, somewhat chameleon-like, it cloaks itself in varying guises depending upon the legal and socio-cultural setting. What forensic psychologists do also differs markedly from one institutional setting to another.”).

<sup>2</sup> Epidemiology is included in this list because its metaphorical “web of causation” attempts to account for structural bias and epistemic injustice with a science of child custody rather than application of a procrustean box force-fitting that science in each case. See Nancy Krieger, *Epidemiology and the Web of Causation: Has Anyone Seen the Spider?*, 39 SOC. SCI. & MED. 887, 898 (1994) (“By challenging the biomedical individualism underlying the construction of the epidemiologic triads of ‘race, age, and sex’ and of ‘time, place, and person,’

against the euphemism “soft” sciences for economics, psychology, anthropology, or social work, is a misnomer, however.<sup>3</sup> Whether hard or soft, any form of science must be vigilant regarding overselling the generalizability<sup>4</sup> and reliability<sup>5</sup> of its findings, or ignoring the risk of “snake oil”<sup>6</sup> when proffering a

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it would make clear that these phenomena are neither simply ‘natural’ nor in the case of personal characteristics-individually innate. It would promote recognition of the fact that ‘race’ is a spurious biologic concept and would instead direct attention to how racism affects health-overall, and of people on both sides of the color line.”).

<sup>3</sup> Sarah Lucy Cooper, *Forensic Science Identification Evidence: Tensions Between Law and Science*, 16 J. PHIL., SCI. & L.1, 2 (2016) (“In a crime-solving sense, hard science can tell us, for example, whether a driver has alcohol in his blood through toxicology testing, and, through the application of DNA technology, whether a suspect is the donor of a DNA profile found on an assault victim. By contrast, the soft sciences comprise disciplines that interpret human behaviour, institutions and society on the basis of investigations for which it can be difficult to establish such levels of precision.”).

<sup>4</sup> See Simon Goodman, *The Generalizability of Discursive Research*, 5 QUALITATIVE RES. IN PSYCHOL. 265, 265 (Oct. 2008) (“The qualitative/quantitative distinction is one of the most well-rehearsed in psychological and social research. The accepted wisdom is that quantitative research offers reliable results from a representative sample of participants that the researchers can apply to a wider population; that is, they are generalizable.”).

<sup>5</sup> *Id.* at 265-66. (“To ensure that quantitative research is generalizable, its practitioners pay attention to concepts such as validity and reliability. These are described as ‘two qualities which all psychologists strive for in their research.’ Validity refers to the research showing what it is claiming to show. Validity is commonly split into two areas of concern for quantitative researchers: The first, construct validity, is used to show that ‘the effect demonstrated can be generalized from the measures used in the study (e.g., IQ test) to the fuller construct (e.g., intelligence).’ The second, external validity, relates to being able to generalize the research findings to the population in general. External validity is split into further subcategories: Ecological validity refers to the extent to which the research findings can be generalized to other settings, and population validity refers to the extent to which the research findings can be generalized from the sample studied to the wider population (whether or not there is a representative sample). Reliability is defined as ‘the extent to which a given finding will be consistently reproduced’ where it is deemed that similar results will be consistently found from the same research study.”).

<sup>6</sup> Although in rather brusque language, the point is a reasonable concern for courts. See Susan Kiss Sarnoff, “Sanctified Snake Oil”: *Ideology, Junk Science, and Social Work Practice*, 80 FAMILIES IN SOC’Y. 396, 396 (July 1999) (“‘Snake oil’ refers to any purported solution to a social problem which is unscientific, has not been adequately tested, is incompletely or inadequately de-

theory as replicated scientific and research-based evidence to complex human and social problems. Although it is generally accepted that “hard science methodologies produce results that have greater levels of cumulative certainty,” both categories have “housed” a now discredited theory and will likely “continue to include what end up as defunct theories, such is the progressive nature of science.”<sup>7</sup>

Family justice professionals routinely risk the conversion of a plausible theory for future study and the testing and re-testing of hypotheses or research questions, with expert opinions based upon publication bias (social science, legal literature, and case law),<sup>8</sup> failure to operationalize variables, small or self-selected samples, and confounding, moderating, or mediating variables buried under heaps of false cause-and-effect relationships or inferences.<sup>9</sup> When driven by the selection, allegiance, and confir-

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ned, is used inappropriately, or stands in the way of a superior alternative. Snake oil becomes ‘sanctified’ when it is funded, mandated, or otherwise endorsed or accepted by a government entity.”).

<sup>7</sup> Cooper, *supra* note 3, at 2. There is substantial literature on this point in the philosophy and history of science. See AARON GILLETTE, *EUGENICS AND THE NATURE-NURTURE DEBATE IN THE TWENTIETH CENTURY* 8 (2007) (“There is perhaps no better exposition of the tensions inherent in controlling science than in the nature–nurture debate of the twentieth century.”); Marina Angel, *Why Judy Norman Acted in Reasonable Self-Defense: An Abused Woman and a Sleeping Man*, 16 *BUFF. WOMEN’S L.J.* 65, 65 (2008) (“Discredited theories that label abused women who kill their abusers as suffering from insanity, a syndrome, or learned-helplessness, must be rejected.

<sup>8</sup> See Simon Shorvon & Dieter Schmidt, *The Right and the Wrong with Epilepsy and Her Science*, 1 *EPILEPSIA OPEN* 76, 84 (2016) (“Another example is the extraordinary multiplication of medical journals, which has occurred primarily because journal publishing in the online age can make a quick profit. The result is that poorer work, which would not previously have passed muster, is able to find a home in a journal that will accept it. The academic world is now awash with inconsequential and often inaccurate science and a veritable barrage of white noise.”).

<sup>9</sup> For an accessible summary of some of these challenges, see Aaron Robb, *Methodological Challenges in Social Science: Making Sense of Polarized and Competing Research Claims*, 58 *FAM. CT. REV.* 308, 313 (2020) (“Given that much of our social science research in family law is observational, rather than controlled experiments, staying alert to confounding variables and unknown influences is critical”). Much of the problem is the lack of understanding when an expert is converting qualitative data to quantitative data based upon telling the court “numbers” rather than explicit methodologies. This is probably the most unethical use of research and a situation that would violate any Insti-

mation biases inherent in lawyers choosing experts, the risk is that advocates employ powerful expert opinions about a parent or child in ways that are unscientific, unjust, or inequitable.<sup>10</sup>

A discussion of research, as converted to decision making in family courts, is not merely about sampling legerdemain,<sup>11</sup> error

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tutional Review Board standards or ethical codes. These are the volumes I own but there are more current editions. The first is thick in size but accessible and worth having on a lawyer's shelf. See MARK L. MITCHELL & JANINA M. JOLLEY, *RESEARCH DESIGN EXPLAINED* 27 (2010) ("In psychology, as in many fields, professionals who believe that science applies to their field do their job differently than colleagues who don't"); THE SAGE HANDBOOK OF QUALITATIVE RESEARCH 11 (Norman K. Denzin & Yvonna S. Lincoln eds., 2011) ("Although many qualitative researchers in the postpositivist tradition use statistical measures, methods, and documents as a way of locating a group of subjects within a larger population, they seldom report their findings as a way of locating a group of subjects in terms of the kinds of complex statistical measures or methods to which quantitative researchers are drawn (e.g., path, regressions, and log-linear analyses).").

<sup>10</sup> The debate in the prominent *Journal of the Association of Family and Conciliation Courts* [AFCC] concerning parental alienation and the efficacy of research is a contemporary example of the challenges for courts and families caught in that web. See William Bernet, *Response to "Ideology and Rhetoric Replace Science and Reason in Some Parental Alienation Literature and Advocacy: A Critique,"* by Milchman, Geffner, and Meier, 58 FAM. CT. REV. 362, 366 (2020) ("The range of articles in this Special Issue represent an attempt by the Editors to promote "dialogue" among writers who have different perspectives regarding parental alienation. Although that seems like a good idea, their method for achieving that goal is flawed. In my view, the paper by Milchman et al. is riddled with misinformation, misleading statements, and outright false information."); Madelyn S. Milchman, et al., *Ideology and Rhetoric Replace Science and Reason in Some Parental Alienation Literature and Advocacy: A Critique*, 58 FAM. CT. REV. 340, 343 (2020) ("A rhetorical strategy we find often within certain writers' publications and presentations is the assertion of worldwide consensus in favor of alienation as a diagnostic, scientific, or psycho-legal concept without acknowledging the controversy about this consensus. However, this "consensus" is achieved by ignoring, dismissing, or trivializing significant opposition.").

<sup>11</sup> One of the genuinely distressing aspects of the debate concerning parental alienation and other aspects of child custody conflict is how samples are drawn by those testifying as experts without oversight or a sophisticated understanding of how complex and ethically challenging proper quantitative and qualitative sampling techniques or secondary data analysis are in research environments with oversight boards or committees. See Adrian Guta, et al., *Resisting the Seduction of "Ethics Creep": Using Foucault to Surface Complexity and Contradiction in Research Ethics Review*, 98 SOC. SCI. & MED. 301, 308

rates, statistical bias, and generalizability, however.<sup>12</sup> Families involved in child protection and child custody cases are often from vulnerable or historically oppressed populations. These groups, concomitantly, may be short-changed, marginalized, or outright ignored for decades within the research itself.<sup>13</sup> How can decision-makers' expert opinions be reliable or relevant if that research has no relationship to the biopsychosocial realities and demographic, racial, socio-economic, and cultural realities and barriers of the person on trial—and soon to be judged worthy or unworthy?<sup>14</sup> This article, therefore, discusses a critical gap in the

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(2013) (“In response to the tendency to position oneself on the right side, Foucault famously said, ‘There is no such thing as a neutral subject. We are all inevitably someone’s adversary.’ As academicians are induced to produce more evidence, using the newest approaches, and work evermore closely with communities and ‘knowledge users,’ the potential for ethical transgression, domination, and exploitation is increased greatly.”).

<sup>12</sup> See Robb, *supra* note 9, at 309 (“Finally, to understand competing research claims, there has to be an acknowledgement that academic debates exist within a larger societal framework and are not exempt from the influences of socio-political life.”). A discussion of Type I, II, III, and IV error rates in research is beyond the scope of this paper but it is a critical part of testing an expert asserting that his or her own personal research is reliable. See Andrew H. Hales, *Does the Conclusion Follow from the Evidence? Recommendations for Improving Research*, 66 J. EXPERIMENTAL SOC. PSYCHOL. 39 (2016).

<sup>13</sup> The medical and mental health fields have struggled openly with this social and ethical problem. See Joe Feagin & Zinobia Bennefield, *Systemic Racism and US Health Care*, 103 SOC. SCI. & MED 7, 8 (2014) (“Significant data strongly suggest the majority of white health care and public health personnel and researchers operate from this white framing, with its pro-white and anti-racial-others orientations. This framing includes normalized notions (e.g., stereotypes, images, narratives, ideologies) of biologically and culturally distinct racial groups, and it links to discriminatory practices accounting for institutionalized inequalities in health care and health.”); Yin Paradies, et al., *Racism as a Determinant of Health: A Systematic Review and Meta-Analysis*, 10 PLOS ONE 1, 24 (2015) (“This meta-analysis indicates that racism is significantly related to poorer health, with the relationship being stronger for poor mental health and weaker for poor physical health.”). There is an effort to apply research-based strategies to bias in courts, but this is different than conducting research that acquires quantitative or qualitative data. See Hyunil Kim, et al., *An Examination of Class-Based Visibility Bias in National Child Maltreatment Reporting*, 85 CHILD. & YOUTH SERV. REV. 165 (2018); Solangel Maldonado, *Bias in the Family: Race, Ethnicity, and Culture in Custody Disputes*, 55 FAM. CT. REV. 213 (2017).

<sup>14</sup> See Jay Lebow, *Integrative Family Therapy for Disputes Involving Child Custody and Visitation*, 17 J. FAM. PSYCHOL. 181, 183 (2003) (“The essential

literature of experts and family justice systems: the concepts, and concomitant consequences, of *epistemic injustice*<sup>15</sup> and a novel expansion of that concept, *epistemic exceptionalism*, to the legal community.<sup>16</sup>

These concepts, as explored below, should always have been visibly and explicitly present in any published research and any expert opinion relying upon any form of social science research. Privileges and disparities in family court systems are complex and dynamic because the historical structure of courts itself confers, often invisibly, benefits on some groups and burdens on others through “cultural beliefs, historical legacies, and institutional policies within and among public and private organizations that interweave to create drastic racial disparities in life outcomes.”<sup>17</sup> Family justice systems should work to assure that diversity means more than the privilege to apply research to populations powerless to challenge that ultimate opinion.<sup>18</sup> And this point also

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elements underlying disputes of child custody and visitation can reside at a multiplicity of levels: Some are biological, some are psychological, and some are social.”); Michele-Benedetto Neitz, *Socioeconomic Bias in the Judiciary*, 61 CLEV. ST. L. REV. 137, 158 (2013) (“Federal judges are not the only members of the bench who exhibit implicit socioeconomic bias. In family court, child custody determinations may also be affected by implicit judicial bias against poor parents.”). Biopsychosocial frameworks have deep roots in social work. See Abigail Burns, et al., *Revisiting the Biological Perspective in the Use of Biopsychosocial Assessments in Social Work*, 29 J. HUM. BEHAV. IN SOC. ENV'T. 177 (2019).

<sup>15</sup> See *infra* discussion in text at notes 45-54.

<sup>16</sup> See *infra* discussion in text at notes 55-56

<sup>17</sup> William M. Wiecek, *Structural Racism and the Law in America Today: An Introduction*, 100 KY. L.J. 1, 5 (2011); see Rebecca Tsosie, *Indigenous Peoples and Epistemic Injustice: Science, Ethics, and Human Rights*, 87 WASH. L. REV. 1133, 1155 (2012) (“Many of these practices exist at the level of informal social interaction, but others are formalized into our legal, social or political structures, which leads to ‘systemic testimonial injustice.’ An accepted practice within the American legal system is to qualify a witness before they may give ‘expert testimony.’ The implications of this can be significant for indigenous peoples. For example, an indigenous group petitioning for political recognition through the ‘federal acknowledgement process’ must obtain credible testimony that the group is, in fact, an ‘Indian tribe’ that merits political recognition.”).

<sup>18</sup> The medical profession has developed models which can be applied to structural realities in family courts. See Zinzi D. Bailey, et al., *Structural Racism and Health Inequities in the USA: Evidence and Interventions*, 389 LANCET 1453, 1461 (2017) (“We recognise that efforts to implement reforms to dismantle

highlights the legitimate criticism that all privileged professions, from law to forensic experts to researchers, lack diversity themselves which, as current scholarship highlights, also creates a greater risk of structural bias and epistemic injustice.<sup>19</sup>

The purpose of this article, therefore, is to add the concepts of epistemic injustice and epistemic exceptionalism as mainstream expectations for expert opinion to acknowledge and avoid; in other words, expert opinion must not be grounded on research that excludes entire groups or includes only privileged populations.<sup>20</sup> At a minimum, research as applied to family

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structural racism have repeatedly encountered serious obstacles and backlash from institutions, communities, and individuals seeking to preserve their racial privilege. However, as Frederick Douglass famously said in his 1857 address on the struggle against slavery in the USA, the West India emancipation, and the backlash that ensued: ‘Power concedes nothing without a demand.’”).

<sup>19</sup> This point requires its own paper and elaboration, but it is arguably why bias occurs more frequently in research design and interpretation when professions and organizations themselves are largely homogenous. See Iris R. Wagstaff & Gerald LaPorte, *The Importance of Diversity and Inclusion in the Forensic Sciences*, 279 NAT’L INST. JUST. J. 81, 81 (Apr. 2018) (“Research has shown that diverse teams perform better, are more creative, and outperform homogeneous teams. Increasing diversity in thought, perspectives, and backgrounds allows for new and more complex research questions and problems to be addressed. Research has also documented a direct link between diversity and quality of scientific work as measured by peer review journal citations.”).

<sup>20</sup> See AFCC Task Force on the Guidelines for the Use of Social Science in Family Law [hereinafter “[AFCC Task Force]”, *Guidelines for the Use of Social Science Research in Family Law*, 57 FAM. CT. REV. 193, 197 (2019) (“Family justice practitioners should consider developmental, cultural, racial, socioeconomic, and other relevant factors when applying research findings to a specific family. Research is often based on ‘convenience samples’ using narrow social, racial, socioeconomic, or other grouping (e.g. white middle class), and findings might not be applicable to persons of differing race/ethnicity, social class, or other social identifications or circumstances.”); Kelly L. Wester, *Publishing Ethical Research: A Step-by-Step Overview*, 89 J. COUNSELING & DEV. 301, 302 (2011) (“For both quantitative and qualitative research, various aspects of a study create threats to conclusion validity and/ or confirmability, including the research question(s), sample, procedures for data collection and data analysis (e.g., ‘fishing’ for results, violation of statistical tests in quantitative analysis, bringing one’s biases or subjectivity into qualitative analysis), unreliability of treatment implementation, unreliability of measures, or random heterogeneity of participants.”). The same concerns apply to the use of psychological or personality testing in child custody cases. See Eddie Y. Chiu, *Psychological Testing in Child Custody Evaluations With Ethnically Diverse Families: Ethical Concerns and Practice Recommendations*, 11 J. CHILD CUSTODY 107, 112 (2014)

courts should explicitly identify these limitations. Before exploring those concepts, however, a brief foray is warranted into the adversarial system and how its very structure “bends” the light of research.

## II. “Bending the Light” of Social Science<sup>21</sup>

This introductory context matters because professionals across disciplines often struggle with exchanging and transferring knowledge when acting within powerful host environments like hospitals, prisons, schools, and judicial systems.<sup>22</sup> No form of science is without scandal or misuse when rushed to market as a function of good intentions, profit or power, or, more starkly, elitism or racism.<sup>23</sup> Under the compulsion to deliver court orders

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(“Given the under-representation of ethnic sample groups in the normative samples, evaluators should question both external validity and differential validity of these major personality tests when they are used in child custody evaluations with ethnic individuals.”).

<sup>21</sup> This phrase is borrowed from Laurence H. Tribe, *The Curvature of Constitutional Space: What Lawyers Can Learn from Modern Physics*, 103 HARV. L. REV. 1, 2 (1989) (“The better vision of science is as a continual and, above all, critical exploration of fruitful insights; the better metaphor is that of a journey. Science is not so much about proving as it is about improving. To look to the natural sciences for authority—that is, for certainty—is to look for what is not there.”).

<sup>22</sup> From an organizational and policy design perspective, the distinctions are critical and should be applied to court systems. Although “some people regard multidisciplinary, interdisciplinary, and transdisciplinary as essentially synonymous terms, there are distinct differences among the terms that should and could influence nurses’ decisions to collaborate with members of other disciplines.” Jacqueline Fawcett, *Thoughts About Multidisciplinary, Interdisciplinary, and Transdisciplinary Research*, 26 NURSING SCI. Q. 376, 376 (2013). The term multidisciplinary refers “to knowledge that is drawn from diverse disciplines but the research questions and methods stay within the distinct boundaries of each discipline.” *Id.* The term interdisciplinary refers to an “integrative and reciprocally interactive approach that actualizes a synthesis of diverse disciplinary perspectives leading to a new level of thinking about and studying a topic or even to a new discipline.” *Id.* The “relatively newly used term transdisciplinary refers to an integration of ‘the natural, social and health sciences in a humanities context, and in so doing transcends each of their traditional boundaries.’” *Id.* at 377.

<sup>23</sup> See Kimani Paul-Emile, *The Regulation of Race in Science*, 80 GEO. WASH. L. REV. 1115, 1125 (2011) (“Despite the sordid early history of the use of race in science, throughout the twentieth and into the twenty-first centuries,



in a high-volume and high stakes adversarial family court system, the legal community may have little research or statistical training.<sup>24</sup> Even for some judges and lawyers, as well as forensic experts, there is a need to be vigilant to avoid the temptation (or fate) which converts research to an ideology “as a weapon in scientific discussions just like politicians treat religion as a weapon during war.”<sup>25</sup>

There are, however, also underlying social myths that all lawyers and judges are equally skilled, that experts apply a uniform understanding of child custody science, and that a judge can discern the truth about a family system based upon adversarial

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researchers have continued to misuse and abuse race in research.”); Christina M. Pacheco, et al., *Moving Forward: Breaking the Cycle of Mistrust Between American Indians and Researchers*, 103 AM. J. PUB. HEALTH 2152, 2153 (2013) (“In response, state and federal governments have enacted laws and policies to police the way researchers deploy racial categories in their studies. Investigators attempting to engage in research with racial/ethnic minorities, including AIs, must consider their mistrust of the scientific community, which is grounded in repeated, well-documented examples of unethical medical research and clinical misconduct in the name of research.”).

<sup>24</sup> For an analysis on this point, see Joelle Anne Moreno & Brian Holmgren, *The Supreme Court Screws Up the Science: There Is No Abusive Head Trauma/Shaken Baby Syndrome Scientific Controversy*, 2013 UTAH L. REV. 1357, 1357 (“Even if it is not true that law school is the consolation prize for those whose freshman biology grades make medical school impossible, judges, law professors, and lawyers are not (as a general rule) scientists. But they increasingly shape our understanding of scientific ideas by determining how law interprets and applies scientific information and by ensuring that bad science does not create bad law.”).

<sup>25</sup> KRZYSZTOF BURDZY, *THE SEARCH FOR CERTAINTY: ON THE CLASH OF SCIENCE AND PHILOSOPHY OF PROBABILITY* 11 (2009); see also Irwin Sandler, et al., *Convenient and Inconvenient Truths in Family Law: Preventing Scholar-Advocacy Bias in the Use of Social Science Research for Public Policy*, 54 FAM. CT. REV. 150, 152-53 (2016) (“Scholar-advocacy bias flourishes in the absence of sufficient good quality empirical evidence to guide policy on important issues. In the void, theoretical and ideological perspectives derived from different literatures, powerful anecdotes, personal experiences, along with selected empirical evidence of varying quality, may be promoted as established truth. We argue that these conditions—premature, incomplete and naive policy initiatives, emanating in part from scholar-advocacy bias—generate a cycle of escalating use and misuse of research evidence in each side’s attempt to set the record straight. We refer to this as the ‘cycle of scholar-advocacy bias.’”).

efforts.<sup>26</sup> The adversarial system, by intentional design, is where child custody cases live, with disclosure of intimate detail in a public forum, and in a host environment described by some as “scorpions in a bottle.”<sup>27</sup> This metaphor has the potential for unfair extrapolation and blame/shame games. Despite many creative good faith efforts at reforming the adversarial system for decades now, expert testimony, as used by lawyers and the government in child protection and custody cases, occurs in a very rule and outcome-based environment, not a laboratory or classroom.

Likewise, the notion of a judge as gatekeeper and umpire permeates the public’s thinking (at least during U.S. Supreme Court confirmation hearings) about the role of judges in terms of opening the gate and letting expert knowledge flow gently, or as a tsunami.<sup>28</sup> Lawyers and judges are, thereby, the privileged prism bending the “light” of science as a means to an adversarial

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<sup>26</sup> For anyone who thinks these challenges in the translation of hard or soft sciences to court are novel, see Hubert W. Smith, *Scientific Proof and Relations of Law and Medicine*, 18 ANNALS INTERNAL MED. 243, 275 (1943) (“One result of our present adversary system of trial is that science may be born anew in every lawsuit where two experts disagree. That a scientific principle or finding can be true in A’s case and untrue in B’s case is squarely opposed to the concept of the universality of scientific truth.”).

<sup>27</sup> See Jessica J. Sauer, *Mediating Child Custody Disputes for High Conflict Couples: Structuring Mediation to Accommodate the Needs and Desires of Litigious Parents*, 7 PEPP. DISP. RESOL. L.J. 501, 505 (2007) (“The legal system, with the unique pressures it puts upon litigants, can create new tensions and aggravate those that are preexisting. As one scholar vividly elucidated, ‘[t]he formal nature of the courts pits the parties against one another like two scorpions in a bottle, at a time when they are most angry and hostile toward one another.’”).

<sup>28</sup> Many years ago, a classically trained justice on the Maine Supreme Judicial Court described the gate-keeping function in *Poitras v. R. E. Glidden Body Shop, Inc.*, 430 A.2d 1113, 1118 (Me. 1981): “So proceeding, we find most enlightening the classical explanation of the burden of production, and the consequences of satisfying it or not, stated in IX Wigmore on Evidence, 3rd ed. § 2487 at 278-79. ‘(T)he opportunity to decide finally upon the evidential material that may be offered does not fall to the jury as a matter of course; each party must first with his evidence pass the gauntlet of the judge; and the judge, as a part of his function in administering the law, is to keep the jury within the bounds of reasonable action.’”

end.<sup>29</sup> In this host environment, since “the best interest standard is admittedly indeterminate, it is not possible to critically assess the expert’s predictions on which outcome would serve the child’s best interests.”<sup>30</sup> As scholars have noted quite often, the reliability of expert opinions given the indeterminacy of the law should adhere to rules of scientific methodology and professional ethical standards even when the standard for the court is indeterminate.<sup>31</sup> The conundrum, as designed by legislation and case law for decades now, allows experts to describe a foundation of facts, testing data, and research, as a means to provide an ultimate opinion about a parent, child, or family system.

What is particularly troubling is that these expert opinions may appear in the guise of *ipse dixit* reasoning defined as “an unsupported conclusory opinion, in which the expert apparently asks the court to accept that opinion merely on his or her say-so, as an *ipse dixit*, a Latin phrase meaning he said it himself.”<sup>32</sup> On this broader point, *ipse dixit* reasoning is the equivalent of what a prominent forensic psychologist describes from other literature as confirmation bias:

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<sup>29</sup> Judith Cashmore & Patrick Parkinson, *The Use and Abuse of Social Science Research Evidence in Children’s Cases*, 20 PSYCHOL., PUB. POL’Y & L. 239, 239 (2014) (“Using research findings and statistical probabilities where there is some similarity in circumstances may at least provide a guide as to the possible influences and outcomes. This is arguably superior to unguided guesswork, or intuitive decision-making.”).

<sup>30</sup> Sarah H. Ramsey & Robert F. Kelly, *Social Science Knowledge in Family Law Cases: Judicial Gate-Keeping in the Daubert Era*, 59 U. MIAMI L. REV. 1, 22-23 (2004).

<sup>31</sup> See Elizabeth S. Scott & Robert E. Emery, *Gender Politics and Child Custody: The Puzzling Persistence of the Best-Interest Standard*, 77 LAW & CONTEMP. PROBS. 69, 92 (2014) (“A part of the problem is that the rules that generally restrict the admissibility of scientific evidence in legal proceedings are often not applied to custody proceedings, and judges tend to be uncritical in assessing the quality of the opinions of court-appointed experts.”).

<sup>32</sup> Thomas G. Gutheil & Harold Bursztajn, *Avoiding Ipse Dixit Mislabeling: Post-Daubert Approaches to Expert Clinical Opinions*, 31 J. AM. ACAD. PSYCHIATRY & L. ONLINE 205, 205 (2003); see *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997) (“Conclusions and methodology are not entirely distinct from one another. Trained experts commonly extrapolate from existing data. But nothing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence connected to existing data only by the *ipse dixit* of the expert. A court may conclude that there is simply too great an analytical gap between the data and the opinion proffered.”).

The problems associated with confirmatory bias are nowhere more evident and pernicious within the field of family law than when a child appears to be polarized within the conflicted family system; that is, strongly allied with Parent A and rejecting of Parent B. The torn loyalties, grief, rage, humiliation, and anxiety commonly generated by these matters, compounded by zealous advocates and exacerbated by the adversarial court system can compromise rational thinking for all involved. The response is often a regression to more primitive, emotion-driven, and biased positions, including the vulnerability to confirmatory bias. As Maslow (1966) anticipated, when all that the forensic MHP [mental health practitioner] has is a hammer, everything will begin to look like a nail.<sup>33</sup>

The *modern* ethical duty of lawyers should be much more than *not* intentionally misleading a court that a theory or anecdote is science when it is obvious that it is grounded in confirmation bias or ipse dixit reasoning. But the current state of legal ethics allows just that, “If the attorney is prohibited only from offering false expertise when she knows it to be false, then ignorance is bliss for both the proffered expert and the attorney. Indeed, the attorney would be rewarded for not going to the trouble to learn about the expertise.”<sup>34</sup> While this is certainly worth changing given the more modern standard of professional conduct, for now, experts applying social science in family courts have a higher ethical duty to science and families than lawyers as advocates.<sup>35</sup> Experts, as trained scientists, have an affirmative

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<sup>33</sup> Benjamin D. Garber, *Sherlock Holmes and the Case of Resist/Refuse Dynamics: Confirmatory Bias and Abductive Inference in Child Custody Evaluations*, 58 FAM. CT. REV. 386, 389 (2020). For a recent example, compare the language used in Benjamin D. Garber & Robert A. Simon, *Individual Adult Psychometric Testing and Child Custody Evaluations: If the Shoe Doesn't Fit, Don't Wear It*, 30 J. AM. ACAD. MATRIM. LAW. 325 (2017), with Sol R. Rappaport, et al., 30 *Psychological Testing Can Be of Significant Value in Child Custody Evaluations: Don't Buy the Anti-Testing, Anti-Individual, Pro-Family Systems Woozle*, 30 J. AM. ACAD. MATRIM. LAW. 405 (2017).

<sup>34</sup> Michael J. Saks, *Scientific Evidence and the Ethical Obligations of Attorneys*, 49 CLEV. ST. L. REV. 421, 427 (2001).

<sup>35</sup> Of course, there are many experts in child custody who remain neutral even when pressured, but those reports may never see the light of day if the work product or attorney-client privilege is exercised. See Jonathon Gould, et al., *Testifying Experts and Non-Testifying Trial Consultants: Appreciating the Differences*, 8 J. CHILD CUSTODY 32, 36 (2011) (“When the findings and opinions orally imparted by the experts to the attorneys are viewed by the attorneys as supportive of their legal positions, the FMHPs [forensic mental health professionals] employing this model then offer either to provide litigation support

and rather unfair duty relative to lawyers, to assure that advocacy systems do not distort science to wrongfully harm another.<sup>36</sup> In particular, it is not enough to describe error rates, effect size, and sampling flaws or *p* values.<sup>37</sup> And that rather complex debate among scientists and statisticians may still fail to account, to a judge, for the forensic limits of that research when historical in-

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services or to offer testimony.”). And then there is the too common situation in a child custody case in which a therapist becomes aligned with a client and offers opinions without considering multiple hypotheses or data beyond what the client provides. See Stuart A. Greenberg & Daniel W. Shuman, *When Worlds Collide: Therapeutic and Forensic Roles*, 38 PROF. PSYCHOL.: RES. & PRAC. 129, 130 (2007) (“Experts considering this issue should note that, regrettably, the courts do not ordinarily prevent therapists from testifying about their patients on relevant issues for which they have an adequate foundation that is not barred by privilege. Role conflict is a professional issue.”).

<sup>36</sup> See AFCC Task Force, *supra* note 20, at 194 (“However, inaccurate or misleading use of research may introduce distortions into decision making or policy that lead to unfortunate outcomes for children and families.”).

<sup>37</sup> The definition of statistical significance and rejection of a null hypothesis as an appropriate measure is the source of considerable controversy in forensics. See Reuven Dar, et al., *Misuse of Statistical Tests in Three Decades of Psychotherapy Research*, 62 J. CONSULTING & CLINICAL PSYCHOL. 75, 76 (1994) (“On the other hand, in their wish to escape the tragic predicament of losing a publication because of painful near misses, they cite ‘marginally significant’ and ‘borderline significant’ effects. The reporting of highly and marginally significant results are equally misleading; they reflect the false belief that *p* measures the validity or strength of the results rather than merely the probability of the results given the truth of the null hypothesis.”); Joachim I. Krueger & Patrick R. Heck, *Putting the P-Value in Its Place*, 73 AM. STAT. 122, 123 (2019) (“Chief among the concerns about researchers’ ignorance is that they mistake the *p*-value for the probability of the hypothesis given the data,  $p(H-D)$ . An informal—but serviceable—interpretation of the *p*-value is that it is the probability of the data assuming that the (null) hypothesis is true,  $p(D-H)$ ”); Ziyang Lyu, et al., *P-Value, Confidence Intervals, and Statistical Inference: A New Dataset of Misinterpretation*, 9 FRONTIERS IN PSYCHOL. 868, 868 (2018) (“Statistical inference is essential for science since the twentieth century. Since its introduction into science, the null hypothesis significance testing (NHST), in which the *P*-value serves as the index of “statistically significant,” is the most widely used statistical method in psychology, as well as other fields. However, surveys consistently showed that researchers in psychology may not be able to interpret *P*-value and related statistical procedures correctly. Even worse, these misinterpretations of *P*-value may cause the abuse of *P*-value, for example, *P*-hacking.”).

justices or structural racism may impair the relevance from the sample to a population not included in the research at all.<sup>38</sup>

The risk to families is that judges may permit lawyers to introduce social science research without any serious test of reliability, validity, or relevance to the facts of a case.<sup>39</sup> In this context, relevance means social science research, derived from “analogue studies,”<sup>40</sup> as compared with anecdotal or self-designed data collection offered as “research” in child custody litigation to support an outcome.<sup>41</sup> This disconnect becomes more troubling when diversity, socio-economic status, and resources like health insurance, quality and availability of lawyers, therapists, parent education, disability, family supports, housing, transportation, emotional or cognitive strengths, or other variables are not part of the light-speed required to resolve a high volume of cases.<sup>42</sup>

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<sup>38</sup> Researchers argue that statistical measures may correct for that sampling bias in larger samples. One of the very disconcerting aspects of experts applying research in family court from the expert’s own research is that the court may not know the complexity of sampling and generalizability or the risk of generalizing from convenience samples which are too small from any statistical measure. See Justin Jager, et al., *More than Just Convenient: The Scientific Merits of Homogeneous Convenience Samples*, 82 MONOGRAPH SOC’Y. RES. CHILD DEV. 13, 28 (2017) (“For example, one could not collect a heterogeneous convenience sample and then limit the analyses to only Native Americans because, more than likely, the sample size of Native Americans would be far too small to examine on its own. Therefore, instead of collecting conventional or heterogeneous convenience samples and restricting analyses to a homogeneous subsample, we encourage researchers to make principled theoretical and statistical arguments to support their choices of better sampling strategies, even if the strategy proposed is homogeneous with respect to one or more socio-demographic groups.”).

<sup>39</sup> See Cashmore & Parkinson, *supra* note 29, at 240.

<sup>40</sup> *Id.* at 242.

<sup>41</sup> *Id.* at 241 (“While randomized, controlled trials have been called the ‘gold standard’ in research, this is very difficult in research concerning children and families, and it is not feasible or ethical.”). The authors point out the public split that occurred regarding relocation research between prominent researchers writing amicus briefs in state appellate courts. See *id.* (“The claims made in such briefs about the interpretation of social science evidence are, however, open to challenge, and in some cases, vigorously contested by other social scientists.”).

<sup>42</sup> The family court system is not alone in this challenge. See L. Song Richardson, *Systemic Triage: Implicit Racial Bias in the Criminal Courtroom*, 126 YALE L.J. 862, 878 (2016) (“Despite this robust discussion of public de-

This segue returns to a key point that is admittedly unfair to experts in child custody cases. The primary burden for the ethical and scientific transmission of data and analysis requires experts to address testimony within the spheres of epistemic injustice and epistemic exceptionalism.<sup>43</sup> The forensic expert, trained in statistics and research, should be an advocate for science who explicitly explains the limitations of the research from design to sampling to analysis so as to reduce the risk of misleading, implicit bias, fallacies, illusions, myths, and cognitive errors. The reality that the adversarial system encourages multiple versions and interpretation of the same research by experts does not excuse the harm. All these forms of error in research design and sampling, with the *post hoc* application of research from one population to another *in court* may inhibit or distort the generalizability of the research and mislead a judge, and that is a structural failure of magnitude.<sup>44</sup>

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fender triage, however, little attention has been paid to the fact that judges and prosecutors also face intense pressure to quickly determine which cases can be resolved with little time and effort and which cases require or deserve the individualized attention associated with due process. I refer to this situation of pressurized decision making by all courtroom actors as systemic triage.”).

<sup>43</sup> I addressed these issues in a recent article related to social work. See Dana E. Prescott, *Flexner’s Thesis Was Prescient: Ethical Practices for Social Workers “In the Trenches” Requires Forensic Knowledge*, 16 J. SOC. WORK VALUES & ETHICS 40, 47 (2019) (“Given the global dimensions of privilege and power today, the historical oppression of minorities and vulnerable populations, and the historically-situated identity of modern social work and its core values, the need to require social workers to understand the role of being an expert is especially acute.”).

<sup>44</sup> See Ben K. Grunwald, *Suboptimal Social Science and Judicial Precedent*, 161 U. PA. L. REV. 1409, 1428 (2012) (“Researchers in both the physical and social sciences are subject to personal and professional pressures that may distort the results of their studies. Research findings may, for example, impact a range of interests that include job security, promotion, salary, and social prestige. Scientists may also have an interest in protecting a viewpoint they have endorsed in prior work. But researcher bias may be particularly strong in the social sciences, where empirical findings often have implications for controversial questions of public policy.”).

### III. Epistemic Injustice and Child Custody Science

Miranda Fricker<sup>45</sup> developed the concept she coined as “epistemic injustices,” which, at base, are injustices that may “dehumanize certain individuals and groups as knowers and exclude them from processes of knowledge production.”<sup>46</sup> In this context, the phrase *epistemic injustice* means the treatment of minority or oppressed groups or the inequitable allocation of resources and access to the equal delivery of justice.<sup>47</sup> There are many other definitions that have evolved from Fricker’s scholarship, but this form of injustice occurs when “one’s capacity as a knower is wrongfully denied.”<sup>48</sup> For example, when “a hearer assigns a speaker less credibility than he or she deserves because of biases, [for example] when a hearer does not rely on the testimony of a person with a mental disorder because he or she considers individuals with mental disorders to be incapable of rational reasoning.”<sup>49</sup> This reality could substitute any number of demographics to make the same point about what may occur when speakers, who are under stress or have a history of suffering oppression or being victims of violence, are seen as less credible by lawyers,

<sup>45</sup> See MIRANDA FRICKER, *EPISTEMIC INJUSTICE: POWER AND THE ETHICS OF KNOWING* (2007).

<sup>46</sup> Ronald David & Anne Newman, *Ethical and Epistemic Dilemmas in Knowledge Production: Addressing Their Intersection in Collaborative, Community-Based Research*, 13 *THEORY & RES. IN EDUC.* 23, 23 (2015).

<sup>47</sup> For an interesting discussion concerning the role of supreme courts, see Federica Liveriero & Daniele Santoro, *Proceduralism and the Epistemic Dilemma of Supreme Courts*, 31(3) *SOC. EPISTEMOLOGY* 310 (2017). The international literature is robust and provides helpful guidance on developing a framework for examining forms of epistemic injustice in American family courts. See Dipika Jain & Kimberly M. Rhoten, *Epistemic Injustice and Judicial Discourse on Transgender Rights in India: Uncovering Temporal Pluralism*, 26 *J. HUM. VALUES* 30, 30 (2020) (“A court’s inability to fully see and hear a litigant may (and often does) have significant effects on the successfulness of their claim. Further, to be legible as subject-citizens, and in order to receive remedy from the legal system, individuals must state a claim cognizable by the State. Legal legibility is, thus, essential to a complainant’s claim; without the words to speak into being a recognized grievance, the court is a silent room.”).

<sup>48</sup> Rena Kurs & Alexander Grinshpoon, *Vulnerability of Individuals with Mental Disorders to Epistemic Injustice in Both Clinical and Social Domains*, 28 *ETHICS & BEHAV.* 336, 337 (2018).

<sup>49</sup> *Id.*



judges, therapists, forensic evaluators, parent coordinators, or mediators.<sup>50</sup>

What the historical misuse or over sale of science may blur is the application of science to vulnerable populations who have historically been marginalized or placed in a category as unworthy of study. Much of this challenge can implicate “trust” in the relationship between social and legal structures and the purveyors of knowledge who then may cause harm by misapplying research to populations lacking participation in the research, who are then judged by powerful institutions.<sup>51</sup> In this way, and concurrent with the explosion of divorce, cohabitation, remarriage and family reformation, courts “invoked social science research to support its choice of a rule of law.”<sup>52</sup> Indeed, sociologist Andrew Cherlin wrote twenty years ago:

The pattern I am talking about, however, applies broadly to a number of social issues. It passes through three stages. In the first stage, a social scientist presents an extreme view of a particular problem it is either a total disaster or completely benign and his or her work receives great media attention. In the next stage, another social scientist, taking a different perspective, presents evidence for the opposite ex-

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<sup>50</sup> For insightful literature expanding upon this point, see JOSÉ MEDINA, *THE EPISTEMOLOGY OF RESISTANCE: GENDER AND RACIAL OPPRESSION, EPISTEMIC INJUSTICE, AND THE SOCIAL IMAGINATION* (2013); Deborah Epstein & Lisa A. Goodman, *Discounting Women: Doubting Domestic Violence Survivors' Credibility and Dismissing Their Experiences*, 167 U. PA. L. REV. 399 (2018).

<sup>51</sup> See Gloria Origi, *Epistemic Injustice and Epistemic Trust*, 26(2) SOC. EPISTEMOLOGY 221, 233 (2012) (“Trust is an epistemic commodity. The dose of trust and distrust that makes us cognitively fit to our societies is a nuanced mixture of sound and unsound heuristics we should be more aware of.”). The framework for epistemic injustice has roots in the French philosopher and historian Michel Foucault’s discourses on the structures of power. See Truls I. Juritzen, et al., *Protecting Vulnerable Research Participants: A Foucault-Inspired Analysis of Ethics Committees*, 18 NURSING ETHICS 640, 642-43 (2011) (“This means that neither knowledge nor power can exist independently of the other. Knowledge depends on relationships of power inside and outside the scientific community in order to ‘become true’ knowledge. Conversely, power is increasingly exercised and legitimized in an alliance with science. Accordingly, Foucault argued that we should investigate the productive interconnection between power and knowledge, and stop conceiving of these phenomena as antagonists.”).

<sup>52</sup> John Monahan & Laurens Walker, *Social Authority: Obtaining, Evaluating, and Establishing Social Science in Law*, 134 U. PA. L. REV. 477, 477 (1986).

treme. This viewpoint also receives great attention. And in the third stage, news coverage and public debates lurch back and forth between these extremes as if there were no middle position worth contemplating. I believe that this pattern of going to extremes impedes our understanding of social problems and that it is also a poor guide to sound public policies.<sup>53</sup>

Other authors have argued, concerning health care disparities, that the “informational and participatory prejudices experienced by ill persons are perhaps grounded in a much broader tendency within the history of Western culture and philosophy to locate epistemic authority in persons who are healthy—as well as white, male, and adult.”<sup>54</sup> The connection between epistemic injustice and family justice courts requires a similarly careful analysis to assure that social science is reliably applied across populations. To this point, Professor James R. Steiner-Dillon, in an original and relevant piece of legal scholarship, extended Fricker’s framework to judges who, “in the belief that their intelligence, legal training, and good faith grant them a competence and objectivity beyond that of which laypersons are capable, may disregard rules of evidence intended to mitigate the effects of cognitive bias.”<sup>55</sup> He then defines this extension of epistemic injustice as *epistemic* exceptionalism or a belief in “superhuman cognitive capacities” which, stated explicitly, means: “judges are more intellectually capable, more fair-minded, and less susceptible to a variety of cognitive fallacies.”<sup>56</sup> This point is not just about judges, however. Lawyers, forensic experts, and all those involved in the family justice universe have the potential for thinking they are not susceptible to these frailties. No human with power and privilege is immune.

Although Steiner-Dillon is citing federal court cases for his argument, his analysis is a daily experience for families living the experience of child custody and child protection courts where cases do not have juries. Gatekeeping in bench trials is generally left in the bin near the bench no matter the forum, because “the

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<sup>53</sup> Andrew J. Cherlin, *Going to Extremes: Family Structure, Children’s Well-Being, and Social Science*, 36 *DEMOGRAPHY* 421, 421 (1999).

<sup>54</sup> Ian James Kidd & Havi Carel, *Epistemic Injustice and Illness*, 34 *J. APPLIED PHIL.* 172, 182 (2017).

<sup>55</sup> James R. Steiner-Dillon, *Epistemic Exceptionalism*, 52 *IND. L. REV.* 207, 208 (2019).

<sup>56</sup> *Id.*

usual concerns regarding unreliable expert testimony reaching a jury obviously do not arise when a district court is conducting a bench trial.”<sup>57</sup> The flaw, so deeply ingrained in child custody matters, yields the potential for the very human errors, including “cognitive illusions, fallacies, and implicit biases.”<sup>58</sup>

This discussion requires more exploration in any application of research to child custody or child protection precisely because “judges frequently have trouble evaluating the scientific merits of various expert methods, and major investigations have revealed that courts routinely admit evidence with poor or unknown scientific foundations” such that when “poor science is not recognized as such and is used to reach legal decisions, the risk of error rises and the legitimacy of the legal system is threatened.”<sup>59</sup> What this may mean in family courts is that expert testimony may be much more about expert-by-licensure and convincing anecdotes than objective criteria, explicitly stated hypotheses rejected or accepted, and research that is both reliable and relevant to *a case* and *a family*.<sup>60</sup> The transmutation of conceptual frameworks and theories to hypotheses as a predictive funnel from which judges may minimize “unguided guesswork, or intuitive decision-making”<sup>61</sup> is inappropriate without explicit disclosure of the generalizability or the limitations of the research based upon samples which may be homogenous.

Nothing, in any form of science, is without the risk of human error or the influence of variables like weather, instrument failure, or socio-economic status or, no less a part of the human con-

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<sup>57</sup> *Id.* at 219.

<sup>58</sup> *Id.* at 208.

<sup>59</sup> Tess M.S. Neal, et al., *Psychological Assessments in Legal Contexts: Are Courts Keeping “Junk Science” Out of the Courtroom?*, 20 *PSYCHOL. SCI. IN PUB. INT.* 135, 136 (2019).

<sup>60</sup> One of the troubling aspects of family is the impact of dual relationships where a therapist chooses to act forensically and offers expert opinion evidence. For a review of that conundrum, see Sarah G. Gordon, *Crossing the Line: Daubert, Dual Roles, and the Admissibility of Forensic Mental Health Testimony*, 37 *CARDOZO L. REV.* 1345, 1361 (2016) (“Notwithstanding the ethical prohibitions and extensive commentary within the psychiatric and psychological fields, the legal system, which relies heavily on forensic psychiatric and psychological testimony, offers almost no guidance on the propriety of dual relationships.”).

<sup>61</sup> Cashmore & Parkinson, *supra* note 29, at 239.

dition, scientific malfeasance or nonfeasance.<sup>62</sup> The physical sciences themselves frequently involve a probability analysis rather than rigid and authoritarian certainty.<sup>63</sup> The probability that ideology governs parts of science and law, as symbiotic, is troublesome but, to be fair, a normative part of child custody litigation (privately or with the state) when resources are limited and speed and volume create compression on any system. The trap is when the “science” of child custody irrigates claims into an organized “religion” that dispenses its conclusions with deft language but opaque methodology, sampling, reasoning, and analysis.<sup>64</sup> When proponents of a science are ideologues who proselytize to courts, this may define the proffer as antithetical to transparent methodologies and precise hypotheses.<sup>65</sup>

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<sup>62</sup> See Clare Fiala & Eleftherios P. Diamandis, *How to Reduce Scientific Irreproducibility: The 5-Year Reflection*, 55 *CLINICAL CHEM. & LABORATORY MED. (CCLM)* 1845, 1845 (2017) (“It seems these days everybody is talking about irreproducibility in science. But is this a new problem? Certainly not! The increased awareness is due to the fact that the number of irreproducible papers published in high-impact journals is on the rise.”); Minghua Zhang, et al., *The Impact of Misconduct on the Published Medical and Non-Medical Literature, and the News Media*, 96 *SCIENTOMETRICS* 573, 574 (2013) (“Retraction rates differ greatly among 12 broad fields of scholarly literature. Among broad disciplines, medicine, chemistry and non-medical life sciences show substantially higher rates of overall retractions . . . and those motivated by misconduct allegations . . . or ‘distrust data or interpretations’ . . . than other fields.”).

<sup>63</sup> In the forensic science of fingerprints, tool marks, and shoeprints there is debate about the language of categorical conclusions (match or no match) as against the language of probabilities and statistics. See William C. Thompson & Eryn J. Newman, *Lay Understanding of Forensic Statistics: Evaluation of Random Match Probabilities, Likelihood Ratios, and Verbal Equivalents*, 39 *LAW & HUM. BEHAV.* 332 (2015).

<sup>64</sup> See Linda Nielsen, *Woozles: Their Role in Custody Law Reform, Parenting Plans, and Family Court*, 20 *PSYCHOL., PUB. POL’Y, & L.* 164, 166 (2014) (“A sociologist whose area of expertise was the research on domestic violence, Gelles (1980) was concerned about how this research was frequently misrepresented and misused by advocacy groups for their own political purposes. In particular, he was troubled because only those studies that supported a particular advocacy position—many of which were seriously flawed—were being presented as ‘the’ research evidence, while those studies refuting the position were being ignored.”).

<sup>65</sup> See Tess Neal & Thomas Grisso, *The Cognitive Underpinnings of Bias in Forensic Mental Health Evaluations*, 20 *PSYCHOL., PUB. POL’Y, & L.* 200, 206 (2014) (“We think there are good reasons to be concerned. Scientific and clinical expertise in the courtroom is dependent on the expectancy that the ex-

In family court cases, where parental and familial alienation is tangibly found in the limits of supervised visitation resources, unrealistic reunification plans, pernicious and ever-reduced social welfare services, and increasingly concrete socioeconomic ceilings, epistemic injustice may continue to do its harm from generation to generation.<sup>66</sup> In this unconscious but habitual way, courts may become part of a structural alliance that perpetuates epistemic injustice and exceptionalism which individuals cannot challenge without fear of consequences.<sup>67</sup> The need to apply relevant and reliable science requires intentional reflection to determine if research lacks reference to epistemic injustices when the voices of vulnerable or marginalized populations are excluded from consideration by researchers and forensic experts, much less the family justice system itself.

#### **IV. The Light of Research (Somewhat Illuminated)**

Absent from much of the debate about what is reliable science in the delivery of family justice is its application to populations based upon historical biases or exclusion from participation in the research. The impact of research on diverse or marginal-

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pert seeks accuracy and avoids anything that may lead to bias in the collection or interpretation of data. Challenging that expectancy is a growing body of research suggesting that forensic examiners differ in the data they collect and the opinions they reach, depending on the social contexts in which they are involved in forensic cases.”).

<sup>66</sup> For example, in the not too distant past, “courts have used the research on children of lesbian or gay parents to deny adoptions by lesbian or gay people, while others have used the research to grant these adoptions. Opponents of adoptions by lesbian or gay people often misrepresent social science data by claiming that the studies are flawed, by providing alternative, unscientific, and biased studies, or by making unfounded allegations and quoting statistics without support.” Marc E. Elovitz, *Adoption by Lesbian and Gay People: The Use and Mis-Use of Social Science Research*, 2 DUKE J. GENDER L. & POL’Y 207, 217 (1995).

<sup>67</sup> For a discussion of the legal system from another perspective and experience, see Bindu Panikkar, “*Litigation Is Our Last Resort*”: *Addressing Uncertainty, Undone Science, and Bias in Court to Assert Indigenous Rights*, 15 NATURE & CULTURE 173 (2020) (examining legal battles over the exploratory permitting of the Pebble mine in southwestern Alaska and the alternate epistemic arguments made by the resistance movements).

ized populations not studied, or samples and anecdotal evidence drawn from populations with money and resources to litigate, creates the potential for misleading a court when the case involves families without means or unavailable to researchers. Much of the debate in the literature of child custody concerns families with the resources to hire experts, an expensive process and one not available to many families. This limitation on resources applies to claims of parental alienation or resist/refuse and contentious debates about the application of research to relocation, overnights, attachments, trauma, parent education, interpersonal violence, and adverse childhood experiences.<sup>68</sup> Philosophers of science have recognized these challenges as any form of science evolves from laboratory research and publication of outcomes:

If one dares to take a closer look at the nitty-gritty practice of science, it may seem amazing how much progress has been made. In some way, eventually, truth is vindicated and falsehood weeded out, but the road is bumpy and arduous. Detailed reconstructions of episodes in the history of science typically reveal a messy process, with lots of detours and backtracking. Consider some of the cognitive biases and foibles that the institutions of science have to guard against. Many natural endowments of human cognition seem ill suited to the dispassionate pursuit of science. Confirmation bias clouds our reasoning, intuitions lead us astray, and emotional attachment prevents us from viewing the

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<sup>68</sup> See Carol S. Bruch, *Sound Research or Wishful Thinking in Child Custody Cases—Lessons from Relocation Law*, 40 FAM. L.Q. 281, 297 (2006) (“Many recent articles on the topic of child custody law in legal, interdisciplinary, and even scientific journals contain serious misstatements of the research literature. Unfortunately, the judges, lawyers and legislators who are their intended audience often lack statistical or scientific training and are unfamiliar with the scientific literature.”); Linda Nielsen, *Pop Goes the Woozle: Being Misled by Research on Child Custody and Parenting Plans*, 56 J. DIVORCE & REMARRIAGE 595, 623 (2015) (“By whatever means data from certain studies become distorted into woozles, social scientists are ethically obligated to try to correct the misinformation and to do so as quickly and as diligently as possible, regardless of whether the data came from their own studies or from someone else’s.”); Debra Pogrud Stark, et al., *Properly Accounting for Domestic Violence in Child Custody Cases: An Evidence-Based Analysis and Reform Proposal*, 26 MICH. J. GENDER & L. 1, 28-29 (2019) (“Perhaps the most problematic of these erroneous beliefs is the now invalidated Parental Alienation Syndrome framework, which posits that mothers invent allegations of abuse for the purpose of alienating children from their fathers and gaining custody. This theory has been repeatedly discredited, yet it continues to affect judicial decisionmaking.”).

world as it is. Throw in the power of dogma, orthodoxy, jealousy and petty rivalry, and it begins to look surprising that any progress has been made at all.<sup>69</sup>

By itself, the fact that lawyers and judges can read multiple reports from imminently qualified experts and find little uniformity of interpretation drawn from the same data points or measures is a problem inherent in research applied to organic and complex family and judicial systems. Sampling methods, cultural and demographic norms, generalizability of cognitive and personality testing, valid and reliable survey/data collection methods, explanations for moderating, mediating, confounding variables, or statistical analysis of significance are often in dispute in the scientific community itself long before the research reaches the courts.<sup>70</sup> Even beyond these challenges, the additional challenges of relating research to courts is compounded by considering that a population never studied or stereotyped is subject to structural biases and epistemic injustice before the courthouse doors even open.

Structural injustice occurs when experts fail to reveal the descriptive data for the research, or its limitations as applied to populations who may historically be ignored as irrelevant or dis-

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<sup>69</sup> Maarten Boudry, et al., *What Makes Weird Beliefs Thrive? The Epidemiology of Pseudoscience*, 28 PHIL. PSYCHOL. 1177, 1180-81 (2015). The authors also describe the influence of conspiracy theories on science and the public trust. Family law and science are not immune to this form of thinking. *See id.* at 1192-93 (“Conspiracy theories deserve special mention in this regard, as they are particularly volatile and liable to centrifugal dynamics. Because the rhetorical appeal of conspiracy theorizing consists in exposing all the lies that the gullible public has swallowed and never accepting any official story at face value, the culture of suspicion can easily spiral out of control.”).

<sup>70</sup> For an example of dueling experts and IQ testing drawn from a death penalty case, see *Maldonado v. Thaler*, 662 F. Supp. 2d 684, 714-15 (S.D. Tex. 2009) (“According to Dr. Denkowski, a psychological expert needs to make sure that a person’s cultural or educational background ‘did not suppress the IQ.’ On that basis, Dr. Denkowski testified that circumstances in Maldonado’s background would inhibit his ability to score well on IQ testing. Dr. Denkowski testified that his IQ would likely be higher than represented by a Full Scale Score of 72. Dr. Denkowski conceded that only ‘clinical judgment,’ not any statistical formula or established methodology, informed how much to alter an IQ score because of cultural and educational factors. Maldonado’s cross-examination of Dr. Denkowski, however, seriously challenged whether his personal experience would allow him to make assumptions about the effect of Maldonado’s Mexican heritage and poor, rural upbringing on the testing.”).

missed as poor reporters both in data collection and data interpretation. The kinder and empathic elements of human nature may drive the desire for better methods of prediction, but the compression of allegiance in an adversarial system may distort even the best of ethical intentions<sup>71</sup> The evolution of research to better inform and guide the application of facts to outcomes that benefits children is an understandable objective for family courts struggling to predict the future when the future may have little to do with the past. Loss of housing, work, new partners, step- and half-siblings, changes in schools, splitting time between two (and often three) caregivers and homes, and new or shifting psychological parents, along with many other confounding variables may mean the past has little to do with the current circumstances of a child and parent. After all, and as unpleasant as the phrase may be, every child custody decision and every parenting plan is, like raising children, a human experiment with errors and accolades.

Even when the past may not be a guide to the current or the future, research has a place in helping fact finders frame decision making. Blind allegiance to the credentials of the expert, however, and reliance on the competing resources of a parent or abilities of lawyers to reveal the truth in a courtroom, has serious limitations. Thus, the remaining portion of this section (along with sources in footnotes throughout this article) offers a few concepts that can help lawyers and judges to become more analytically evaluative of proffered evidence.

**Conceptual Frameworks Are Not Theory.** Conceptual frameworks are not the same as theory. Yosef Rafeq Jabareen has defined a “conceptual framework as a network, or ‘a plane,’

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<sup>71</sup> In *Harmon v. Emerson*, 425 A.2d 978 (Me. 1981), the court opined: The issue of child custody is among the most sensitive and vital questions that courts decide. The court’s decision may have a crucial and potentially long-term impact on the physical and psychological well-being and potential future development of the child at a time in its life when its future as a balanced, healthy and happy individual is most clearly at stake. The child’s future as a valued and participating member of society may well rest on the outcome of the custody determination.

*Id.* at 982-83 (citations omitted). Or, as the Vermont Supreme Court more metaphorically alluded, not treat a child as “a shuttlecock in a game of badminton.” *Ohland v. Ohland*, 442 A.2d 1306, 1309 (Vt. 1982).



of interlinked concepts that together provide a comprehensive understanding of a phenomenon or phenomena. The concepts that constitute a conceptual framework support one another, articulate their respective phenomena, and establish a framework-specific philosophy.<sup>72</sup> In another description, a conceptual framework is a “process of theorizing” which consists of activities like “abstracting, generalizing, relating, selecting, explaining, synthesizing, and idealizing” and those “emergent products summarize progress, give direction, and serve as place markers.”<sup>73</sup> For example, this author and a colleague in a recent article described how social science research related to transitional objects, now many decades old, may be the source of future study or application to the best interest factor in child custody cases.<sup>74</sup> What a conceptual framework *is not* is research itself; it is a perspective. In court, however, an expert may improperly offer these “emergent products” as current scientific knowledge generalizable to a population of parents and children in a custody case.

**Theory and Hypotheses.** “Good theory” is theory that “explain[s] existing findings and leads to testable new insights. Theory can help you make the leap from just having a general topic to having a specific prediction, especially if your topic is an applied problem.”<sup>75</sup> Hypotheses compare variables which are testable, specific, and designed before the research is undertaken.<sup>76</sup> More importantly, for the courtroom, hypothesis testing requires an analysis of the null hypothesis (which itself is with contro-

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<sup>72</sup> Yosef Rafeq Jabareen, *Building a Conceptual Framework: Philosophy, Definitions, and Procedure*, 8(4) INT’L J. QUALITATIVE METHODS 49, 51 (2009).

<sup>73</sup> Karl E. Weick, *What Theory Is Not, Theorizing Is*, 40 ADMIN. SCI. Q. 385, 389 (1995).

<sup>74</sup> See generally Benjamin D. Garber & Dana E. Prescott, *On the Value of Teddy Bears and Barbie Dolls: The Place of Children’s Transitional Objects in Family Law*, 49 SW. L. REV. 189 (2020).

<sup>75</sup> MITCHELL & JOLLEY, *supra* note 9, at 74.

<sup>76</sup> *Id.* at 69-71. John Saunders wrote that, “Ockham’s razor tells us to go for the simplest unifying hypothesis in diagnosing the patient’s disease; Sutton’s law (based on the bank robber who told the judge he robbed banks because that’s where the money is), tells us to go for the commonest explanation. Perhaps we could subsume those two principles into the structures of science. Certainly simplicity or elegance have long been recognised as important features of science.” John Saunders, *The Practice of Clinical Medicine as an Art and as a Science*, 26 MED. HUMANITIES 18, 18 (June 2000).

versy).<sup>77</sup> Conflating theory with intuition, feelings, and values, and then morphing that combination as replicable research, was rejected in the “Idols of Human Biases” by Francis Bacon six hundred years ago: “Scientists continually observe, test, and modify the body of knowledge. Rather than claiming absolute truth, science approaches truth either through breakthrough discoveries or incrementally, by testing theories repeatedly.”<sup>78</sup> The precise formulation of theory and hypotheses avoids or limits *ipse dixit* feedback loops and confirmation bias. If theory does not account for epistemic injustice then it may repeat and more deeply embed biases in the sampling and interpretation of the data.<sup>79</sup>

**Methodology and Sampling:** The National Academy of Sciences (“NAS”) in 2009, along with many papers that followed, studied the harm suffered by the poor and unprivileged in the United States by the admission of forensic sciences in criminal

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<sup>77</sup> David Trafimow, *Hypothesis Testing and Theory Evaluation at the Boundaries: Surprising Insights from Bayes’s Theorem*, 110 *PSYCHOL. REV.* 526, 526 (2003) (“NHSTP includes the following steps: 1. Propose a hypothesis to be (hopefully) supported. 2. Propose a null hypothesis (H0) to be (hopefully) rejected (the hypothesis and H0 are supposed to be defined such that they are mutually exclusive and exhaustive). 3. Collect the data. 4. Compute the probability of obtaining the finding (e.g., a difference between the experimental and control condition) given that H0 is true [p(FH0)]. 5. If p(FH0) .05, reject H0 and conclude that the alternative hypothesis (H1) is true.”); see also citations *supra* at note 38.

<sup>78</sup> Itiel E. Dror, *How Can Francis Bacon Help Forensic Science-The Four Idols of Human Biases*, 50 *JURIMETRICS* 93, 110 (2009) (quoting COMM. ON IDENTIFYING THE NEEDS OF THE FORENSIC SCIENCE COMMUNITY., NAT’L RES. COUNCIL OF THE NAT’L ACADS., *Strengthening Forensic Science in the United States: A Path Forward* 112 (2009), [http://www.nap.edu/catalog.php?record\\_id=12589](http://www.nap.edu/catalog.php?record_id=12589)). The world may forget that Francis Bacon was a prominent political leader and philosophical jurist as well as a “great philosopher of the natural sciences who fought for basic reforms in both fields.” Paul H. Kocher, *Francis Bacon on the Science of Jurisprudence*, 18 *J. HIST. IDEAS* 3, 3 (1957).

<sup>79</sup> For an interesting discussion on this point, see Inkeri Koskinen & Kristina Rolin, *Scientific/Intellectual Movements Remediating Epistemic Injustice: The Case of Indigenous Studies*, 86 *PHIL. SCI.* 1052 (2019); see also Rena Kurs & Alexander Grinshpoon, *Vulnerability of Individuals with Mental Disorders to Epistemic Injustice in Both Clinical and Social Domains*, 28 *ETHICS & BEHAV.* 336 (2018).

and civil courts later proven to have little merit.<sup>80</sup> As the NAS concluded, “Courts do not typically review testimony after finding the underlying methodology reliable and permitting the forensic analyst to take the stand” and “the legal system is ill-equipped to correct the problems of the forensic science community.”<sup>81</sup> What this means to family courts suggests a need for more reflection because the risk of error in these cases is not merely the methodology of a science itself but how those in power (not just judges but mediators, evaluators, lawyers, and guardians ad litem) decide to apply that science to family systems.<sup>82</sup> And that risk of error-by-personal-science is compounded by the lack of a discussion of epistemic injustice and its

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<sup>80</sup> NATIONAL RESEARCH COUNCIL, COMMITTEE ON IDENTIFYING THE NEEDS OF THE FORENSIC SCIENCE COMMUNITY 112 (2009); *see also* Suzanne Bell, et al., *A Call for More Science in Forensic Science*, 115 PROC. NAT’L. ACAD. SCI. 4541, 4541 (2018) (“As science—and forensic science more specifically—continues to advance, it becomes increasingly absurd to ask or expect lawyers, judges, and juries to take sole responsibility for critically evaluating the quality and validity of scientific evidence and testimony.”); Joëlle Anne Moreno, *CSI Bulls—t: The National Academy of Sciences*, Melendez-Diaz v. Massachusetts, and *Future Challenges to Forensic Science and Forensic Experts*, 2010 UTAH L. REV. 327, 327 (“Good law depends on good science. The February 18, 2009, National Academy of Sciences report, *Strengthening Forensic Science in the United States: A Path Forward* (‘NAS Report’), reveals that, for the most part, forensic science is bad science. The NAS Report also suggests that when confronted with forensic science, most courts make bad law.”).

<sup>81</sup> NATIONAL RESEARCH COUNCIL, *supra* note 80, at 112.

<sup>82</sup> *See* Justin D. Levinson & Danielle Young, *Different Shades of Bias: Skin Tone, Implicit Racial Bias, and Judgments of Ambiguous Evidence*, 112 VA. L. REV. 307, 315 (2009) (“Several commentators have considered the way implicit biases are either facilitated by the law itself or how legal decision-makers may unintentionally propagate these biases.”); Michele Benedetto Neitz, *Socioeconomic Bias in the Judiciary*, 61 CLEV. ST. L. REV. 137, 165 (2013) (“Studies showing the pervasive nature of implicit bias highlight the need to devote more attention to identifying socioeconomic bias in its implicit form. Indeed, a review of Fourth Amendment and child custody cases reveals that this bias is indeed present in American courts.”); Gregory S. Parks, *Judicial Recusal: Cognitive Biases and Racial Stereotyping*, 18 N.Y.U.J. LEGIS. & PUB. POL’Y 681, 696 (2015) (“Judges are human. They suffer from the same frailties, flaws, and foibles that the rest of us do. That includes being subject to a whole host of cognitive biases. Given the extent to which the valuation of whiteness and devaluation of blackness permeates American society, it is no surprise that all racial groups tend to automatically or subconsciously preference whiteness over blackness.”).

relationship to methodologies, and distorted and opaque sampling methods,<sup>83</sup> which may be homogenous and then applied to all divorced or nonmarried families.<sup>84</sup>

**Generalizability:** The contemporary duty of family justice courts is to provide parties with *a* judgment at *a* point in time in *a* case. This institutional duty has awkwardly coexisted for generations with the relevant and generalizable transference of social science research, subject to deep divisions within the various professional disciplines. The key challenge is that the research findings are accepted as *reliable* in the discipline and are *relevant* to the issues at hand. Social science research is generally concerned with generalizing the conclusions from a sample to a larger group or population. This is called external validity.<sup>85</sup> In the translation from social science to the courtroom, the issue is how well the findings apply to a group of cases with similar traits. The closer to the characteristics and circumstances of a person or family, the more useful the research will be for judges in making those decisions. But—and this is a critical caveat—that is why the sampling

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<sup>83</sup> See Andrea L. Miller, et al., *Forging Diversity-Science-Informed Guidelines for Research on Race and Racism in Psychological Science*, 75 J. SOC. ISSUES 1240 (2019) (arguing that research on racism is strengthened when scholars: (1) are mindful of historical patterns of oppression and inequality, (2) adopt a racially diverse team of scientists approach, (3) utilize diverse samples, (4) consider the influence of multiple identity groups on human experience, and (5) promote the translation of knowledge from the laboratory to the field).

<sup>84</sup> Medical science had been criticized for control group studies that may ignore women or minorities or many other forms of diversity and oppression. See Vivek H. Murthy, et al., *Participation in Cancer Clinical Trials: Race-, Sex-, and Age-Based Disparities*, 291 JAMA 2720, 2720 (2004) (“Applying trial results to patients who would not have been eligible to participate has been associated with harm. It has been promulgated that “appropriate” representation of specific patient subpopulations is necessary to further understanding of race/ethnicity-based differences in presentation, prognosis, and response to therapy.”); Antronette K Yancey, et al., *Effective Recruitment and Retention of Minority Research Participants*, 27 ANN. REV. PUB. HEALTH 1, 2 (2006) (“One must recognize that overarching contributors to health disparities are inherent in minority engagement challenges. There are relatively few investigators from underrepresented racial/ethnic minority groups in the academy, reflecting the skewed SES distribution and sociopolitical marginalization of these populations compared with white European Americans. Increased involvement in scientific leadership of investigators from populations with substantive health disparities is critical.”).

<sup>85</sup> Cashmore & Parkinson, *supra* note 29, at 241.

and methodology are so essential to relevance and admissibility. If the survey is self-designed and the sampling one of convenience or self-selected populations (for instance, patients in a practice or attending a course), the absence of disclosure raises ethical and validity concerns because there is no generalizability.<sup>86</sup>

**Generalizability to Replication:** The European philosophy of science journals tend to have more robust philosophical debates about research methodologies, epistemology, and epistemic culture within the development of science. Few of these topics find their way into the law review literature, much less do debates occur during trials about what criteria make proffered studies more or less reliable and valid. As scholars in the philosophy of science have written, “Humanities and interpretive sociological research are different from the sciences not because of some sort of secret sauce, but because the objects of study, and the questions asked, often, but not always, do not allow replication or even replicability.”<sup>87</sup> Although the term “generalizability” may be more often used in the United States, terms such as “replication,” “reproduction,” and “robustness” are common in discussions of scientific quality control; though consistent definitions and applications are a challenge.<sup>88</sup> The key point is that any discussion of epistemic injustice in family justice courts should include “the ability of a researcher to duplicate the results of a prior study using the same materials as were used by the original investigator,” or “the ability of a researcher to duplicate the results of a prior study if the same procedures are followed but new data are collected.”<sup>89</sup> These concepts, collectively and indepen-

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<sup>86</sup> These challenges to research and its generalizability are laid out in the various articles in the special issue of the *AFCC Journal*. See Barbara Jo Fidler & Nicholas Bala, *Guest Editors’ Introduction to the 2020 Special Issue on Parent–Child Contact Problems: Concepts, Controversies & Conundrums*, 58 *FAM. CT. REV.* 265 (2020).

<sup>87</sup> Bart J. Penders, et al., *Rinse and Repeat: Understanding the Value of Replication Across Different Ways of Knowing*, 7(3) *PUBLICATIONS* 52, 62 (2019).

<sup>88</sup> *Id.* at 55.

<sup>89</sup> *Id.* (quoting Kenneth Bollen, et al., *Social, Behavioral, and Economic Sciences Perspectives on Robust and Reliable Science: Report of the Subcommittee on Replicability in Science Advisory Committee to the National Science Foun-*

dently, are critically important to social science relevance and admissibility in family court.<sup>90</sup>

**Peer Review and Sort of “Peer” Review:** One of the most misused terms in trial testimony is “peer-reviewed,” which has taken on its own form of family court alchemy because judges and lawyers tend to think that it means something akin to a quality control check that critically analyzes methodology, sampling, and data to assure ethical interpretation of that research from model to outcome.<sup>91</sup> Traditional peer review operates as either “single-blind” (where authors do not know reviewers’ identities) or “double-blind” (where both authors and reviewers remain anonymous), with double-blind more common in the arts, humanities, and social sciences than it is in STEM (science, technology, engineering and medicine).<sup>92</sup> Peer review is a formal mechanism intended to provide technical evaluation of the validity or soundness of a work in its methodology, analysis, and argumentation and assess the novelty or expected impact of a work.<sup>93</sup> The problem is that peer review is largely a myth itself and hardly as pure as presented in court:

Publication in peer-reviewed journals is an essential step in the scientific process. It generates knowledge, influences future experiments, and may impact clinical practice and public health. Ethically, research results must be reported completely, transparently, and accurately. However, publication is not simply the reporting of facts arising from a straightforward and objective analysis of those facts. When writing a

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*ation Directorate for Social, Behavioral, and Economic Sciences, NATIONAL SCIENCE FOUNDATION 13 (2015).*

<sup>90</sup> See Connie J.A. Beck, et al., *Collaboration Between Judges and Social Science Researchers in Family Law*, 47 FAM. CT. REV. 451, 457 (2009) (“Replication of findings of a study with an additional sample of subjects and by an independent research team is critical to being truly confident about whether a treatment works. Replication of results protects against drawing premature conclusions based on a particular set of researchers or therapists with a particular set of biases or from a subject sample that might be unusual.”).

<sup>91</sup> See Mary Johanna McCurley, et al., *Protecting Children from Incompetent Forensic Evaluations and Expert Testimony*, 19 J. AM. ACAD. MATRIM. LAW. 277, 286 (2004) (“Publication in a reputable, established, scientific journal and other forms of peer review increase the likelihood that substantive flaws in methodology will be detected.”).

<sup>92</sup> Tony Ross-Hellauer, *What Is Open Peer Review? A Systematic Review*, 6 F1000RESEARCH 3 (Aug. 31, 2017), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5437951/>.

<sup>93</sup> *Id.*

manuscript reporting the results of an experiment, investigators usually have broad latitude in the choice, representation, and interpretation of the data. They may be tempted consciously or unconsciously to shape the impression that the results will have on readers and consequently “spin” their study results.<sup>94</sup>

In the literature of hard and soft sciences, peer-review is much more criticized for its lack of protection of the public from scientific misconduct or overreliance on the prestige of the authors.<sup>95</sup> The potential is that judges as well can be misled by the phrase and apply an undeserved weight to what sounds impressively objective.<sup>96</sup> Yet we also live at a time in which “peer review” and visceral acceptance of scientific conclusions can morph into the social media and Internet with grave consequences to parents and children.<sup>97</sup>

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<sup>94</sup> Isabelle Boutron & Philippe Ravaud, *Misrepresentation and Distortion of Research in Biomedical Literature*, 115 *PROC. NAT'L. ACAD. SCI.* 2613, 2613 (2018).

<sup>95</sup> See Michael D. Cicchini & Lawrence T. White, *Educating Judges and Lawyers in Behavioral Research: A Case Study*, 53 *GONZ. L. REV.* 159, 177 (2017) (“Law reviews go through a selection and editing process, but most are not peer reviewed. In scientific fields, peer-reviewed journals are often considered to be more prestigious than non-peer-reviewed journals, although the difference in quality may not be as large as the judge, and many others, think.”).

<sup>96</sup> *Id.* at 178 (“For example, one controlled study of the peer-review system found that reviewers detected only 25% of the errors that were intentionally inserted into a manuscript under consideration. Another author lamented that ‘[t]he peer reviewed articles with which I am most familiar all turned out to have severe methodological errors that were not identified . . . prior to publication.’ Other weaknesses of the peer-review system include letterhead bias on the part of the reviewers and the journals’ desire to publish extraordinary findings rather than ‘replication studies.’”).

<sup>97</sup> The prestigious journal of the Proceedings of the National Academy of Sciences [PNAS] published an article titled “*Officer Characteristics and Racial Disparities in Fatal Officer-Involved Shootings*.” A PNAS Editorial Board member edited the paper and two experts in the field positively reviewed it, but after the paper was published, PNAS received letters pointing out apparent errors in the study. The editors wrote that, the “tendentious misappropriation of scientific findings is a challenge scientists increasingly face in today’s polarized media environment, and this example underscores the duty of scientists not only to adhere to the precepts of the scientific method, but to communicate their results to the public clearly, accurately, and impartially—and to engage those debates in which their findings are misconstrued, misinterpreted, or misused for partisan purposes.” Douglas S. Massey & Mary C. Waters, *Scientific*

## V. CONCLUSION

When looking through the lens of science-in-family-courts this admonition needs constant reminder: “Given the way the human mind works, science is a frail creature indeed.”<sup>98</sup> The frailty of the human mind filters various forms of bias, stereotypes, bigotry, and prejudice into language and behaviors. When a professional, such as a judge or lawyer or expert, wields such power over others there is a need to consciously and intentionally check rational and irrational decision making against cognitive and emotional heuristics wrapped in bias wrapped in privilege.<sup>99</sup> Although the role of bias in research is a significant point of debate and education, the judicial system has a structural history that may embed epistemic injustice and epistemic exceptionalism in punishment and decision making.<sup>100</sup> Expert

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*Versus Public Debates: A PNAS Case Study* (2020), <https://www.pnas.org/content/early/2020/07/14/2012328117>.

<sup>98</sup> Boudry, et al., *supra* note 69, at 1193.

<sup>99</sup> The phrase is borrowed with contortions from a famous comment by Winston Churchill in reference to the Soviet Union in 1939: “It is a riddle wrapped in a mystery inside an enigma; but perhaps there is a key.” The literature in this area of social psychology and behavior economics, as well as game theory, is vast but important to the reform of any organizational structure. See Kathryn Abrams & Hila Keren, *Who’s Afraid of Law and the Emotions*, 94 MINN. L. REV. 1997, 2003 (2009) (“Law and emotions scholarship began by arguing that emotions have a vital role to play in legal thought and decision-making. This radical claim confronted a long intellectual tradition that dichotomized reason and emotion and construed legal thought as a professionally instilled cognitive process, which could be powerfully unsettled by affective response.”); Gerd Gigerenzer & Wolfgang Gaissmaier, *Decision Making: Nonrational Theories*, in 5 INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL & BEHAVIORAL SCIENCES. 912 (J.D. Wright ed. 2d ed. 2015) (“Nonrational theories are descriptive, whereas rational theories are normative – this common distinction is only partly true. Indeed, theories of heuristics are concerned with psychological realism, that is, the capacities and limitations of actual humans, whereas rational theories have little concern for descriptive validity and tend to assume omniscience.”); Jeremy A. Matz, *We’re All Winners: Game Theory, The Adjusted Winner Procedure and Property Division at Divorce*, 66 BROOK. L. REV. 1339, 1366 (2000) (“Game theory is a combination of mathematics, sociology, and psychology, which attempts to model different interpersonal interactions to predict how people will react.”).

<sup>100</sup> See generally MARY FRANCES BERRY, *THE PIG FARMER’S DAUGHTER AND OTHER TALES OF AMERICAN JUSTICE: EPISODES OF RACISM AND SEXISM IN THE COURTS FROM 1865 TO THE PRESENT* (2011); JENNIFER EBERHARDT,



opinion can be a mechanism for helping blunt those biases or, as may be currently problematic, perpetuate the injustices by applying research which itself is discriminatory by overt exclusion of populations to be judged from sampling or methodologies.<sup>101</sup>

The distinction drawn by the brief thought-experiment, however, implicates an ever-adaptive matrix of theory, intuition, observation, feelings, anecdotal evidence, and methodology, recognizable to philosophers and scientists for centuries, but which

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BIASED: UNCOVERING THE HIDDEN PREJUDICE THAT SHAPES WHAT WE SEE, THINK, AND DO (2020); LEON A. HIGGINBOTHAM JR, SHADES OF FREEDOM: RACIAL POLITICS AND PRESUMPTIONS OF THE AMERICAN LEGAL PROCESS (1998); NANCY ORDOVER, AMERICAN EUGENICS: RACE, QUEER ANATOMY, AND THE SCIENCE OF NATIONALISM (2003). Paul Chill reminded us years ago that, “In contrast to the government, the overwhelming majority of parents in child protection cases are poor, and the quality of the representation they receive from their court-appointed lawyers (if they have counsel at all) marginal or inferior. This leads to further exaggeration of the risks of non-intervention. Second, although judges are supposed to operate as a check on CPS actions, they exhibit the same defensive outlook as many CPS caseworkers.” Paul Chill, *Burden of Proof Begone: The Pernicious Effect of Emergency Removal in Child Protective Proceedings*, 41 FAM. CT. REV. 457, 459 (2003); see Lindsey Webb, *Slave Narratives and the Sentencing Court*, 42 N.Y.U. REV. L. & SOC. CHANGE 125, 140 (2018) (“The pervasive silence about prison conditions at sentencing is concerning, because it reflects larger systemic silence about the racial inequities and biases that have contributed to the disparity in incarceration rates. If prison conditions are invisible and unaddressed at sentencing, the court and other actors in the justice system can more easily avoid explicit consideration of the sentencing laws and norms, along with cultural and individual biases, that contribute to the assumption that African American and Latino people are more deserving of incarceration and the conditions that accompany it.”).

<sup>101</sup> The scientific community has had to address the ethics of experimenting or researching on children with disabilities; much of which has arisen from litigation and the protections afforded vulnerable populations by courts in the United States. See Eric G. Yan & Kerim M. Munir, *Regulatory and Ethical Principles in Research Involving Children and Individuals with Developmental Disabilities*, 14(1) ETHICS & BEHAV. 31 (2004) (“The fair treatment of children and individuals with DD—accommodated under the ethical principle of human rights—seems to be well-respected today. Currently, the public and medical communities have a greater awareness and sensitivity to questionable scientific research. The first duty of IRBs is to ensure that human rights are vigorously protected. Although this undoubtedly applies to all participants, this is especially relevant when working with vulnerable participants such as children and individuals with DD.”). But in child protection and child custody cases the same ethical requirements are often overlooked by virtue of protecting the rights of parents rather than the self-determination and autonomy of children.

daily challenges and bedevils modern family courts. The trap is more than intellectual or hypothetical. To recognize the injection of an ideology-of-science, marshalled and transformed by lawyers under direct and cross-examination to gain persuasive advantage in a trial, is itself no minor feat.<sup>102</sup> More bluntly stated, this distinction often turns rather crudely on whether the social sciences inform judicial decision making by providing reliable and generalizable science to the specific case or whether ideological preferences applying homogenous samples by self-selection, socioeconomics, race, or zip code are disguised as relevant and reliable science.<sup>103</sup> As Dean Jennifer Mnookin reasoned:

Despite what so many participants in the legal sphere may have hoped, science is not in the business of producing incontestable certainty. Some matters may be taken as provisionally true, even probably true, but much of what is fought about in court will be outside the parameters of consensus. Moreover, when the consensus runs too deep, it may no longer be science at all, but dogma.<sup>104</sup>

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<sup>102</sup> For many years, mental health professionals have warned about the impact of expert testimony in forensic settings which may substitute clinical judgment for other data such as risk assessments or testing. See David Faust & Jay Ziskin, *The Expert Witness in Psychology and Psychiatry*, 241 *SCI. 31*, 35 (July 1, 1988) (“As the courts and the public come to realize the immense gap between experts’ claims about their judgmental powers and the scientific findings, the credibility of psychology and psychiatry will suffer accordingly.”).

<sup>103</sup> See Louise-Marie Jupe & Vincent Denault, *Science or Pseudoscience? A Distinction That Matters for Police Officers, Lawyers and Judges*, 26 *PSYCHIATRY, PSYCHOL. & L.* 753, 756 (2019) (“Advocates of pseudoscience usually have the primary intention of assisting police officers, lawyers and judges. However, good faith is not a synonym of good practice.”); see also *Wright v. Stern*, 450 F. Supp. 2d 335, 359 (S.D.N.Y. 2006) (“To be admissible, expert testimony must be both relevant and reliable. To be reliable, expert testimony must be based on sufficient facts or data, and it must be the product of reliable principles and methods properly applied. The trial court’s task is to make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field. In other words, expert testimony should be excluded if it is “speculative or conjectural,” or if it is based on assumptions that are “so unrealistic and contradictory as to suggest bad faith.” An expert’s opinion is inadmissible if it “is connected to existing data only by the ipse dixit of the expert.”).

<sup>104</sup> Jennifer Mnookin, *Idealizing Science and Demonizing Experts: An Intellectual History of Expert Evidence*, 52 *VILL. L. REV.* 763, 799 (2007); see also Richard Warshak, *Social Science and Parenting Plans for Young Children: A Consensus Report*, 20 *PSYCHOL., PUB. POL’Y, & L.* 46, 46 (2014) (“But the road

How then to minimize the risks of social science research being applied inappropriately in family justice realms? To maintain safeguards (beyond evaluating the validity and reliability of the research methodology), there should be *rigorous* and legitimate peer review, the “pooling of evidence” (via replication and synthesis), and consideration of the extent to which the findings reflect general scientific consensus in the field. Social science research, like any other form of science, flourishes with transparency in its limitations, public and open critique and debate, and data that are subjected to rigorous analysis and to the testing and re-testing of alternative hypotheses.<sup>105</sup> The challenge for any professional offering testimony in any field, not just social science, is to convey with competence and integrity a relevant, concrete, and generalizable system of specialized knowledge which ethically, logically, and empirically informs judicial decision making.<sup>106</sup> After all, “the solution of legal problems and the develop-

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from laboratories to legislatures and family law courtrooms is hazardous—fraught with potential for misunderstandings, skewed interpretations, logical errors, even outright misrepresentations. The hazards can be traced, in large measure, to differences between science and advocacy. Scientific approaches to a literature review aim for a balanced, accurate account of established knowledge and of unresolved issues that require further investigation.”).

<sup>105</sup> See Tess Neal & Thomas Grisso, *The Cognitive Underpinnings of Bias in Forensic Mental Health Evaluations*, 20 PSYCHOL., PUB. POL’Y, & L. 200, 206 (2014) (“Scientific and clinical expertise in the courtroom is dependent on the expectancy that the expert seeks accuracy and avoids anything that may lead to bias in the collection or interpretation of data.”).

<sup>106</sup> See Victor E. Schwartz & Cary Silverman, *The Draining of Daubert and the Recidivism of Junk Science in Federal and State Courts*, 35 HOFSTRA L. REV. 217, 220 (2006). For an example of what should not be allowed as expert testimony, see *United States v. Hardman*, 622 F. Supp. 2d 1129, 1150 (D. Utah, 2009) (“The urge to essay authoritative explanation of matters understood but imperfectly is perhaps universal, but succumbing to the urge under oath and when purporting to speak as an expert is not. Dr. Sherkat’s overconfidence, coupled with his failure to understand the extent of his expertise, is particularly damaging when the reliability of his other testimony regarding numbers of likely applicants for feathers rests so heavily on his professional judgment. In other words, Dr. Sherkat has not just performed mechanical calculations on data whose relevance and accuracy have been verified by others. Dr. Sherkat has rather made extrapolations from various sources he admits are not especially well adapted to supply answers to the questions he is asking. Dr. Sherkat’s remarkable failure in professional judgment makes the Court unable to rely on his judgment in making those extrapolations, leaving the Court a result with

ment of our law so as to meet the human needs . . . are the sole reasons for its existence.”<sup>107</sup> The underlying problem, however, is not the experts alone by any fair measure. Experts have agency and status in family courts because judges and lawyers and litigants operate in adversarial-designed structures.<sup>108</sup> Conventional approaches to the admissibility of expert testimony in federal or state tort and criminal jury cases, thereby, are structurally part of a complex and expensive litigation process often unavailable to parents in private child custody or state-initiated child protection matters.<sup>109</sup>

Few lawyers, some of whom become family court judges, are scientifically or statistically trained. These comments are intended as a reminder that when attorneys proffer science to

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very little credible evidence as to the numbers of both types of adherents to Native American religions.”).

<sup>107</sup> Walter Wheeler Cook, *Hohfeld's Contributions to the Science of Law*, 28 *YALE L.J.* 721, 738 (1919).

<sup>108</sup> The point is not new. See Dan L. Burk, *When Scientists Act Like Lawyers: The Problem of Adversary Science*, 33 *JURIMETRICS* 363, 366 (1993) (“Whereas the professional norms of the legal profession revolve around adversarialism and advocacy, the professional norms of science are quite different. This should not be surprising; the two institutions have very different functions in society. Law seeks to resolve disputes among citizens in a peaceable manner. Science, by contrast, involves the creation of concepts and their exploration through the tools of empirical research.”).

<sup>109</sup> The scope of this paper will not include a detailed discussion of *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579 (1993), and the mammoth literature that followed. Not as often cited but worthy of exposition is Judge Kozinski’s ruling on remand from the U.S. Supreme Court:

Our responsibility, then, unless we badly misread the Supreme Court’s opinion, is to resolve disputes among respected, well credentialed scientists about matters squarely within their expertise, in areas where there is no scientific consensus as to what is and what is not “good science,” and occasionally to reject such expert testimony because it was not “derived by the scientific method.” Mindful of our position in the hierarchy of the federal judiciary, we take a deep breath and proceed with this heady task.

*Daubert v. Merrell Dow Pharm., Inc.*, 43 F.3d 1311, 1316 (9th Cir. 1995). Lost in the discussion of *Daubert* and its trilogy was that these cases involved pretrial procedures like summary judgment in which the court’s gatekeeping function is in effect before the jury is permitted to hear that evidence, as against bench trials in child custody cases. See *Kumho Tire Co. v. Carmichael*, 526 U.S. 137 (1999); *Gen. Elec. Co. v. Joiner*, 522 U.S. 136 (1997); *Daubert*, 509 U.S. 579.

courts they do so with a reality that samples (even if meeting minimum standards of informed consent and ethical research) may be of homogenous populations, who are well-educated, represented by lawyers, and may have forensic experts, guardians ad litem, mediators, therapists, parent coordinators, as well as access to court systems willing to provide days of scarce resources for their trials. The challenge of applying research to judicial decision-making, therefore, requires an explicit understanding that epistemic injustice can be understood and addressed only if the family court system recognizes the underlying requirements of generalizable and reliable research and asks the questions and demands the answers before allowing opinions to be admitted.<sup>110</sup>

Getting at the truth of contested facts is at the heart of the American court system. If that is to be the case for the next generation, then “recent attention to epistemic injustice is of special interest to those concerned with the law.”<sup>111</sup> Of equal importance, lawyers, as advocates bound by a code of ethics which mandates and protects aggressive representation, may hire dueling mental health experts with different professional codes of ethics interpreting research and data and its predictive application quite differently.<sup>112</sup> This is no longer an excuse, however, for perpetuating in court bias and oppression of populations unable to protect themselves from research and science that does not take account of them. This intersectionality, as that term is used in social science and policy, requires an intentional effort to explicitly advise the court of the limits of that research to a family or individual so that epistemic injustice and epistemic exception-

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<sup>110</sup> See Jeffrey J. Rachlinski, *Does Unconscious Racial Bias Affect Trial Judges*, 84 NOTRE DAME L. REV. 1195, 1221 (2008) (“Our research supports three conclusions. First, judges, like the rest of us, carry implicit biases concerning race. Second, these implicit biases can affect judges’ judgment, at least in contexts where judges are unaware of a need to monitor their decisions for racial bias. Third, and conversely, when judges are aware of a need to monitor their own responses for the influence of implicit racial biases, and are motivated to suppress that bias, they appear able to do so.”).

<sup>111</sup> Michael Sullivan, *Epistemic Justice and the Law*, in THE ROUTLEDGE HANDBOOK OF EPISTEMIC INJUSTICE 294 (Ian James Kidd, et al., eds., 2017).

<sup>112</sup> For an alternative approach to managing expert testimony drawn from Australia and New Zealand, see Dana E. Prescott & Tim Fadgen, *Adversarial Systems and Forensic Experts in Child Custody: How About Adding a Hot Tub.*, 32 J. AM. ACAD. MATRIM. LAW. 117 (2019).

alism are not perpetuated by organizational and institutional structures which encourage expert testimony unrelated to the groups and individuals subject to judgment.<sup>113</sup>

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<sup>113</sup> See Gwendolyn M. Leachman, *Institutionalizing Essentialism: Mechanisms of Intersectional Subordination within the LGBT Movement*, 2016 WIS. L. REV. 655, 659 (“Pioneers of intersectionality theory in the legal academy have written extensively on this dynamic in the context of the antiracist and feminist movements.”); Serena Mayeri, *Intersectionality and the Constitution of Family Status*, 32 CONST. COMMENT. 377, 378 (2017) (“Intersectional harms often underpinned legal assaults on family status inequalities.”).