

Confirmation Bias

Confirmation bias is the tendency to seek, interpret, favor, and recall information in ways that support what one already believes or expects, while giving less weight to evidence that would point the other way. It is one of the best-documented features of human reasoning, and it operates largely outside awareness — which is what makes it dangerous in a legal setting. Investigators, forensic examiners, witnesses, jurors, and experts on every side are subject to it, and it tends to be invisible to the person in its grip, who experiences a biased search for evidence as simply following the facts. This paper explains what confirmation bias is, the more precise account of it that modern research offers, how it distorts judgment, and — most importantly for the courtroom — how it can quietly corrupt the evaluation of evidence, including supposedly objective forensic evidence. The science here favors no party; the bias afflicts all of them, and the safeguards against it protect the integrity of the process for everyone. This overview assumes no background in psychology.

What Confirmation Bias Is

Confirmation bias, sometimes called myside bias, is a systematic error of inductive reasoning in which a person gathers or remembers information selectively, or interprets it in a biased way, so as to support a belief or hypothesis already held (Nickerson, 1998). It shows up in three places: in what we look for (a biased search), in how we read what we find (ambiguous evidence is interpreted to fit our expectation), and in what we later recall (memory favors the confirming over the disconfirming). The effect is stronger for emotionally charged issues and for deeply held beliefs, and it tends to make people more, not less, certain as they accumulate information that all points the same way.

In his comprehensive review, Nickerson (1998) traced the bias through many domains and connected it to a family of related phenomena: attitude polarization, in which two people exposed to the same mixed evidence grow further apart rather than closer; belief perseverance, in which a belief survives even after the evidence that produced it has been discredited; the primacy effect, an over-reliance on information encountered early; and illusory correlation, the perception of a relationship between events that are in fact unrelated. Each is a way the mind protects a conclusion it has already reached.

A More Precise Account: The Positive Test Strategy

Early experiments in the 1960s were read as showing that people are irrationally driven to confirm their beliefs. Later work refined that interpretation in an important way. Klayman and Ha (1987) argued that much of what is labeled "confirmation bias" is better understood as a general "positive test strategy": when testing a hypothesis, people tend to examine cases they expect to have the property in question rather than cases they expect to lack it. Under many real-world conditions this is a reasonable, even efficient, way to seek the truth — but it can produce systematic errors when the situation is structured so that looking only at confirming cases cannot reveal a false hypothesis.

Research on how people test hypotheses about others bears this out, and adds a nuance useful in legal settings. When choosing what questions to ask, people show a primary preference for diagnostic information — questions whose answers would actually distinguish between competing possibilities — and only a secondary preference for confirmation (Trope & Bassok, 1982; Devine, Hirt, & Gehrke, 1990). The trouble is that even the way a question is framed can skew the result: asking "is this person extraverted?" leads people to search memory for evidence of extraversion and to find it, biasing the conclusion toward the hypothesis embedded in the question (Kunda, Fong, Sanitioso, & Reber, 1993). The lesson for investigation and interviewing is that one-sided, hypothesis-confirming questions can manufacture support for whatever proposition they presuppose.

How Confirmation Bias Distorts Judgment

The most consequential form of the bias is not selective searching but biased interpretation of evidence that is genuinely ambiguous. A classic demonstration is Darley and Gross (1983), who showed participants a video of a child taking an academic test. The video was identical for everyone, but participants who had been led to believe the child came from a high socioeconomic background rated her ability as above grade level, while those told she came from a low-income background rated the same performance as below grade level — and both groups pointed to specifics in the test as proof. An expectation, even one based on flimsy initial information, organized how the same evidence was perceived, and the evidence was then read as confirming the expectation.

People also tend to prefer information that validates what they already think. A meta-analysis of selective-exposure studies found a reliable, moderate tendency to seek out congenial information over information that would challenge one's views (Hart, Albarracín, Eagly, Brechan, Lindberg, & Merrill, 2009). And accumulating more information does not necessarily cure the problem: gathering additional facts tends to increase confidence faster than it increases accuracy, because each new fact is sought and read in light of the conclusion already favored. The result is a mind that grows surer of itself while remaining just as likely to be wrong.

Forensic Confirmation Bias

The legal significance of confirmation bias is sharpest in the forensic sciences, where evidence is widely assumed to be objective. The reality is that an examiner's judgment can be shaped by what the examiner expects or has been told. The landmark demonstration involved fingerprint experts. Dror, Charlton, and Péron (2006) presented five experienced examiners with pairs of prints they had themselves judged to be matches in real cases years earlier — but now accompanied by context suggesting the prints did not match (for example, that they were the prints from a known erroneous identification). Most of the examiners reversed their own earlier conclusions. The fingerprints had not changed; only the context had.

This vulnerability moved from the laboratory to the headlines in the case of Brandon Mayfield, an Oregon attorney wrongly linked by the FBI to the 2004 Madrid train bombings on the basis of a fingerprint that examiners confidently — and erroneously — declared a match, an error a government review attributed in part to the influence of context and circular reasoning. Drawing these threads together, Kassin, Dror, and Kukucka (2013) described a "forensic confirmation bias": classic effects of expectancy and context can taint the perceptions and judgments not only of lay witnesses but of forensic experts across disciplines. Experimental work confirms the mechanism — for instance, learning that a suspect had confessed made evaluators more likely to conclude that the suspect's handwriting matched a crime-related sample (Kukucka & Kassin, 2014). A national review of the forensic sciences likewise warned that contextual bias and error pervade disciplines once assumed to be immune (National Research Council, 2009).

Tunnel Vision in Investigations

At the scale of a whole case, confirmation bias appears as "tunnel vision": once investigators form a theory of who is responsible, that theory tends to channel everything that follows — which leads are pursued, how ambiguous evidence is read, which questions are asked of witnesses, and which alternatives are discounted (Findley & Scott, 2006). Tunnel vision is not the product of bad faith; it is the ordinary operation of confirmation bias, reinforced by the pressures of an investigation, and it has been identified as a recurring contributor to wrongful convictions. A related danger is that biased evidence can compound: a confession, an identification, or a forensic "match" can each shape the others, so that pieces of evidence that appear to corroborate one another are not in fact independent, having all been influenced by the same initial belief (Kassin et al., 2013).

Confirmation Bias and the Law

Confirmation bias bears on the law in two principal ways. First, it cautions against treating forensic conclusions, identifications, and confessions as independent confirmations of guilt when each may have been shaped by exposure to the others or to a shared expectation; apparent corroboration can be an artifact of bias rather than genuine convergence. Second, it supports a set of safeguards that the scientific community has increasingly endorsed: blind testing, in which examiners are shielded from case information irrelevant to their task; "linear sequential unmasking," in which an examiner forms a conclusion from the crime-scene evidence before being exposed to the suspect's exemplar; documentation of the order in which information was received; and independent verification by examiners who do not know the first examiner's conclusion (Kassin et al., 2013; National Research Council, 2009). These context-management measures do not impugn the competence or honesty of examiners; they protect good examiners from an influence that operates beneath awareness.

How these issues reach the trier of fact is governed by the general standards for scientific and expert evidence — *Daubert v. Merrell Dow Pharmaceuticals* (1993), as extended by *Kumho Tire Co. v. Carmichael* (1999), and Federal Rule of Evidence 702 in jurisdictions that follow them, or the Frye general-acceptance test elsewhere (*Frye v. United States*, 1923). Expert testimony on confirmation bias is offered to inform the court about how context can influence perception and judgment and about the procedures that guard against it — not to opine that any particular examiner was actually biased or that a particular conclusion was wrong, which remain questions for the fact-finder. Because the bias is universal and unconscious, the soundest response is systemic: procedures that prevent contamination are more reliable than after-the-fact efforts to detect it.

Special Issues in Legal Practice

The principles described above apply with equal force to every party in a legal proceeding. Memory operates the same way regardless of who is asking the questions, and the science summarized here favors no side. What differs between the parties is not the science but the vantage point — the particular places where memory issues tend to surface, and the particular errors each party is best positioned to guard against. The two summaries below identify those recurring issues. They are offered for orientation, not as litigation strategy; in every case the controlling question is what the evidence in that case will, and will not, support, and the expert's role is to inform the trier of fact rather than to advocate for either side.

Special Issues for Prosecutors

For the State, confirmation bias is most likely to surface as a question about the independence and integrity of the evidence. The issue most likely to arise is whether forensic examiners, identifying witnesses, or investigators were exposed to context — a confession, a suspect's identity, other examiners' conclusions — that could have shaped what they perceived. The error best guarded against is presenting biased-but-convergent evidence as independent corroboration, when several items may trace to a single initial belief and so confirm one another only because they were contaminated by it. The State is well positioned to forestall this by adopting and documenting context-management practices: blind or sequential examination, shielding examiners from irrelevant case facts, and recording what each actor knew and when. Evidence developed and documented this way is more robust, and its reliability can be demonstrated rather than assumed.

Understood this way, attention to confirmation bias strengthens the State's proof. Forensic and identification evidence produced under bias-reducing procedures is far less vulnerable to challenge than evidence gathered without regard to context, and a clear record of how conclusions were reached lets the State show genuine, independent convergence where it exists.

Special Issues for Defense

For the defense, the recurring task is to examine whether the evidence reflects independent analysis or the propagation of an early theory of the case. The issue most likely to surface is contextual contamination: whether examiners knew a suspect had confessed or been identified, whether a single investigative hypothesis channeled the collection and reading of evidence (tunnel vision), and whether apparently corroborating items were in fact insulated from one another. The error best guarded against is overclaiming — asserting that bias necessarily produced error in a given case, when confirmation bias describes a risk and a mechanism, not proof that a particular conclusion is wrong, and many examiners reach correct results despite exposure to context. The sounder course is to probe what each actor knew, in what order, and under what procedures, and to let those facts establish whether the risk of bias was meaningful here.

The corresponding safeguard is to ensure the trier of fact understands the science: that confirmation bias is universal and unconscious; that it can shape even expert forensic judgments through context; that evidence influenced by a shared expectation may appear to corroborate itself without being independent; and that bias-management procedures exist precisely because the bias cannot be overcome by good intentions alone. Where admissible, expert testimony on these points can help the factfinder weigh forensic and investigative evidence for what it is, without either dismissing sound evidence or accepting contaminated evidence uncritically.

References

- Darley, J. M., & Gross, P. H. (1983). A hypothesis-confirming bias in labeling effects. *Journal of Personality and Social Psychology*, 44(1), 20–33. <https://doi.org/10.1037/0022-3514.44.1.20>
- Devine, P. G., Hirt, E. R., & Gehrke, E. M. (1990). Diagnostic and confirmation strategies in trait hypothesis testing. *Journal of Personality and Social Psychology*, 58(6), 952–963. <https://doi.org/10.1037/0022-3514.58.6.952>
- Dror, I. E., Charlton, D., & Péron, A. E. (2006). Contextual information renders experts vulnerable to making erroneous identifications. *Forensic Science International*, 156(1), 74–78. <https://doi.org/10.1016/j.forsciint.2005.10.017>
- Hart, W., Albarracín, D., Eagly, A. H., Brechan, I., Lindberg, M. J., & Merrill, L. (2009). Feeling validated versus being correct: A meta-analysis of selective exposure to information. *Psychological Bulletin*, 135(4), 555–588. <https://doi.org/10.1037/a0015701>
- Kassin, S. M., Dror, I. E., & Kukucka, J. (2013). The forensic confirmation bias: Problems, perspectives, and proposed solutions. *Journal of Applied Research in Memory and Cognition*, 2(1), 42–52. <https://doi.org/10.1016/j.jarmac.2013.01.001>
- Klayman, J., & Ha, Y.-W. (1987). Confirmation, disconfirmation, and information in hypothesis testing. *Psychological Review*, 94(2), 211–228. <https://doi.org/10.1037/0033-295X.94.2.211>
- Kukucka, J., & Kassin, S. M. (2014). Do confessions taint perceptions of handwriting evidence? An empirical test of the forensic confirmation bias. *Law and Human Behavior*, 38(3), 256–270. <https://doi.org/10.1037/lhb0000066>
- Kunda, Z., Fong, G. T., Sanitioso, R., & Reber, E. (1993). Directional questions direct self-conceptions. *Journal of Experimental Social Psychology*, 29(1), 63–86. <https://doi.org/10.1006/jesp.1993.1004>
- National Research Council. (2009). *Strengthening forensic science in the United States: A path forward*. The National Academies Press. <https://doi.org/10.17226/12589>
- Nickerson, R. S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology*, 2(2), 175–220. <https://doi.org/10.1037/1089-2680.2.2.175>
- Trope, Y., & Bassok, M. (1982). Confirmatory and diagnosing strategies in social information gathering. *Journal of Personality and Social Psychology*, 43(1), 22–34. <https://doi.org/10.1037/0022-3514.43.1.22>
- Findley, K. A., & Scott, M. S. (2006). The multiple dimensions of tunnel vision in criminal cases. *Wisconsin Law Review*, 2006(2), 291–397.

Legal Authorities

Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993).

Federal Rule of Evidence 702.

Frye v. United States, 293 F. 1013 (D.C. Cir. 1923).

Kumho Tire Co. v. Carmichael, 526 U.S. 137 (1999).

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