

# Gaps in the Evidence

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## The Question

Disputes about matters of fact in trial proceedings should be adjudicated in light of the evidence presented by the litigants.

But, should the fact that some evidence was not presented also—at least in some circumstances—be considered evidence and thus guide trial decisions? Call this the problem of gaps in the evidence or the problem of missing evidence.

To illustrate, consider this stylized scenario:

TRIP AND FALL: A plaintiff sues a shop owner because of an injury that occurred in the shop: the floor was slippery; the plaintiff tripped and fell; they seek compensation for damages. This is the plaintiff's story. The shop owner disagrees: the plaintiff did not fall because of the slippery floor. Fortunately, the shop had cameras inside. When the plaintiff fell, the camera recorded what happened. For some reason, however, the camera recording of that specific incident had gone missing. And that day at that time no one else was in the shop.

Given the balance of the evidence presented, the plaintiff cannot prevail. But what should be the significance of the missing video recording? What if the shop owner deleted the recording? Should this affect the trial decision?

## Dismissive Responses

Some might claim that the problem of missing evidence is not a difficult problem and can be quickly addressed: either (1) missing evidence is irrelevant and thus should play no role at in trial decision, or (2) if it is relevant, it functions just like any other evidence so it poses no peculiar problem. Let's consider each of this in turn.

### (1) Missing evidence is not relevant evidence

The missing evidence could be in favor or against either party. All in all, missing evidence makes no difference and thus it is irrelevant:

[I]f the evidence is missing it cannot be known which way it points. It appears equally possible that the missing evidence would confirm the current factual conclusion as contradict it. The competing possibilities cancel each other out. There is no warrant for the assumption that the missing evidence will point one way rather than the other.<sup>1</sup>

This, however, cannot be right in general. For consider again our stylized example from the beginning. Presumably, the shop owner would be more likely to delete the video if the floor was slippery than if it was not. They have a reason to delete the recording in the former but not in the latter case. Thus, taking into account the fact the recording is missing should raise the probability that the floor was slippery. This shows that missing evidence is relevant evidence.

<sup>1</sup> Hamer, D. (2012). Probability, Anti-resilience, and the Weight of Expectation. *Law, Probability and Risk*, 11(2-3), 135–158, 139.

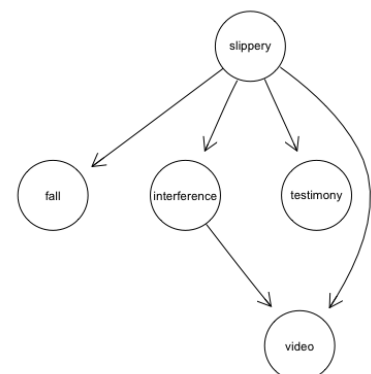


Figure 1: A DAG of TRIP AND FALL.

The only case in which the missing video would have null value is if there is no relation between the slippery floor and the owner's attempt to remove the video—that is, if it was just as likely that the owner would attempt to remove the recording when the floor was slippery than when it was not.

(2) *Missing evidence is just any other kind of evidence*

Let  $E_p$  the evidence presented at trial and let  $E_m$  describe known facts about missing evidence, for example, that the video recording is missing. The overall body of evidence should consist of  $E_p \wedge E_m$ . In making decisions about a hypothesis  $H$ , we should consider  $Pr(H|E_p \wedge E_m)$  rather than simply  $Pr(H|E_p)$ .<sup>2</sup>

Can this be the whole story? Can the problem of missing evidence be that simple? Likely not. To see why not, let's take a look at the legal framework for handling missing evidence.

<sup>2</sup> Kaye, D. H. (1986). Do we Need a Calculus of Weight to Understand Proof Beyond a Reasonable Doubt? *Boston University Law Review*, 66, 657–672.

## Legal Framework

The legal framework for handling missing evidence is three-tiered:

First, ask about the *prejudicial effects* of the missing evidence. Could the missing evidence make a difference to the decision and turn the verdict around?<sup>3</sup>

Second, examine the *circumstances* (such as bad faith intent) that caused the evidence to be missing. Why is the evidence missing? Was it an accident or misconduct? Did one of the parties have a duty to preserve the missing evidence?

Third, devise an appropriate *remedy* (such as an adverse jury instruction). What remedies should be granted to the litigant disadvantaged by the missing evidence?

<sup>3</sup> A related question is about *would-be-relevance*: would the missing evidence if presented be relevant? This question, however, can be subsumed under the question of prejudice.

To illustrate how the legal framework functions, two examples drawn from the case law can be service:

**FIREARM:** Defendant is charged with illegal possession of firearm. The police legally searched the defendant's vehicle and found a firearm. The defendant had no permit. The police searches the rest of the car and finds a backpack, but does not retain all the items in the backpack: keys, pieces of paper, trash. The defense complains that the evidence is incomplete: information about the contents of the backpack is missing. In particular, defense argues that the keys could be exculpatory evidence: if they did not belong to the defendant, the backpack did not either, and neither did the firearm.<sup>4</sup>

Here the Court reasoned that the inferences that can be drawn from the missing evidence—say the missing keys—are 'wholly speculative' and thus the missing evidence is not prejudicial.<sup>5</sup>

<sup>4</sup> *Howard v. United States* - No. 18-CF-157 District of Columbia Court of Appeals.

<sup>5</sup> This conclusion seems sensible. It would be odd if any missing piece of information—given a broad enough interpretation—could alter the balance of the evidence and be prejudicial.

TARGET: An accident occurs at Target, a chain of department stores in the United States. The customer slips, falls and gets injured in a Target store because of a flatbed, possibly left unattended. The customer suffers serious injury and is transported to a hospital. The customer sues Target and seeks to recover damages. Video surveillance footage is only preserved in part. The rest is destroyed. It is impossible to reconstruct what happened before the incident. The plaintiff—the customer—seeks an adverse inference jury instruction against Target for failing to preserve the video.<sup>6</sup>

<sup>6</sup> Decker v. Target Corp, Case No. 1:16-cv-00171-JNP-BCW, Filed 10/10/2018.

## Reliability or Prejudice?

The question of prejudice should not be given undue importance. In particular, there is a worry about focusing on prejudice: even if the missing evidence is prejudicial—it can reasonably make a difference to the decision and turn the verdict around—its addition could lower the reliability of the decision-making process.<sup>7</sup> This claim can be illustrated with an example:<sup>8</sup>

Good, reliable evidence links the defendant to the crime scene in a murder case: a genetic and a fingerprint match. There is no evidence, however, about the defendant's whereabouts before or after the crime nor about who else visited the crime scene. Compare this case with one in which the same evidence is presented and—in addition—a neighbor testifies that another person visited the victim's house before the defendant did. This additional evidence, though relevant, has a low probative value compared to the other evidence. The neighbor is an elderly man whose memory has proven unreliable in other circumstances. The additional evidence would make the resulting body of evidence less reliable in tracking the facts of guilt or innocence than the genetic match and fingerprint evidence.<sup>9</sup>

The moral of this example can be stated in the form of a slogan:

"More Evidence Fewer Errors" Is False.

If the worry about prejudice is taken seriously, the question of reliability can be primary in deciding what to do with missing evidence:

**Reliability First:** If the missing evidence, once added to the existing body of evidence, would have lowered the accuracy of the decision—say because the missing evidence is, in an objective sense, misleading or with lower reliability—it should be disregarded. So, in cases of missing evidence, the question of reliability is primary. In procedural terms, absent any clear reason for thinking the missing evidence would enhance accuracy, the missing evidence should be disregarded; otherwise, it should be taken into account.

The alternative is to stick to the question of prejudice as primary:

<sup>7</sup> This is a challenge to the principle of total evidence. See, for example, Good, I. J. (1967). On the principle of total evidence. *British Journal for the Philosophy of Science*, 17(4), 319–321.

<sup>8</sup> This example is liberally inspired by Lee Johnson v. Jeff Premo (2021 Oregon App. Ct.), Marion County Circuit Court08C11553 - A159635.

<sup>9</sup> Suppose match evidence is 99% reliable, so  $Pr(M^+|G) = Pr(M^-|I) = .99$ . Testimonial evidence is only 51% reliable, so  $Pr(T^+|G) = Pr(T^-|I) = .51$ . Decisions based on  $M$  will be 99% reliable. Instead, decisions based on  $M \wedge T$  will be less reliable. For sensitivity will be much worse than 99%, that is,  $P(M^+ \wedge I^-|G) = .99 \times 0.51 \approx .5$  and specificity will be only slightly better than 99%, that is,  $P(M^- \wedge I^-|I) + P(M^+ \wedge I^-|I) + P(M^- \wedge I^+|G) \approx .995$ .

**Prejudice First:** A defendant may benefit from evidence even if it is misleading so long as the evidence, assessed on its face, appears to favor the defendant and tips the overall balance of evidence in their favor. This applies to all defendants. So, in cases of missing evidence, the question of prejudice is primary. In procedural terms, absent any clear reason for thinking the missing evidence would turn the verdict around (prejudice), the missing evidence should be disregarded; otherwise, it should be taken into account.

An argument in favor of Prejudice First is that evidence is routinely presented at trial which could be misleading or could lower the accuracy of the decision-making process. On the other hand, when evidence is actually presented in trial proceedings, it is subject to adversarial scrutiny. This process is intended to detect sources of unreliability in the evidence. But, missing evidence cannot be subject to adversarial testing:

A primary function of jury instructions, as well as the rules of procedure and evidence, is to confine the jury's attention to firsthand testimony . . . which may be probed on cross-examination, thereby excluding conjecture . . . The risk is always present that the jury will give undue weight to the presumed content of testimony not presented, and insufficient weight to that which was presented.<sup>10</sup>

<sup>10</sup> *Thomas v. United States*, 447 A.2d 52, 58 (D.C. 1982).

How can this problem be addressed? One option is to simply block any appeal to missing evidence since missing evidence cannot be tested via cross-examination. A less extreme option is to require that the missing evidence—despite not being testable via adversarial scrutiny—be shown to be reliable and likely to improve the reliability of the decision-making process. This is the rationale behind Reliability First. If this is right, the question of prejudice cannot stand alone and must also be weighed against considerations about the reliability-enhancing role of the missing evidence.