

The Telescoping Effect

Witnesses are constantly asked not only what happened but when: how long ago an event occurred, in what order a sequence of events unfolded, how recently a conversation took place, and how many times something happened within a stretch of time. The telescoping effect describes a systematic distortion in exactly these judgments. People misplace events in time in a predictable way, perceiving distant events as more recent than they were, which is called forward telescoping, and recent events as more remote than they were, which is called backward telescoping. The two are not symmetric. The crossover sits at roughly three years, and the net tendency runs forward, so events are, on balance, reported as having happened more recently than they did, and the count of events falling within a given period tends to be inflated. Because dating, sequencing, and frequency are routine subjects of testimony, this is a memory phenomenon with direct forensic consequences.

This paper explains what telescoping is, why dating errors take a systematic rather than random form, how the effect shows up in reports of frequency, age of onset, and the memories of children and older adults, and what all of this means for evaluating testimony that turns on time.

What the Effect Is

When researchers ask people to date real events whose true dates are known, the errors are large and orderly. In foundational studies, participants dating naturally occurring personal and public events misplaced them by months or years, and the displacement was not evenly balanced: recent events tended to be pushed back in time and older events pulled forward, with the forward pull dominating the overall pattern (Brown, Rips, & Shevell, 1985; Thompson, Skowronski, & Lee, 1988). The result is that a person's sense of when something happened is a reconstruction, subject to bias, rather than a stored timestamp read off the memory. The practical headline is the net forward bias: across many events and time frames, the tendency is to report things as more recent than they actually were.

Why Dating Errors Are Systematic

A common but mistaken intuition is that the past is simply "compressed," as though time uniformly shrinks in memory. Rubin and Baddeley (1989) showed that this is not what happens. The net forward bias emerges instead from the combination of several ordinary features of memory: recent events are retained better and so are more available to be reported; the error in dating any given event is roughly unbiased but grows larger the longer ago the event occurred; and when people search a defined time window, the intrusions, events mistakenly pulled into the window, can only come from outside it, and because no events have yet occurred in the future, the intrusions come disproportionately from the past. The forward bias is therefore a byproduct of how memory and dating work, not a special compression mechanism.

People also do not date events on an absolute scale; they place them relative to temporal landmarks, anchoring a memory to a move, a job change, a public event, or a round-numbered year (Janssen, Chessa, & Murre, 2006). This landmark-and-boundary process explains why date estimates cluster at salient markers and why events lacking distinctive temporal cues, especially routine or repeated occurrences, are the hardest to place and the most prone to error (Lee & Brown, 2004). The way a dating question is posed also shapes the size and direction of the bias, so the same witness may telescope more or less depending on how the question about time is framed (Prohaska, Brown, & Belli, 1998).

Frequency, Age of Onset, and Vulnerable Rememberers

Three further patterns matter for legal use. First, telescoping inflates frequency: when out-of-period events are mistakenly drawn into a target window, a witness over-reports how many times something happened within that span, a well-known problem in victimization and health surveys. Second, it biases reports of when a recurring behavior or condition began; forward telescoping displaces a past onset toward the present, systematically skewing reported ages of onset, as documented for the reported age of first cigarette use and similar milestones (Johnson & Schultz, 2005). Third, the effect is larger for some rememberers than others. Dating accuracy declines with age, so older witnesses tend to show greater dating error for the same events (Crawley & Pring, 2000), and children's dating of their own past experiences is also systematically biased and develops with age (Wang, Peterson, & Hou, 2010), a consideration of particular weight where a young witness is asked to date events in a case of alleged abuse.

Telescoping in the Courtroom

Telescoping bears on any testimony that fixes events in time, and its central lesson is that dating errors are expected and systematic rather than signs of dishonesty. A witness who places an event a year or two from its true date, who reports the order of two closely spaced events imperfectly, or whose count of how many times something occurred does not match an objective record may be displaying an ordinary, well-documented feature of memory rather than fabricating. This matters wherever timing is at issue: in reconciling a witness's account with an alibi or a documented timeline, in cases that turn on a statute of limitations or on the window within which an offense is charged, and in historic or childhood-abuse prosecutions where offenses are often pleaded across date ranges precisely because exact dating is unreliable. The phenomenon cuts in a definite direction, the net bias is forward, so distant events tend to be reported as more recent and frequencies within a window tend to be overstated, and it is partly correctable: anchoring a witness's recollection to verifiable landmarks, and bounding the period of inquiry, reduces the error, which is why structured victimization surveys use bounded interviews to limit telescoping. As elsewhere, the science is descriptive and even-handed: it explains why a dating discrepancy is to be expected and should be assessed against independent temporal evidence, not taken in itself as proof either of unreliability or of deceit.

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, telescoping explains why a sincere and accurate witness may nonetheless misdate events, misorder closely spaced incidents, or over-count occurrences within a period, and the prosecution is well positioned to forestall the inference that such dating discrepancies show fabrication or undermine the core account (Brown et al., 1985; Rubin & Baddeley, 1989). This is especially pertinent in historic and child-abuse cases, where exact dates are unreliable and offenses are often charged across ranges for that reason. The error to guard against runs the other way: because telescoping inflates frequency and pulls distant events toward the present, the State should be careful not to rest charges on precise dates or exact counts that the memory cannot reliably supply, and should anchor timing to verifiable landmarks and records rather than to the witness's

unaided sense of when or how often. The safeguard is to corroborate temporal claims and to frame dating questions in ways that reduce, rather than invite, telescoping error.

Special Issues for Defense

For the defense, telescoping bears on testimony whose force depends on when events happened, how they were sequenced, or how often they occurred. The defense is well positioned to show that a witness's dates, order of events, or frequency counts may be systematically displaced, that the net bias runs forward so that older events are reported as more recent, and that routine or repeated events and the accounts of very young or older witnesses are especially prone to error (Crawley & Pring, 2000; Wang et al., 2010). The corresponding error to guard against is overclaiming. Telescoping does not show that an event did not occur or that a witness is untruthful; it is a bias in placing events in time, not in whether they happened, and dating error is expected even in accurate witnesses. Responsible cross-examination and expert testimony should use the effect to test temporal claims against objective records and to explain why a dating discrepancy is unremarkable, not to argue that imperfect dating proves the underlying account false.

References

- Brown, N. R., Rips, L. J., & Shevell, S. K. (1985). The subjective dates of natural events in very-long-term memory. *Cognitive Psychology*, 17(2), 139–177. [https://doi.org/10.1016/0010-0285\(85\)90006-4](https://doi.org/10.1016/0010-0285(85)90006-4)
- Crawley, S. E., & Pring, L. (2000). When did Mrs Thatcher resign? The effects of ageing on the dating of public events. *Memory*, 8(2), 111–121. <https://doi.org/10.1080/096582100387650>
- Janssen, S. M. J., Chessa, A. G., & Murre, J. M. J. (2006). Memory for time: How people date events. *Memory & Cognition*, 34(1), 138–147. <https://doi.org/10.3758/BF03193393>
- Johnson, E. O., & Schultz, L. (2005). Forward telescoping bias in reported age of onset: An example from cigarette smoking. *International Journal of Methods in Psychiatric Research*, 14(3), 119–129. <https://doi.org/10.1002/mpr.2>
- Lee, P. J., & Brown, N. R. (2004). The role of guessing and boundaries on date estimation biases. *Psychonomic Bulletin & Review*, 11(4), 748–754. <https://doi.org/10.3758/BF03196630>
- Prohaska, V., Brown, N. R., & Belli, R. F. (1998). Forward telescoping: The question matters. *Memory*, 6(4), 455–465. <https://doi.org/10.1080/741942604>
- Rubin, D. C., & Baddeley, A. D. (1989). Telescoping is not time compression: A model of the dating of autobiographical events. *Memory & Cognition*, 17(6), 653–661. <https://doi.org/10.3758/BF03202626>
- Thompson, C. P., Skowronski, J. J., & Lee, D. J. (1988). Telescoping in dating naturally occurring events. *Memory & Cognition*, 16(5), 461–468. <https://doi.org/10.3758/BF03214227>
- Wang, Q., Peterson, C., & Hou, Y. (2010). Children dating childhood memories. *Memory*, 18(7), 754–762. <https://doi.org/10.1080/09658211.2010.508749>

Legal Authorities

- Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993).
- Frye v. United States, 293 F. 1013 (D.C. Cir. 1923).
- Kumho Tire Co. v. Carmichael, 526 U.S. 137 (1999).

Related topic papers: [Autobiographical Memory](#) · [Delayed Recall](#) · [Reconstruction and Recall](#) · [The Reminiscence Bump](#) · [Forgetting](#)