

The Peak-End Rule and Duration Neglect

How a person remembers and evaluates an extended experience is not a faithful sum of its moments. Two robust findings describe what the mind keeps instead. By the peak-end rule, the remembered quality of an episode is governed largely by two moments, its most intense point and its ending, rather than by the whole. By duration neglect, how long the experience lasted has surprisingly little influence on how it is later evaluated. Together they mean that a witness's or victim's retrospective summary of a prolonged ordeal can systematically diverge from the moment-by-moment reality, in patterned and predictable ways.

This paper explains the two principles, the experiments that established them, and their careful and limited application to testimony about prolonged or repeated experiences.

The Findings

The principles emerged from studies of remembered discomfort. Kahneman, Fredrickson, Schreiber, and Redelmeier (1993) found that people who endured a cold-water trial that was extended by a final period of slightly less intense discomfort remembered it as less unpleasant than a shorter trial that ended at peak discomfort, and preferred to repeat the longer one. In a medical setting, patients' retrospective ratings of painful procedures were predicted by the intensity of pain at its worst and at the end, not by how long the procedure lasted or its total amount of pain (Redelmeier & Kahneman, 1996), and a randomized trial confirmed that adding a gentler final period, thus more total discomfort but a better ending, improved patients' memories of the experience (Redelmeier, Katz, & Kahneman, 2003).

Peak, End, and the Neglect of Duration

The two ideas are distinct but linked. The peak-end rule holds that the remembered evaluation of an episode approximates an average of its most intense moment and its final moment. Duration neglect holds that the length of the episode contributes little to that remembered evaluation (Fredrickson & Kahneman, 1993). A long ordeal and a short one with the same peak and ending tend to be remembered as comparably bad, even though one contained far more total suffering. The mind summarizes an experience by representative moments rather than by adding up its duration.

Relevance for Testimony

This research bears on cases in which a witness or victim describes a prolonged or repeated experience, an assault, a confinement, a sustained course of mistreatment, and on any testimony about how long something lasted or how bad it was overall. Two implications follow. First, a person's retrospective characterization of the severity of an episode is shaped disproportionately by its worst moment and its ending, so a summary judgment may not track the full course of the experience. Second, retrospective estimates of duration are unreliable and may bear little relation to actual elapsed time, a point that converges with the broader literature on witness estimation. Both are reasons to treat global, after-the-fact evaluations of intensity and duration with care.

What the Effect Does Not Show

The peak-end rule and duration neglect concern how an experience is evaluated and how its duration is judged in retrospect; they say nothing about whether the experience occurred or about the accuracy of its concrete details. A victim's emphasis on the worst moment and the ending, or an imprecise sense of how long an event lasted, is an ordinary feature of memory for extended experiences and is not evidence that the account is exaggerated or fabricated. Equally, the effect does not license treating a measured or understated overall characterization as proof that an experience was mild throughout. The science describes the shape of remembered evaluation, leaving the facts to be established by other means.

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, these principles help explain why a victim recounting a prolonged ordeal may dwell on its worst moment and its ending and may estimate its duration imprecisely. The prosecution is well positioned to show that such a pattern is a normal feature of memory for extended experiences and does not indicate exaggeration, and that imprecision about how long an event lasted is expected rather than suspicious (Redelmeier & Kahneman, 1996). The error to guard against is resting a charge on a precise duration or a moment-by-moment totting up of an experience that retrospective memory does not reliably supply. The safeguard is to corroborate duration and sequence with independent evidence and to present the victim's evaluative memory for what it reliably reflects, the salience of peak and ending, rather than as a stopwatch.

Special Issues for Defense

For the defense, the research is relevant where a case depends on the claimed duration or overall severity of a prolonged experience. The defense is well positioned to show that retrospective evaluations are dominated by peak and end moments and that duration is poorly remembered, so a global characterization or a stated length may not match the actual course of events (Fredrickson & Kahneman, 1993). The corresponding error to guard against is overclaiming. These effects do not show that an account is false or that the underlying events did not occur; they describe how evaluations and durations are remembered. Responsible cross-examination and expert testimony should confine the point to the reliability of retrospective intensity and duration judgments, not extend it into an argument that the experience itself is fabricated.

References

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