Draft: Thoughts on the Implications of Narrative Thought on Planning and on ‘Cognitive Errors’

Lee Roy Beach

 When viewed from the outside, by a non-practitioner, scenario planning looks a lot like storytelling. Insofar as this is true, it might be profitable to pursue the analogy, to see if stories and storytelling have anything interesting to say about scenario planning. To do this, let us assume for the sake of argument that we humans think in stories that allow us to make sense of what is going on, how it follows from the past, and what it implies for the future. Consider, then, what the practical implications of this assumption:

* What might the benefits be of thinking this way?
* What constraints might thinking this way impose on how we interpret and absorb new information, on how we perform various cognitive tasks, or on how broadly or narrowly we conceive of the future?
* How might these benefits and constraints be leveraged to enhance productive thinking?
* How might leveraged thinking help in the anticipation of threats and opportunities that might otherwise have gone undetected?
* How might information best be presented to facilitate such thinking, to be most easily incorporated into it, and to most effectively improve understanding of it?

 Narrative is the formal name for a story we tell ourselves or others. It is composed of *elements*, which are real or imagined actors and events, where actors are animate beings or inanimate forces.[[1]](#footnote-1) Narratives are structured by the temporal/causal arrangement of the elements such that earlier actions and events represent the past and are the implied causes of currently experienced events, which are, in turn, the implied causes of future events. In short, the narrative is about how the past led up to the present and what this implies for the future. Insofar as this progression from past to future is internally and causally consistent, the narrative is *coherent*. A coherent narrative is plausible and believable. And, the future implied by a believable narrative is itself believable; i.e., we are more confident that it is what will actually happen.

 Referring to the first of the questions listed above, the primary benefits of narrative thinking are its capacity for giving meaning to the present by embedding it in a causally structured context and its capacity for providing a glimpse of the future as the causal implications of the past and present. This glimpse, usually a straightforward causal extrapolation, provides the opportunity to detect future *threats* and *opportunities*. This permits *intervention* to evade or reduce threats or prepare for exploitation of opportunities before the future arrives and damage is done or opportunities are lost. Here again, the narrative’s coherence is crucial. Because the implied future of a coherent narrative is believable, it means that detected threats are legitimate and warrant efforts to mitigate them.

 Threats and opportunities are defined by what the narrator considers to be a desirable state of affairs; how he or she, other people, and things in general should behave. In short, his or her *standards* for what is good and what is bad, consisting of both enduring values and transitory preferences. Thus, threats and opportunities are features of the implied future that, without intervention, are expected to fall short of the narrator’s standards but, with effort, could meet or exceed those standards.

 Referring to the second of the questions listed above, the constraints imposed by narrative thinking revolve around the key concepts are time and causality, the implied future, coherence, and standards. Each of these can be conceived of as responsible for observed cognitive barriers and biases in cognitive tasks, specifically scenario planning (e.g., Schoemaker 1993). We will use the lists provided by Bradfield (2008) and by Schirrmeister, Goring, & Warnke (2020).

Causality

* Representativeness, Availability, and Similar Biases related to statistical concepts: To the degree that the ‘correct’ answers to questions asked of untrained participants require knowledge of probability and statistics (e.g., sample size, distribution shape, sampling techniques), it is unclear whether the evidenced ‘biases’ represent faulty cognition, ignorance, or both. Similar errors occur when the questions are asked about physics (Barclay, Beach, & Braithwaite, 1971; Kubricht, Holyoak, & Lu, 2017). In both cases, probability and physics, the concepts and procedures used by researchers to derive the ‘correct’ answers are artificial, in the sense that they are not how untrained people normally think and the questions are not what they normally ask themselves or others. This does not mean that finding the boundaries of intuitive understanding is not valuable, it is. After all, both probability theory and physics, and all other sciences, result from humans’ collective appreciation of their limits and use of their ability to extend their thinking beyond its roots in causality. But, in all cases, the results are tools for expanding thinking and solving problems that otherwise are too challenging for normal, causal thought.

 In the case of probability, the flaw in not in how people normally think, it is in assuming that probability theory is how they *should* think and that their uncertainty is a form of probability. Uncertainty may have motivated the development of probability theory but the latter has left its origins far behind. Uncertainty may or may not have its own mathematics, and it sometimes resembles probability (Beach & Wise, 1969) but sometimes it does not. Thus, when untrained people asked to estimate the probability of something, they must rely upon whatever means they have to supply an answer—representativeness, availability, etc. It has been argued that these heuristics reflect efficient use of cognitive resources (Leider, et al., 2018) but is not altogether clear whether these means are routinely employed in the service of causal reasoning in the normal course of everyday lives. Perhaps they are, perhaps they are simply artifacts, ways of producing something to satisfy researchers’ questions.

 That said, whether or not an event is in a narrative causal chain, and the number of causal connections within that chain is key to immediate and delayed recall, ability to summarize events, and the judged importance of events (Black & Bern, 1981; Trabasso & van den Broek, 1985).

* Belief Bias, Overconfidence Bias, Fluency, End of History Bias, Belief Perseverance, and Experience Bias: Because our narrative is all we have to understand what is going on and what to expect, confidence in its plausibility is crucial to effective action to mitigate threats. This need for confidence and plausibility is reflected in the derived narratives used for communicating with other people. ‘Overconfidence’ is a judgment made by other people when their confidence in the expected future is less than ours.
* Causal Information Bias: Because causal information is congruent with the normal logic of narrative thought it is easily integrated into the base narrative.

Implied Future

* Extrapolation Bias: Because the future advances quickly, efficiency and speed recommend simple extrapolation of the narrative future so threats can be detected and mitigated before they happen. This is reflected in the greater ease of forward causal reasoning as compared to backward causal reasoning (e.g., Jungermann, ): the prompt for backward reasoning is disconfirming, surprising, information, which, as we shall see directly, lowers the coherence of the base narrative, requiring its revision to account for the surprise and to restore coherence.

Coherence

* Confirmation Bias: Because confirming information increases, or has the potential to increase, the base narrative’s coherence it is preferred to disconfirming information which does, or has the potential to do, the opposite.
* Hindsight Bias: To the degree that a newly experienced event is compatible with the prime narrative and can be included in the prime narrative without reducing its coherence, it is assumed to have been anticipatable, even if it was not.
* Ambiguity Aversion: Inclusion of ambiguous information in the prime narrative decreases its coherence, which is resisted.

Standards

* Bias toward Conformity to Social Hierarchy and/or to Majority Opinion: A judgment about the use of social standards for being part of a group and promoting group cohesion made by an outside observer who thinks such standards are unhelpful in the current circumstances.
* Taboo: Unwillingness to violate social standards for honoring tacit mutual agreement to avoid certain topics.
* Groupthink: Adherence to the structure and logic of the mutually agreed upon narrative about the problem at hand as informed by shared aspects of the group members’ personal narratives about the organization.

References

 To be added when this draft is developed further.

1. Note that elements are words, mental images, emotions, etc. that signify events in the internal and external environments. [↑](#footnote-ref-1)