

Hearing and Not Believing: The Strange Case of Hydraulic Fracturing*

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Abstract

This presentation analyzes the narratives that surround media responses to hydraulic fracturing and proposes explanations for the way in which the depictions of hydraulic fracturing are framed. Hydraulic fracturing, which can be considered a "Black Swan" event -- an event of extreme impact on society and ways of looking at the world, which was not expected, but, when reviewed in retrospect, seemed predictable, even unavoidable. An excellent way to understand the often highly emotional reactions is to use discourse analysis to identify different types and genres of narratives and the kinds of purposes they serve, and how they contribute to the meaning-making process.

As a "Black Swan" event, hydraulic fracturing is essentially a paradigm shifter, and the new technologies that make hydraulic fracturing possible are game-changing. Like many paradigm shifting game-changers, the first response is one of adoption, to be followed by narratives of resistance. For Americans, the responses accompanying hydraulic fracturing should be nothing new; after all, they are part of a long tradition of responses to new technologies, and they reflect anxieties about the essential dual nature of technology. While technology can be used for the good, there is also the potential for misuse and harm, along with unexpected consequences of the technology itself. These anxieties about technology have been described in many works of American art, literature, and philosophy. For some, technology is ultimately nihilistic and foregrounds the ultimate uselessness of human artifice, or it leads to the destruction of an idyllic vision of nature. In the case of the U.S., there is the notion of the Edenic paradise of the American West and the concept of self-reification and infinite promise represented by a boundless frontier. This narrative was heightened by the discovery of gold at the western edge of the North American Continent's rainbow (California's gold fields), and the dark side introduced stark depictions of machines and dangerous mining, manufacturing, and transportation technology in the 19th century. The anxieties and duality persist throughout the 20th century, reflected by any number of writers, including F. Scott Fitzgerald, Upton Sinclair, John Steinbeck, Robert M. Pirsig, Philip K. Dick, Thomas Pynchon, Kurt Vonnegut, David Foster Wallace, and more.

In the case of hydraulic fracturing, narrative can be classified in the following ways:

Apocalyptic narrative: largely fear driven, focusing on the end of the world due to the iniquity of humanity

Archetypal narratives: Jung, Neumann, Campbell -- the media employs archetypes such as the trickster (the oil company) and the hero (the activist) to portray the cast of characters involved in hydraulic fracturing.

Deconstructive philosophy: Foucault, Derrida, etc -- explains that reality is a construct and that social norms and rules are constructed by society and enforced formally and informally by the people in charge and the "powers" in society.

Gamer thinking: A desire to "game" rather than stay in reality, in order to create a sense of involvement, urgency, and to imbue one's life with "epic meaning" as they move toward the next level and potentially an "epic win"

Heuristics and Biases: An inability to see past one's biases (Daniel Kahnemann has explored this extensively in his Nobel prize-winning work).

The problem with narratives in hydraulic fracturing is that they often dominate the discourse and perception.

As a result, individuals may be caught in "narrative crossfire" as the media largely unconsciously attempts to cast individuals and events into a predetermined narrative trajectory, which can have the unfortunate effect of blocking the pursuit of objective reality and reasonable discussion.



Hearing and Not Believing

The Strange Case of Hydraulic Fracturing



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2012: “Black Swan” Has Landed: Narrative Responses to Hydraulic Fracturing

- Apocalyptic
 - Archetypal
 - Heuristics and Biases
 - Teleological (who is the puppetmaster?)
 - Postmodernist / PostMarxist responses
 - The Gamer mindset / epistemology
 - Global Coherence (conspiracy theories)
- **Unforeseen consequences of**
 - **Horizontal Drilling with Steerable Drillbits**
 - **Multi-stage Hydraulic fracturing**



New Game-Changing Technologies Blocked by Narratives of Resistance

- Anxieties about the nature of technological change
- Duality about the potential of technology is characteristic of the American mentality
- Expect flowerings of anxiety at each step-change in technological accomplishment
- Elting Morison: *From Know-How to Nowhere* – potentially nihilistic view
- Leo Marx: *The Machine in the Garden* – Edenic View of the American West potentially besmirched by the railroads
- F. Scott Fitzgerald: *The Great Gatsby* – promotion / hype / “rigged” games
- Thomas Pynchon: *Crying of Lot 49* – metaphors of slow decline (entropy)
- Philip K. Dick: short stories / narratives of agency (loss of agency – the machines eventually prevail)

Apocalyptic Narratives

- Fear-driven
- End times / utter destruction of the world
- “True Believers”
- A “messiah” provides “truth” (safety)
- Limbic / Reptilian Brain responses
- *Extreme craving for security and deliverance*
- **Countering the Fear**
 - Offer security – truth?
 - Share wisdom literature “truth” (science)
- Followers willing to follow to the end
- Leader can be delusional



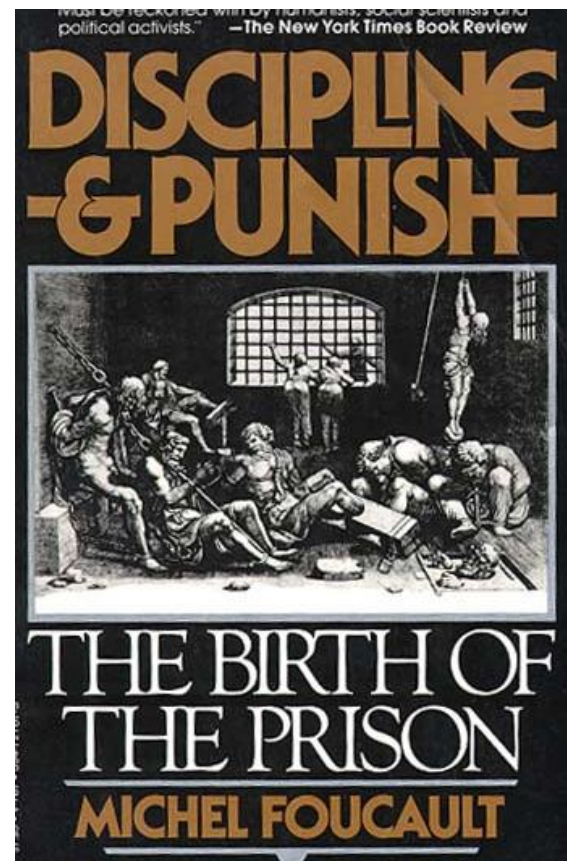
Archetypal Narratives

- Jung, Four Archetypes
 - Neumann, *The Great Mother and the Creative Unconscious* (archetypes of the feminine)
 - Campbell, *Hero of a Thousand Faces*
 - The Hero and the Anti-Hero
 - Child, Trickster, Warrior, Demon, Damsel in Distress, Martyr, Wise Man, Wise Woman, the Fool
- Bosch, *Garden of Earthly Delights*



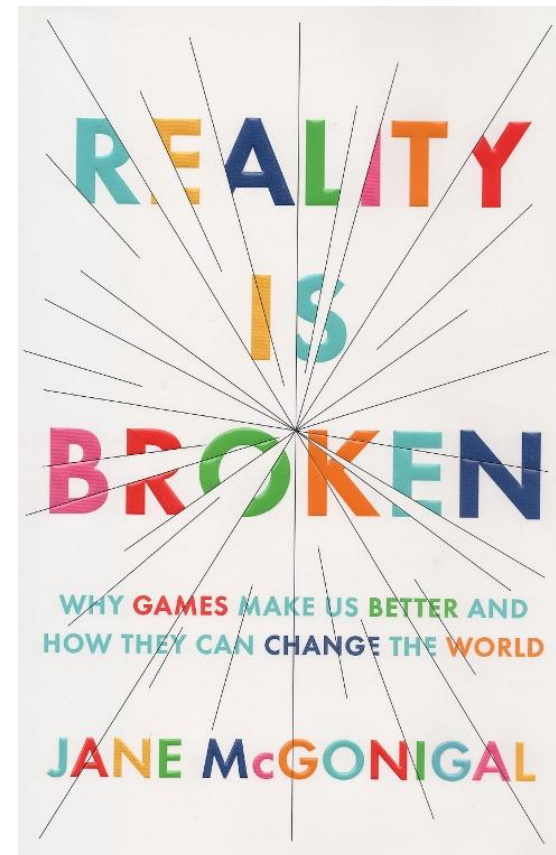
Legacy-Thinking: Deconstructive Philosophy

- Michel Foucault:
 - *Discourse, Power/Knowledge*
 - *Discipline & Punish*
- What is real?
- Who decides?
- How social norms are enforced, formally / informally
- Tools: Today's social networks?



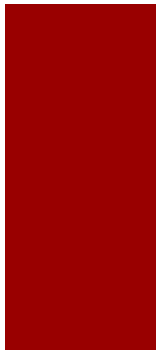
Gamer-Thinking

- Jane McGonigal
 - *Reality Is Broken*
 - Talks on TED
- Q: *What are Gamers Good At?*
- Urgent Optimism they are at the verge of an “epic” win
- Weaving Tight Social Network
- Blissful Productivity
- Epic Meaning



Heuristics and Biases?

Daniel Kahnemann, Nobel Prize winner's insights (also see *Thinking Fast & Slow*)



Bias	Debiasing Prescriptions
Confirmation bias	Seek out disconfirming evidence.
Overconfidence	Use a reference class of comparable prior deals to estimate synergies.
Underestimation of cultural differences	Do human due diligence.
Planning fallacy	Use reference-class forecasting to estimate the time and money needed for integration, and establish and update best practices.
Conflict of interest	Seek advice from objective experts.



Teleological Narrative: Who is the real puppetmaster? Caught in Narrative Crossfire

- Sage & Truth-Teller?
- Trickster?
- Assumptions of hidden agendas
- Puppet & puppetmaster?
- Crusader myths

Opportunity for “dirty tricks”
and negative campaigning
... Lee Atwater / Karl Rove
behind-the-scenes strategists



When narrative
invoked...Profound doubt
introduced...