

Water Argumentation for Multispecies Ethics in Quantum Storytelling

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Abstract

We are watery beings on a watery planet whose freshwater is running low because of global heating changes to the water cycle because of human activities. Freshwater supply is going to influence food and water security around the world. How can quantum storytelling contribute to mitigating this global problem? I propose that we need to develop a way of doing argumentation that brings Tamara-Land (Boje, 1995) from storytelling organizations (Boje, 2008) to planetary storytelling level of analysis. Stephen Toulmin's 'argumentation is explored as a way for grounding claims in the quantum realm of spacetime mattering of the global water crises. Following Donna Haraway (2016) 'multispecies storytelling' changes our ethic from humancentric water storytelling to multispecies water storytelling. I contribute a Toulmin's approach to 'True Storytelling' with grounds, initial claim, warrant, rebuttal, verifier, and qualifiers to arrive at final conclusion: a new water ethic is needed for Gaia. We need to return water to the public good, for all species to have life.

Key Words: Tamara-Land, Quantum Storytelling, Multispecies Storytelling, & Water Ethic

We are watery beings. We are not a body, but rather 37.2 trillion living cells, all craving water for life, and we are walking climate colony of cells, exchanging with the colonies of living cells in our environs at a quantum level. We are watery beings on a watery planet. Our watery planet has very little freshwater and an abundance of saltwater, and all this water is getting polluted. The whole water cycle is being transformed by climate change that is beginning to be relanguaged and restored as global heating.

My purpose is to sketch the 'self-correcting' approach to 'storytelling science' and develop several argumentation aspects for quantum storytelling (Boje, 2012; Boje, 2014). I draw upon Boje and Rosile's (*in review*) new book that develops 'self-correcting storytelling science' that has already been the method basis for six dissertations done or will be completed soon (Mark van der Klei, Sabrina Dadder, Mabel Sanchez, TK Thomas Kleiner, Jim Sibel, and Russ Barnes). *Self-correcting induction methodology* can be used in *storytelling conversations*, fieldwork studies, or in conducting experiments into *praxis*, and it can be used in conducting practice changes that create new *bets on the future*. In doing 'little s' 'storytelling science' it is not at all about a single or multiple cases, but rather doing 'self-correcting storytelling science,' in a series of 'abduction-induction-deduction' (A-I-D) cycles of self-correction inspired in the work of Charles Sanders Peirce, Hannah Arendt, Karl Popper, Henri Savall, and Jean-Paul Sartre. ***The point we are making in self-***

correcting storytelling conversation method is to write it down, write out the abductions-inductions-deductions as you go, do it Before, not post hoc, after-the-fact (Boje & Rosile *in review*, *boldness, ours*). The method is completely different from the usual semi-structured interviews, followed by a 'stack-and-bake' theme analysis of all the transcripts in order to take away a typology. Semi-structured interviews are forms of interrogation where the interviewer attempts a ridiculous non-bias, by keeping their own storytelling silent and secret. It is not really co-inquiry, not really a conversation that explores.

This presentation is in three parts, (I) what is self-correcting storytelling science, (II) how it applies to analyzing and intervening in global water crises, and (III) discussion of how self-correcting compares to other theories such as Fisher's 'Narrative Paradigm Theory' (NPT), and ending with role of self-correcting storytelling science in True Storytelling.

PART I: Towards a 'self-correcting storytelling science'

We (Boje & Rosile, *in review*) propose a way of doing a storytelling methodology called, "self-correcting induction" from the work of Charles Sanders Peirce (1933-1937, 5.58), which hereafter means Volume 5, section #580): "In an induction we enlarge our sample for the sake of the self-correcting effect of the induction." Just before (5.579) Peirce examples his enthusiasm, "So it appears that this marvelous self-correcting property of Reason, which Hegel made so much of, belongs to every sort of science, although it appears as essential intrinsic, and inevitable only the highest type of reasoning, which is induction."

This is a slide from a presentation in 2018 in New Zealand by Mark van der Klei.

Self-Correcting Inductive Research

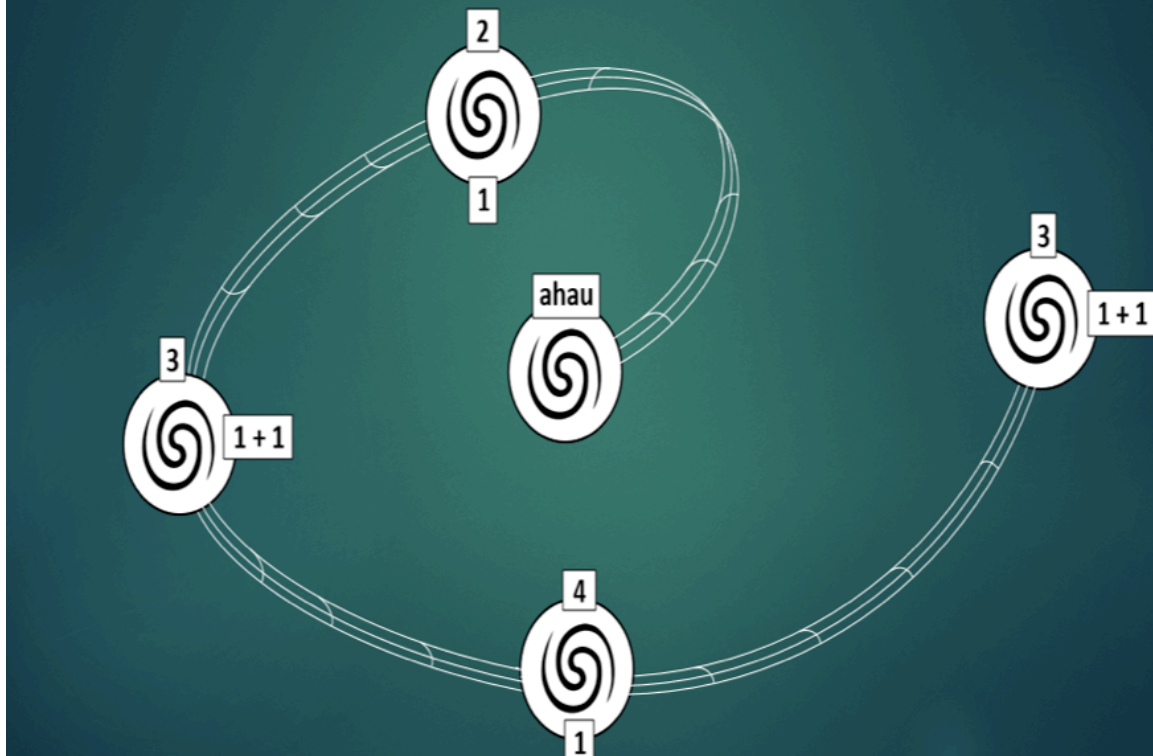


Figure 1: Slide by Mark van der Klei (used by permission)

The Māori word 'ahau' has no direct English translation. Close as I can come to it, it is "Me" or "I", doing soul-searching, and self-reflection before entering a storytelling conversation. This begins the first phase of storytelling conversation method of self-correcting sequence of encounters. In second phase, as depicted in van der Klei's research he had a conversational interview with two people on different occasions and sought out a refuting storytelling conversation one more person. In third phase, there were three persons he had storytelling conversations with, and began a refuting conversation with another person, who was joined by a colleague (1+1). In the fourth phase, four separate storytelling conversations with experts, and a refuting conversation with another person. In the fifth phase, three separate storytelling conversations with experts, and a person joined by another person (1+1) in a refuting conversation. Not shown is a final phase, in which Mark gets as many persons who care to come, together for a focus group conversation in which Mark shares the claims and conclusions, the verifications and refutations of the theory he developed in his study. In Maori culture, you don't do semi-structured interviews, rather you put your 'skin in the game' and do a back and forth storytelling.

Critics of the solutions proposed by the United Nations 'Intergovernmental Panel on Climate Change' (IPCC) and variants of Green New Deals (GNDs) are asking that we turn to Karl Popper.

“Serious’ proposals for resolving environmental issues leap over the (Karl) Popperian observation that any statistical outcome can be undone by redefining the variables, to avail themselves of the scientific stature of technological reasoning. This is to make the point that what is rigorous argumentation in one dimension is ignorant delusion in another. Lest this read as ‘anti-science,’ Popper was trying to save science with the observation.

Three of the four scenarios to keep the rise in global temperatures at or below 1.5 degrees Celsius presented by the IPCC in their [2018 paper](#) require ‘negative emissions’ technologies— methods of actively removing carbon from the atmosphere. Some of these, like reforestation, are superficially attractive to the environmentally inclined. The problems come both through the fine print and the focus on climate rather than the environment” (CounterPunch.com).¹

The ‘negative emissions’ technologies’ (NET’s) have mostly not been invented yet, and the few that are available, such as tree plantations, have (hidden cost) environmental impacts. Popper (1963) advocated a combination of conjectures (verifications) and refutations (attempts to falsify theories & propositions).

One of our Quantum Storytelling Conference frequent presenters is critical of Karl Popper (1935/1959/1992/2000’ Popper, 1963; Popper, 1972) for not dealing with auxiliary assumptions: Popper does falsification (refutation) to prove a theory (deduction) in reaction to its observations (inductive), but is missing the Auxiliary Assumptions (only testing some assumptions, while other assumptions go untested).

The good news for this conference is Popper (1956/1982) was working out the quantum theory implications for his work on logic of scientific discovery. A full review of Popper’s work is beyond the scope of this presentation. Some highlights will help. Popper (1956/1983: 20) had a humility for *fallibilism* of science, the road of discovery does not end. Popper believed, science can test out ideas from metaphysics. Peirce (1931/1960: vol. 6) is also focused on ‘*scientific metaphysics*’, and in vol. 5 (section # 587) includes quantum theory, “so that as far as purely inductive evidence is concerned we are very very far from being entitled to think that matter is absolutely permanent.” Popper (1956/1983) also questioned a realism approach to science. Peirce (1931/1960: 8.110) concerning the relation of science, mathematics, and metaphysics, says they share this reasoning by pre-conceived idea, that “never reaches any conclusion at all as to what is or is not true of the world of existences The metaphysician, on the other hand, is engaged in the investigation of matters of fact, and the only way to matters of fact is the way of

¹ CounterPunch.com “Sept 27, 2019
Climate Change and Technology” by Rob Urie, accessed Sep 29 2019 at <https://www.counterpunch.org/2019/09/27/climate-change-and-technology/>

experience”, and such is the ontological metaphysics of this American Pragmatist. Popper (1978) focused on different values of different world (communities). In his (1945/2008’ 1945/2012; 2008) work Popper sought an *Open Society* that would not repeat the errors of fascism in WWII.

Tests proposed by C.S. Peirce and Peirce are (1) critical reflections on theory (2) [conversational] interviews with others, (3) studying science about it, & (4) doing experiments, and using these to correct abductions, deductions, and what you do in induction. However, both do not adequately deal with Trafimow’s (2012) ‘auxiliary assumptions’ in what Peirce calls the abduction-induction-deduction (A-I-D) triadic, which is also advocated by Henri Savall and colleagues, in Socio-Economic Approach to Management (SEAM) (Boje, 2017b, 2018a, 2019b).

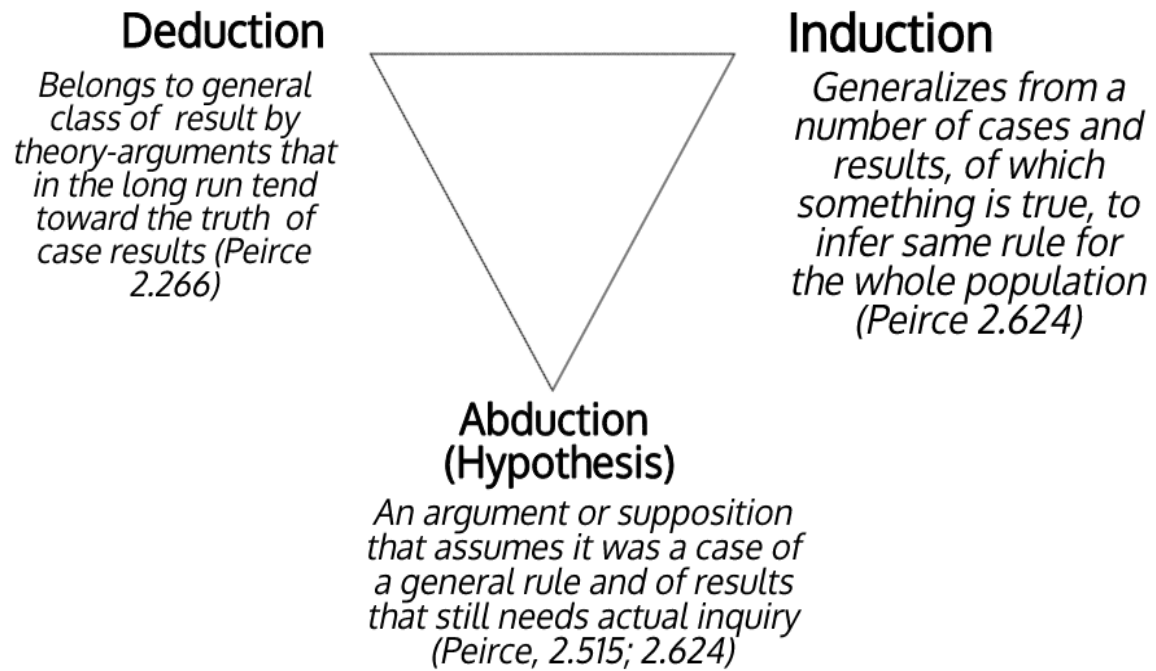


Figure 2: Abduction-Induction-Deduction Triadic of C.S. Peirce with annotated quotes for his writing (Key: 2 is volume number of 1931/1960 collection of Peirce’s writings, and the second number is section number)

Elsewhere, Peirce (1931/1960 2.729 pp. 455-456, boldness ours) adds, “**Nor must we lose sight of the constant tendency of the inductive process to correct itself.**”

We can apply David Trafimow’s (2012; Trafimow & Uhalt, *in press*) ‘Auxiliary Assumptions to’ Global Warming and Water Storytelling:

Theory (T) Human activities (p) cause Global Warming (q)

Observation (O) – planet warming up

Auxiliary Assumptions (As)

FALLACY OF AFFIRMING CONSEQUENT

Major Premise: $T \rightarrow O$ if capitalism, then global warming results

Minor Premise: O it is warming temperature
Conclusion: T is True: Its capitalism, of course

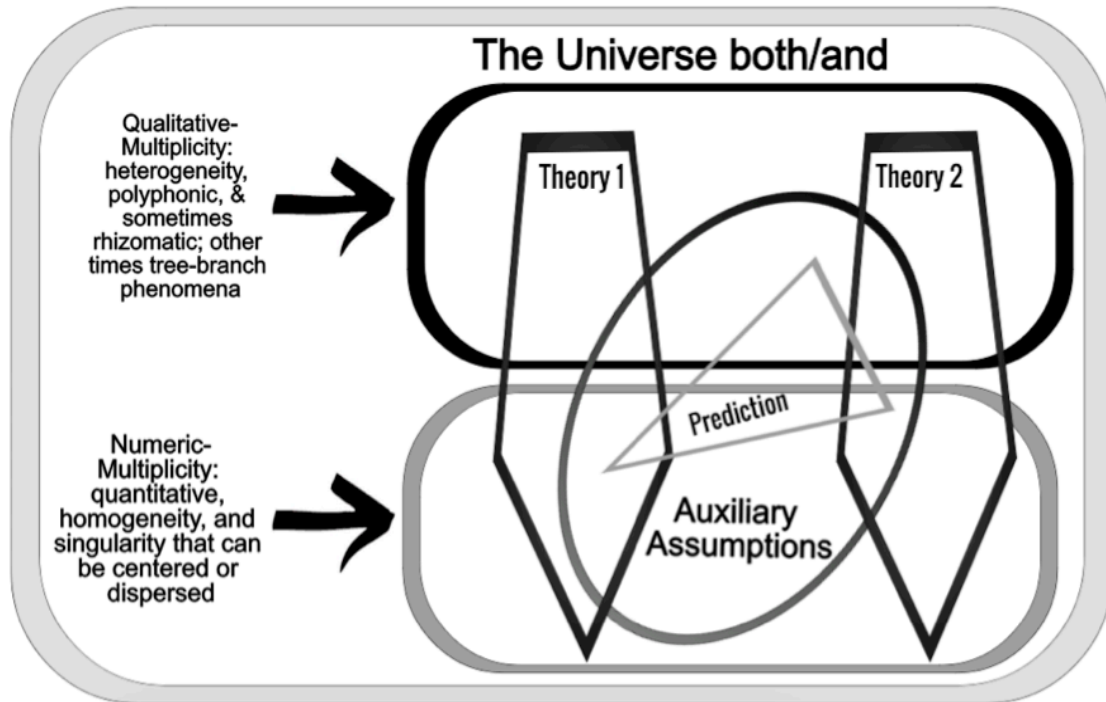


Figure 3: Rendition of Trafimow’s Auxiliary Assumptions in relation to Theory Development (Boje, 2019)

Auxiliary assumptions, according to Trafimow (2012), are selectively included in particular theories, and in the methods to test. I make the point that in the universe of both/and (both qualitative and numeric/quantitative) multiplicities, there are various theories (& predictions) each with their own assumptions, but do not tap all the possible assumptions. Therefore, self-correcting, phase by phase, can be done, to check them out, one or a few at a time.

Popper’s (1963: 318) trial-and-error method of science zigzag can be combined with Peirce’s self-correcting method, and Savall (& colleague’s) work on A-I-D triadic interventions that can be helpful in doing storytelling analysis and restoring transformation work. Popper (1972: 243) provides this theory:

$PS_1 \rightarrow TT_1 \rightarrow EE_1 \rightarrow PS_2$

- PS_1 = Problem situation, initial response
- TT_1 = Tentative theories (conjectures)
- EE_1 = Error elimination by testing
- PS_2 = Problem situation, theories surviving refutation process

Popper (1994) recommends we not treat theories by ‘The Myth of the Framework’. Popper

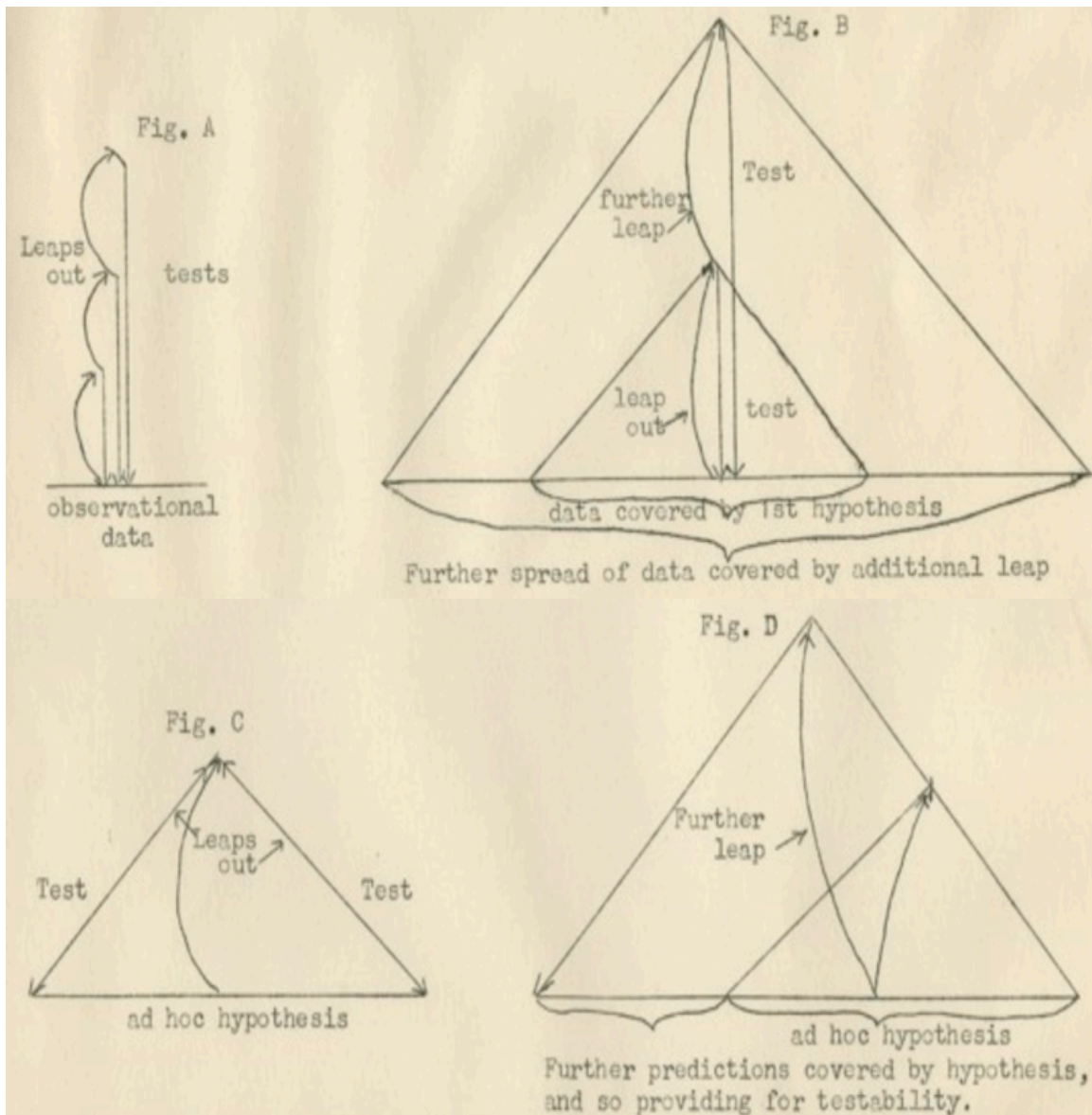


Figure 3: Sir Eccles notes on Karl Popper Lecture, New Zealand 1940

Above drawings are by Sir John Carew Eccles (1945) from notes he took on on Popper's 1940 Lectures on Principles of Scientific Method. Popper argues in a lecture in New Zealand given 1940, that zigzag piecemeal social experiments relying on the scientific method by an attitude of humility, fallibility, and a "readiness to learn form mistakes" and make "small experiments" by "a great number of piecemeal adjustments to the various parts" of "a great number of experiences is preferable to the leadership of the "megalomania tyrant" (Popper, 2008: p. 61). We find that Popper would agree with Peirce (1931/1960: 7.114) writing on 'scientific method' "It is the *post hoc ergo propter hoc* fallacy' by '*post hoc*' reducing Abduction (metaphysical guesses & hypotheses) to the Inductive (experiences & observed fact) and claiming Deductive to be universal that is the fallacy of inquiry.

PART II: How this applies to Water Storytelling (Boje, 2018b)

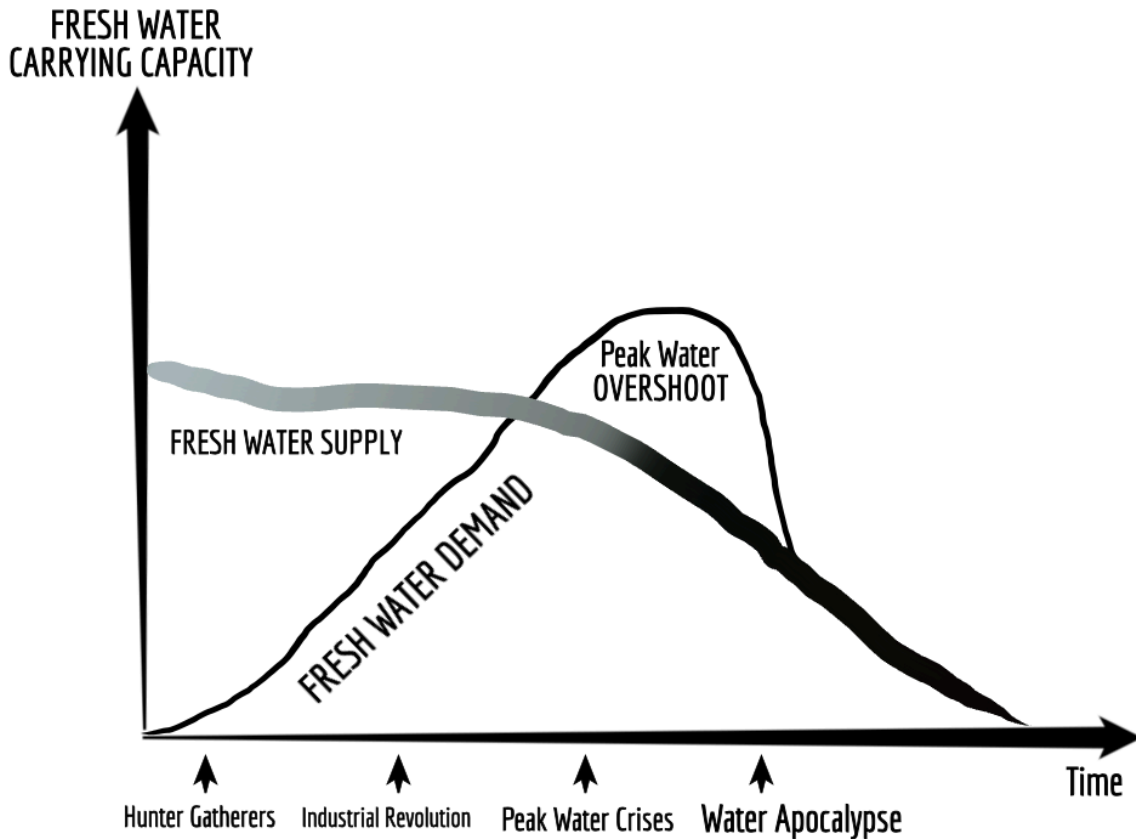


Figure 5: Peak Water Crises before Water Apocalypse

Kenneth and I (Boje & Mølbjerg-Jørgensen, 2018) have written about the peak water overshoot, how three peak water crises are unfolding, and without changes to environmentally responsible behavior will result in water apocalypse.

Climate scientists signed off on a 'second notice' warning humanity that the game is high risk (Ripple et al., 2017; Boje, 2019a, 2019c). President Trump is what Popper (1956/1983: 304) would call an "*inductive gambler*" cutting out water, air, and forest protections that are high risk [antenarrative] 'bets on the future.'

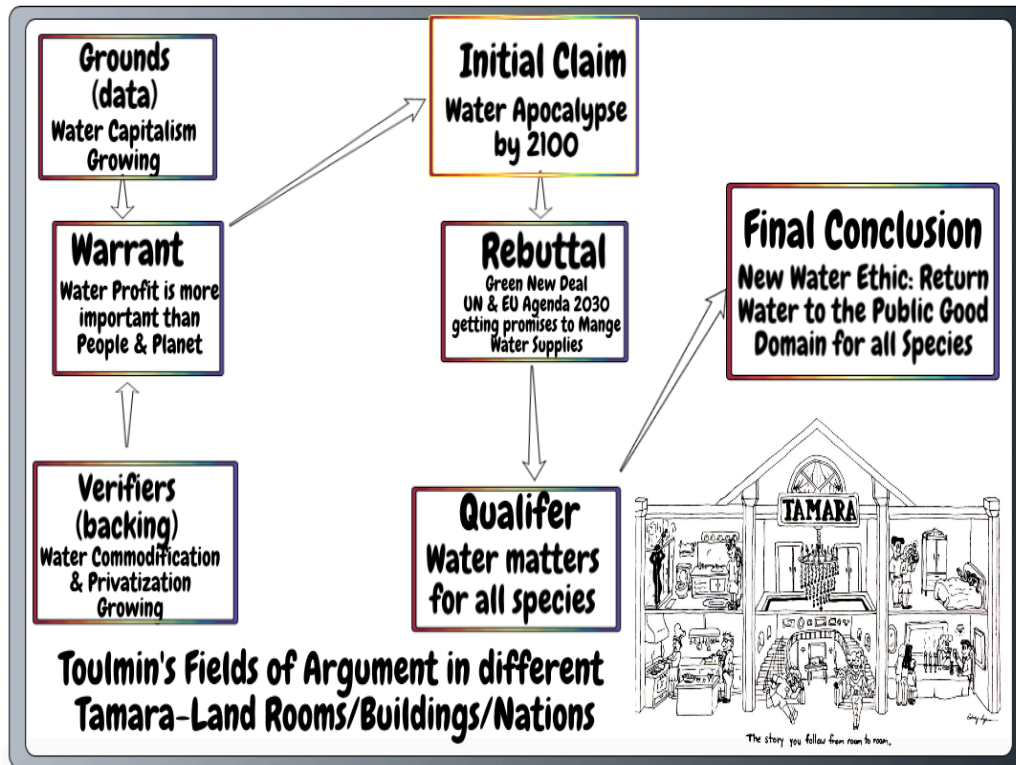


Figure 4: Argumentation in a Global Tamara-Land

The above figure is a way to integrate graphically a Tamara-Land (Boje, 1995) scaled to the level of global water capitalism (Boje, 2017a) that we are all within, and ways of doing argumentation based on Steven Toulmin's (1972) and colleagues work (Toulmin, Rieke, & Janik, 1980). We cannot escape capitalism approaches to the privatization and commodification of water, even if we have our own rainwater collection system, reuse it, use greywater, and so on. Every product and service of capitalism uses not just direct water, but the virtual water of energy, machines, supply chains, transport, etc. We have gone past peak oil, peak carbon, and now are past peak water, as it to becomes scarce and scarcer with global heating. My grounds: water capitalism is growing despite efforts by the United Nations sustainable development goals (SDGs) and the European Union's Agenda 2030 to keep average global temperature from eclipsing 1.5 degrees Celsius since the industrial revolution. The UN and EU initiatives around water, carbon, and temperature, to control desertification, deforestation, and so on, has been colonized by two corporate narratives of denial and delay: triple bottom line (3BL) and circular economy (CE) (Boje, 2016). The two are not independent or mutually exclusive. CE is a kind of 3BL logic, where continued capitalism growth is storied as possible by turning to technologies such as renewable energy for electricity, electric transport, carbon capture, and attempts to 'Reduce Emissions from Deforestation and Degradation' (REDD) have failed.

Discussion and Conclusions

How does 'self-correcting storytelling' method and theory compare to Walter Fisher's 'narrative paradigm theory' (NPT). If its no different, then we have some real problems. Walter Fisher's (NPT) has two tests of 'narrative rationality':²

1. **Probability** defined as people's inherent story listening skills (or competence in evaluating stories & storytellers). Is this True storytelling or some kind of make-believe fantasy?
2. **Fidelity** defined as story listener comparing and evaluating what they hear in someone else' storytelling against their own similar experiences and belief systems.

I have offered this critique in prior work (Boje, 2012b, 2015) which I will summarize:

1. '*homo narrens*' is a humancentric declaration that only humans are capable of storytelling. Donna Haraway (2016), by contrast, imagines 'multispecies storytelling' and William James (1907) how 'things tell stories.
2. Not all human-discourse follows NPT argumentative form. Fisher's reference to subtext of storyteller's and story listener's ways of deciding true and fake.
3. Ignores storyable and unstoryable events in storytelling (e.g. trauma).
4. There are different competencies of storytellers and different competencies of story listeners. Walter Benjamin says storytelling competences are coming to an end in modern capitalism
5. Fisher provided no specifics on how to make choices between true and fake storytelling probability or fidelity.
6. Finally, the storytelling logic of good reasons is inadequately developed because it fails to consider how values can be presented in storytelling arguments and once presented, the 'relative worth' of one (often unstated) value against another

To the extent that self-correcting storytelling science and its argumentation applying Toulmin's work, solves these six problems, it is a step forward. To the extent it incorporates Trafimow concern for auxiliary assumptions, it is a step beyond NPT.

But, does self-correcting get us to 'True Storytelling' (Boje, Larsen, & Bruun, 2017; Boje, Laren, & Bruun, *in press*, Boje, 2019b)?

² Fisher's (1984, 1985a & b, 1989). Slide is summary of Boje (2012, 2015)

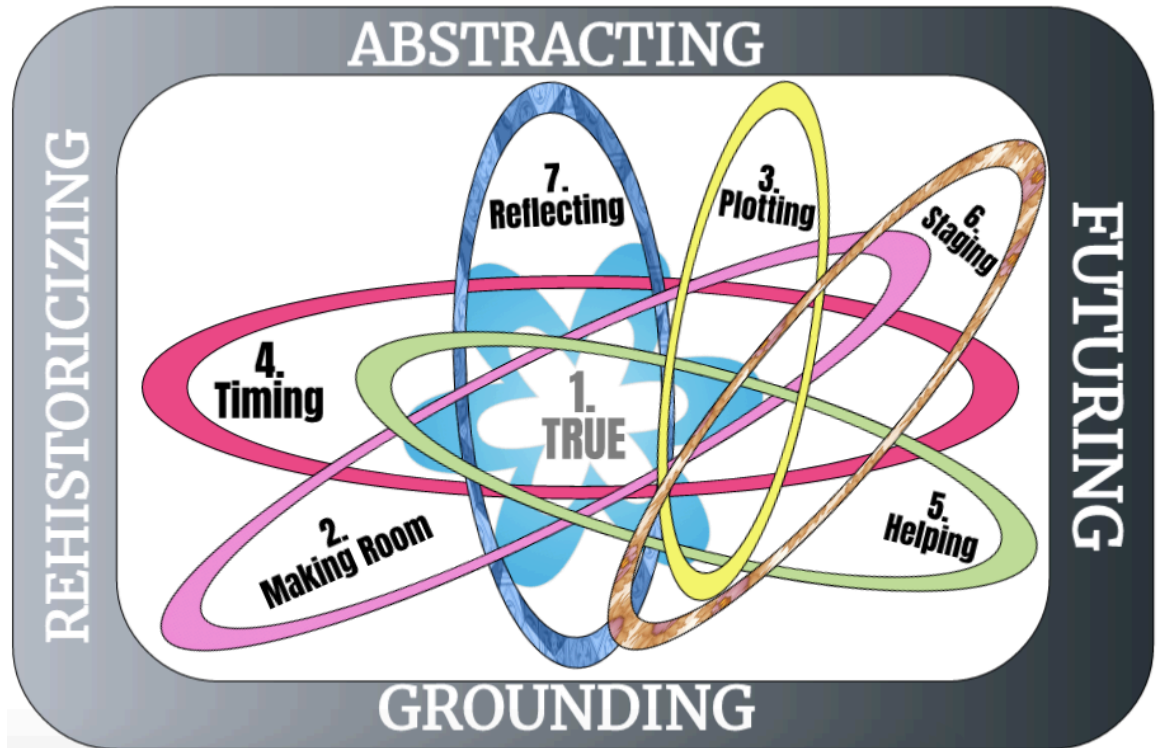


Figure 6: True Storytelling

Seven True Storytelling Principles

1. Truth: **You yourself must be true and prepare the energy and effort for a sustainable future**
2. Make room: **True storytelling makes spaces respecting the stories already there**
3. Plot: **You must create stories with a clear plot creating direction and help people prioritize**
4. Timing: **You must have timing**
5. Help stories along: **You must be able to help stories on their way and be open to experiment**
6. Staging: **You must consider staging including scenography and artifacts**
7. Reflection: **You must reflect on the stories and how they create value**

We (Boje, Larsen, & Brunn, 2017) developed the principles as a way to get communities of practitioners, closer to true storytelling, by refuting and deconstruction the fake storytelling of green washing, especially prevalent in the sustainability movement. True storytelling is an ethical position, a way of doing

dialogues among actors, including *Gaialogues*,³ to get to ways of making the situation better. While there is no absolute truth, there is an ontological real, in which water and carbon budgets are being not only overdrawn but continued rates of capitalism growth will lead to water and carbon bankruptcy. Unless we can turn to an ecologically and socially responsible capitalism (Boje, 2018a) or something beyond capitalism that actually lowers the output of carbon and conserves available freshwater for all species, not just the richest humans, our grandchildren will experience not only global heating, but an existential event, the water apocalypse (Boje, 2019c, *in review*).

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³ See for example, work by Boje, Larsen, and Molberg at Wiemar, European School of Governing EUSG Gaia Storytelling seminar 2020 April <https://davidboje.com/Gaia/GAIASTORYTELLINGFORGAIALEADERSHIPWEIMARVILLAI.html>

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