An Antenarrative Amendment to Learning Organization Theories to Avert Sixth Extinction

David M. Boje & Grace Ann Rosile

Abstract

We review learning organization approaches and find that they have been unable to curtail corporate practices of profiteering and depletion of natural resources that are bringing humanity closer to its own demise. Scientists are warning that unless later capitalist, consumerist, and productive practices rein in global capitalism, the current 6th Extinction Event will take its toll on humanity. We develop a version of antenarrative theory and praxis to cultivate a new learning organization approach that goes beyond work process management learning systems. Antenarrative has been defined as 'before-narrative' and 'bets on the future.' We are making a bet that a new form of learning organization is needed to cope with the consequences of Sixth Extinction. It is an antenarrative approach that builds upon ensemble leadership theory (ELT) in which 'everyone is a leader' answerable ethically for doing more than engaging in profiteering and consumptive practices that have major consequences for people and planet. Further, we propose incorporating ELT's collaborative methods of Ensemble Storytelling into this antenarrative amendment to learning organization theory and praxis. The traditional learning organization benchmarks and apparatuses of measurement have not prevented the current situation's potential threat to humanity's survival.

Introduction

Storytelling plays an active role in productive reflection practices and process of the 'learning organization.' Storytelling includes oral, textual, visual, and performance modalities of learning practices. Usually storytelling as narrative is a retrospective sensemaking practice. However, in the last few decades, attention has shifted to prospective practices of antenarrative (Weick 2012).

In particular, organizations increasingly recognize the relation between 'learning organization' and efficiency programs such as continuous improvement, knowledge creation, and organizational change efforts. What is less addressed is the role of corporations in driving nations, and consumers, into now exceeding what many scientists call "planetary boundaries" (Rockström, Steffen, Noone, Person, Chapin, & Lambin, 2009; Steffen, Richardson, Rockström, Cornell, Fetzer, Bennett, & Folke, 2015).

Planetary boundary scientists seek to influence globalization and its impact on climate change. In the view of these scientists, humanity is crossing planetary boundaries in ways that are contributive to risks of human extinction. They believe that the current scale of globalized production and consumption practices now exceeds planetary carrying capacity.

Despite several iterations of learning organization theory and practice, corporate and consumer practices continue to exceed planetary limitations. Such excesses reduce the biodiversity as well as the air, water, and soil quality necessary to sustain human life. Many social and natural scientists contend we are already well on our way to the sixth mass extinction event (Wake & Vredenburg, 2008; Barnosky, Matzke, Tomiya, Wogan, Swartz, Quental, & Mersey, 2011; Kolbert, 2014; Ceballos, Ehrlich, Barnosky, García, Pringle, & Palmer, 2015).

The purpose here is to situate learning in storytelling, and in particular, in antenarrative processes, so that some of the critiques of learning organization can be addressed. Antenarrative has been defined with a double meaning of 'ante'. One meaning of ante refers to "before." This refers to story fragments and structures which exist before-the-narrative, or before "the" story becomes recognized and reified as stable in people's minds. The second meaning of ante is in the context of a bet. Since antenarrative is before-the-narrative, it invites many "bets" on what that the future will be. Such bets on the future constitute prospective sensemaking, rather than the usual backward-looking retrospective-narrative-sensemaking.

More recently, antenarrative has been retheorized as a collective sociomaterial process that goes beyond rules, procedures, templates, and benchmarks typically associated with contemporary 'learning organization' approaches. Instead, prospective antenarrative processes and situations are the rhizomatic roots of what might become "the" story. In this way, antenarrative gives us a prospective, change-oriented vantage point on learning organizations.

We suggest such antenarrative learning is important to organizations, addressing a potential pitfall noted by Garvin: "In the absence of [antenarrative] learning, companies—and individuals—simply repeat old practices. Change remains cosmetic, and improvements are tighter, fortuitous, or short-lived: (Garvin, 1993: 2, bracketed addition, ours). At the opposite end from these too-narrow approaches, some scholarly treatments of learning organizations have been "referential and utopian filled with near mystical terminology" (Garvin, 1993: 2). Somewhere between these two extremes, March and Olsen's (1979) 'garbage can model' gave an understanding of learning organizations as people and problems in search of solutions.

Several learning organization approaches suggest a "democratic dialogue" methodology and a commitment to "situated learning" and "action learning" (Cressey, Boud & Docherty, 2006: 16). In this regard, the antenarrative storytelling approach offers an "ensemble" approach to storytelling. Ensemble Storytelling (Rosile & Boje, under review 2018) offers a methodology

for allowing participants collectively to intervene at the antenarrative level to prospectively author a preferred new story and thus foster change and learning.

Six main approaches PARAGRAPH DELETED. Several of the e purport a '

Brief Review of Learning Organization Approaches

Scholars seem to agree that organizational learning is a process that unfolds in space, over time, in ways that improve performance. Some focus on behavioral change, others on new ways of thinking, organizational routines, collective memory, self-serving hegemonic power and control, and some focus on information processing technologies.

It is beyond the scope of this paper to provide a comprehensive review of the history and development of this research. Instead, two researchers, Senge and Garvin, represent for us the most classic and enduring views of the "learning organization." We focus on their work as the background for our explanation of how antenarrative can make a meaningful contribution to the evolution and future development of this notion of "learning organization."

Peter Senge popularized learning organizations in his book, *The Fifth Discipline*. Senge called organizations places "where people continually expand their capacity to create the result they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together" (Senge, 1990: 1). Senge worked within the action research movement, and he used a dialogical approach to problem solving which involved both participants and consultative-practitioners. Learning organizations, for Senge have five component technologies:

- 1. systems thinking,
- 2. personal mastery,
- 3. mentals models,
- 4. shared vision, and
- 5. team learning

A second approach to learning organizations is by Ikujiro

Senge and those following his inspiring work on learning organization offer an approach that is idyllic and full of sweeping metaphors, suggesting grand narratives with progress themes and creative abstract notions. To some, a limitation was that such approaches were not answering pragmatic questions that would make learning organization a framework for grounded action that

improves performance. Managers and workers needed clearer guidelines for grounded practice, and tools for measuring an organization's rate and level of learning new and different practices (Garvin, 1993: 3).

Others (especially Nonaka 1991) focus more on knowledge management, emphasizing externalizing tacit knowledge from knowledge workers to the explicit knowledge system, and then other workers reinternalizing this knowledge. Garvin (1993: 3) incorporates Nonaka's (1991) views on knowledge work in his own approach: "A learning organization is an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights." This definition risks being a bit tautological: learning organizations learn and transfer new knowledge that modifies work behavior (or performance) due to the new knowledge. However, Garvin then suggests more specifics in his 5 building blocks for his approach. These building blocks address problem solving, experimentation, reflexivity, proposing models, and transferring knowledge. Each of these are discussed in more detail below.

- 1. Systematic problem solving processes are created such as Deming's Plan-Do-Check-Act cycles or hypothesis-generating and texting with scientific methodology accompanied by statistical tools such as histograms, Pareto charts, GANTT CHARTS, correlation, cause-and-effect diagram to organize data and raw inferences.
- 2. Experimentation with new approaches using the scientific method and incentive programs, in a series of small experiments designed to gain new knowledge, where people are trained to evaluate the results of experiments
- 3. Learning from their own experience and past history by reviewing and reflecting upon successes and failures (e.g. retrospective narrative inquiry), recording lessons otherwise as George Santayana says, "those who cannot remember the past are condemned to repeat it"
- 4. Learning from the experiences and best practices of others outside one's immediate environment to gain a new perspective to get past 'not invented here' syndrome. This can mean benchmarking to best industry practices. But how to do more than industrial tourism, in a series of ad hoc visits, is not well understood. It would require contextual inquiry into places, times, and mattering that has the sort of ontological sophistication that participants in learning organizations seldom seem to cultivate.
- 5. Transferring knowledge quickly and efficiently through the organization. This is done by oral, written, and visual (video) storytelling, or by more cumbersome ways: experiential tours, personnel rotation programs, and education and training programs (which rarely succeed in transferring skills back to the job world).

These dimensions are said to constitute a distinctive mind-set, tool kit, and pattern of behavior. To measure learning, Garvin's (1993) focus is on the learning curve, where cumulative

production costs, productivity volumes, profit margins, time to market, quality levels, customer service reactions, etc. are also measured along the experience curve.

Garvin's (1993) approach incorporates self-reflexivity, as developed by Argyris and Schön (1974) with their 'double loop' organizational learning approach This is especially useful to the reflective practitioner. However, Garvin appears to focus more on error experiences and positive (success) lessons to be drawn from learning in and for work. In contrast, Argyris and Schön (1974) focus on process and methodology of learning, how innovations occur, and how new knowledge is constituted. However, Garvin's approach appears not to go beyond the "reflexive modernization" ways of problem solving in the "social construction of knowledge and action" (Cressey, Boud, & Docherty, 2006: 19). Giddens (1990: 83) attempts to address this in his own dialogic model of "reflection-action-evaluation-reflection."

When learning organization is addressed from the perspective of the socio-technical systems movement, the focus has been on job design, teamwork, and employee commitment to problem-solving, and self-initiation. New organization forms, such as the matrix organization were supposed to integrate vertical with horizontal peer networks, where expertise was situated in relationships and communication in a radical shift of organizational learning for flexible production, quality circles, and information sharing, in exchange for employment stability (Thomson & McHugh, 1990; Hendry & Hope, 1994).

A problem exists in the above-described learning organization approaches. After all is said and done, each appears to have not much impacted the 'business-as-usual' status-quo. The learning seems contextualized within a socioeconomic hegemony that privileges profiteering.

As Cressey, Boud, and Docherty (2006: 22) put its "If all it does is address organizational problems, however, and does not nurture the group, it is probably inefficiently sustainability." But this can also be problematized as sustainability for whom, for how long, according to whose definition — and these are questions going unanswered. Just claiming the learning organization practices are enacted within a messy process that is complex and multifaceted does not address the 6th Extinction situation humanity now faces (Boje, *in press*).

Next, we turn to some relevant critiques of these learning organization approaches.

Critiques of the Learning Organization Movement

Peter Senge is one of the leading researchers on learning organization. Starting from the perspective of systems theory, Senge suggests that corporations have not taken a sufficiently broad perspective, because they have not encompassed the natural world. Senge (2011) notes that indigenous peoples like American Indians did not think of the natural world (plants, animals, and planet) as separate from human life. We agree with Senge, and we document some specific examples of indigenous world views as they apply to contemporary businesses in our book *Tribal Wisdom for Business Ethics* (Rosile 2016).

While Senge uses the lens of systems theory to explain euro-western capitalism's overlooking and/or neglect of the natural world, we interpret this absence as a result of how people tell the story of business. More specifically, we consider the antenarrative which underlies euro-western-capitalism's story of the natural environment. In this antenarrative, the natural environment is not a character in the story. It is not made up of co-existing life as important as the lives of humans, but rather, consists of "resources". The only value of these natural "resources" is in their ability to be used in the service of human lives. Further, humans are the only "intelligent" lives on the planet, and superior to all other life forms.

In contrast, in American Indian cultures, the earth is "Mother," to be respected as a source of both nourishment and also of wisdom. When author Rosile asked Kaylynn TwoTrees how, as an organizational consultant, she would recommend that we bring the natural world into corporate strategy discussions, she replied that there was "nothing to 'bring in'. It is already here....The trees are breathing us" (TwoTrees in Rosile 2014). This viewpoint shows a much deeper understanding of interdependency (as discussed also by Senge, cited elsewhere in this article) than most business-oriented environmentalists typically exhibit.

Antenarrative Aspects of Learning Organization

Antenarrative is like vessel, or the structure, which holds and shapes the story. To provide a better understanding of "antenarrative," we offer an example of the potential antenarrative processes and structures underlying some stories (models) of business.

Traditionally, capitalist antenarratives tend to be linear, with sequential cause-and-effect structures. Businesses take resources, transform them by "adding value," and then make a profit.

This antenarrative gives us a focused, "straightforward" storyline. Typically, such linear antenarratives preclude (or exclude) consideration of issues like environmental degradation.

If this antenarrative was cyclical, this story might include repeating the same cycle. If our cycle allowed for entropy or growth, then we have spirals. If our antenarrative was a downward spiral, this story might acknowledge depletion of resources resulting in higher costs or poorer quality of production. An upward spiral might tell the story of a market success where "green" products stimulate consumer demand for more and different "green" products.

Assemblage or rhizomatic antenarratives incorporate linear, cyclical, and spiral structures. Assemblage antenarratives accommodate complexity, intertextuality, and pluralism. If our business antenarrative was structured as a complex assemblage of rhizomatic networked structures, this story likely would consider the social impact of the labor practices used by the business, and the environmental impact, and the "seventh generation" implications, all as equally as relevant as the economic impact or "profit" of business organizations.

In the past, systems thinking has appeared reluctant to expand to environmental concerns (Whiteman, Walker, and Perego, 2013) and corporate social and environmental sustainability. In their review of learning organization theory and practice, Easterly-Smith and Araujo (1999) criticize such near-sightedness: "The notion that all forms of collective learning will necessarily encompass or be constrained by formal organizational boundaries is a shaky assumption" (p.17). These authors accurately predicted the need to expand the concept of learning organization beyond formal organizational boundaries. Senge and Scharmer (2008) transcend these formal boundaries with a collaborative community perspective on action research.

Bradbury-Huang, Lichtenstein, Carroll, and Senge (2010) note that prior to 2010, environmental sustainability was not identified as relevant to most corporate goals and strategies. Senge (2009) was one of the early pioneers of a broader perspective on business, seeing well before most, a down side of the globalization that many others thought was the answer to all problems. Senge (2011) calls the awareness of, and concern for, such global environmental issues a "profound shift" (Senge 2011 cited in Stead and Stead, 2014).

The results of this "shift" are apparent in Smith's (2012) special issue of The Learning Organization" on the topic of sustainability, and especially in Smith and Scharicz (2012). The focus on Triple Bottom Line (TBL, where the bottom line reflects people and profit as well as planet) accurately assessed the problems of measurement that plague TBL efforts. Overall, the

articles in this special issue address the need for better definitions and measures, longer-term strategies, and commitment to change rather than green-wash-type surface approaches to looking good to cover lack of true impact. We agree with these findings, and see our antenarrative storytelling perspective as filling a gap not addressed by TBL, and not completely addressed by learning organization researchers, to date.

In order to allow for the story of businesses to become a story of learning organizations that are interconnected (Senge's 2014 term is "interdependent") with society and the planet, our antenarrative structure must be a complex networked rhizomatic assemblage. Bradbury-Huang et al (2010) as well as Ortenblad and Koris (2014) recognize the need for collaboration within these trans-organizational networks or assemblages. Similarly, we suggest "ensemble" processes to enlist multiple voices in co-creating a story. Specifically, Ensemble Leadership Theory (Rosile, Boje, and Claw, 2018) and Ensemble Storytelling (Rosile, Boje, Herder, and Sanchez, in review) can foster the antenarratives which accommodate Senge's interconnected view of learning organizations. We find convergent validation for our ensemble approaches with the "System Leadership" concept of Senge, Hamilton, and Kania (2015).

Another neglected avenue for learning organizations to incorporate into their storytelling processes to go beyond formal organizational boundaries is economics and political economy.

What most of the above approaches to learning organization fail to consider is the how people's working lives are dominated by the reigning economic paradigm (neoliberalism profiteering). Managerial mechanisms of control prevent learning organization aspirants from moving out of the Post-Fordist market forces, that have morphed in the current wave of Liquid Modernity. While Post-Fordist forms of work and organization are more flexible than Fordist ones (e.g. flexible specialization, multi-skilling) organization learning is not able to evolve some new way of organizational learning (Piore & Sabel, 1984). Rather, globalization, in its several ways, sets the conditions of each new knowledge economy, and the context in which learning organizations are constituted, and in which skills, competencies, and work processes are valued.

The hegemonic discursive practices of neoliberalism, its self-serving 'progress narrative' that rationalizes profiteering in ways that oppress groups of people, prevent a learning organization from emerging that could feasibly address the planetary boundaries being exceeded in the 6th Extinction. For example, Smith, Boje, and Melendrez (2010) considered antenarrative

discursive practices in their study of the mortgage crisis. This financial crisis, which had global repercussions, is storied by some as being no one's "fault." Instead of following storylines of greed and profiteering, the financial collapse of 2008 is blamed on "toxic assets." The term "toxic assets" implies something similar to a public health crisis. When something is toxic, that is its nature. It is no one's fault. Further, like toxic waste, it is storied as a public problem which public agencies ought to fix. Storylines such as these imply that this problem is not the domain nor responsibility of private individuals (Smith, Boje, and Melendrez, 2010). Gephart (2016) supplies similar examples of hegemonic practices creating counter-narratives.

We have to ask what a biophysical approach to learning organization would look like. In our view it would include the Laws of Thermodynamics, about the *quantity* and *quality* of energy it takes for labor and capital in organizations to produce goods and services, and the 'reality' that organizations are embedded in an ecosystem. That said, organization learning seems to be relying on higher quantities of energy extraction from the ecosystem that is of lower and lower quality (such as difference between high quality oil and fracking oil).

Today 'learning organization' models have three fundamental biophysics flaws from the standpoint of natural sciences. Organizational learning occurs in the 'reality' of the material world, where its biophysical laws (e.g. thermodynamics, organizations embedded in ecosystems, etc.) matter (Hall et al., 2001). First flaw: the learning organization models are unrealistic because organizations are embedded in a biophysical world where context matters (Örtenblad 2015). Second flaw: the boundaries and limits of planetary capacity are real processes where energy inputs and what happens to waste are part of what organizations need to be learning. Third flaw: the basic assumptions of learning organization models are anthropocentric and focused on humans learning, or teams of humans, or organizations of humans (Senge 2011, 2014), and what is neglected is energy quantity and quality.

These three flaws in learning organization models ignore the challenges of solutions, energy conversion and how energy is being used for planned obsolescence (a strategy pioneered by Alfred P. Sloan). The increasing scarcity of quality natural raw materials being depleted at exponential rates, while waste accumulates in oceans, soil, an air, is happening faster than substitution of nonrenewable resources. This is especially true of energy and materials that are essentially ignored by learning organization models, which presume that technology and creativity of entrepreneurial behavior will be able to compensate for decreased quality of

available quantities of energy. In sum, the traditional learning organizational models do not include energy, and rely instead on a progress narrative of technological salvation from climate change, depletion of natural resources, and growing inequality of rich and poor (eight billionaires have accumulated half the wealth of the global economy). Sustaining the growth-at-all-costs model of "learning organization" ignores the quality of cheap energy that has long-term consequences, such as exceeding planetary limits (Rockström et al., 2009).

Need for an energy-based organizational learning model in what Hall and Klitgaard (2006) call the second half of the age of oil, points us in a useful theory building direction. Learning organization models routinely enable business-as-usual, rather than delivering promised visions of creative solutions. This is because organizations are embedded in material and energy ecologies that exhaust natural ecologies, decrease biodiversity, induce climate change at increasing rates, while engaged in denial for a need in the basic paradigm of learning organization models. Organizations need to learn about energy shortages, the impact of cheap quality energy has on production and consumption, and ever-increasing extraction costs (Hall & Klitgaard, 2006: 9). We need a new model of learning organization that is about nature's learning organization. The goal of such a model would be to waste nothing in the natural ecosystems, so that water and soil become healthy, instead of degraded. The same forces of the Laws of Thermodynamics of the natural ecosystem are entangled in organizational learning. However, the human-constructed learning organization systems have much larger energy requirements, and are now too dependent on "massive quantities of fossil fuels and energyintensive materials, which in turn generate enormous 'ecological footprints' on the rest of the world" (Hall & Klitgaard, 2006: 8-9).

Towards an Antenarrative alternative to Energy-less Learning Organization approaches

Antenarrative processes that are counter-hegemonic, have the potential to create new ways of noticing the importance of energy to the 6th Extinction, the planetary boundaries, and to develop instead a 'learning organization' that can rein in current waves of globalization rooted in profiteering that is harmful to people and planet. Otherwise, in the 6th Extinction the planet will survive, but with so few species, the survival of humanity is doubtful.

To create corporate 'learning organizations' for an environmentally just society must begin by understanding the totalizing power of current hegemonic regimes. Only then can a new learning organization approach emerge that has ethical and moral agency sufficient to 'downsize' globalization, its greed profiteering, and growth mania, and quell the gluttony of consumerism.

The second step is to develop apparatuses such as counter accounts, hidden costs, and qualimetric forms of evaluation that can be the basis of a new learning organization praxis (defined as theory plus methodology in action) that can possibly address planetary boundaries being transgressed by the current wave of globalization (i.e. Post-Fordism morphed into Liquid Modernity).

In keeping with an antenarrative approach to critical discourse, we propose to cultivate fourth wave Grounded Theory (GT) to go beyond the inductive falacy, post-positivism, and limits of social constructivism (ignoring & marginalizing materiality) that is in GT's first three waves (Boje, *in press*).

In sum, we find the current approaches to learning organization sufficiently mired in the hegemonic forces of so called 'free market' neoliberal capitalism, and its 'profiteering ethic' (as Friedman puts it, 'the business of business is business') — that there is no way to reform them. We therefore set out to develop an antenarrative praxis rooted in critical discourse theory and 4th wave GT theory ontologies as a way to deal with what Fairclough (2010: 7) calls the "identification of further possibilities for righting or mitigating them."

We believe a combination of antenarrative processes, measures of counter accounts, hidden costs, and qualimetrics, restated in an ensemble learning theory, can be transformative. Such a combination has the potential to create counter-hegemonic projects that have the moral dimension and ethical answerability to be an alternative form of learning organization to the ones reviewed.

- 1. Antenarrative is defined as processes 'before' the narratives of progress which are privileged in the reviewed approaches to learning organization. It includes 'bets on the future' that are not limited to retrospective (backward looking) sensemaking narrative approaches, also prevalent in most of the received learning organization approaches, that can addresses the powerful forces of the capitalist market economy. In retrospective sensemaking narratives, corporations have managed to image themselves as strategically 'good' and 'responsible' learning organizations that are leaders in sustainability and environmental responsibilities. If this was a 'true' storytelling, then would we be transgressing planetary boundaries, and using 1.6 planetary resources to sustain current rates of production and consumption?
- 2. Counter accounts could be developed in a new learning organization approach to counter self-serving, hegemonic, and privileged positions. Counter accounts pierce the hypocrisy

and facades of greenwashing in sustainability reporting methods of self-reporting, prevalent in corporate social responsibility practices. Counter accounts has liberatory and emancipatory potential by creating alternative representations of learning organization practices that has transformative potential because contradictions are surfaced, latent interests become discussable.

- 3. Hidden costs is used in (energy-less) socioeconomic approach to management in order to peer beneath the typical accounting and information system information handed over to decision makers. It seems evident that corporate accounting and information systems are not fulfilling the needs of our times to address climate change, planetary boundaries, not the plight of people in a globalization economy that amasses more and more wealth in the hands of a few billionaires.
- 4. Qualimetrics is defined as interactivity of financial, quantitative, and qualitative ways of knowing-doing-being. It does not dualize qualitative from quantitative and financial performance measures.
- 5. Ensemble leadership theory (ELT) is defined as 'we are all leaders' rather than top-down, or distributive leadership by a few executives (Rosile, Boje, & Claw, 2018). ELT can enhance and become a collective learning organization understanding of how to deploy counter accounts, hidden costs analytics, and qualimetric.

Taken together, antenarrative, counter accounts, hidden costs, qualimetrics, and ELT has the potential to achieve large-scale socioeconomic changes in learning organization. Such changes are necessary in order to achieve "together learning" for addressing problems of the present hegemonic order. In this way, a more pluralistic debate, co-inquiry, and collaborative action can enable emancipatory and liberatory potential. These collaborative together-processes are needed to counter hegemonic corporate narratives, and to problematize its corporate-dominated learning organization approach. These processes may offer a deeper moral and ethical answerability than what typically would be available within institutional governance regimes.

Antenarrating with counter accounts, hidden cost analysis, and qualimetrics, together with an ELT approach, has the potential to create a more holistic storytelling. This inclusive storytelling has a better chance of avoiding the consequences of the 'business as usual' organizational learning processes with their corporate-centric focus on learning, analytic, and governance arrangements.

Antenarrative rooted in critical discourse analytic approach, tilts learning organization toward the "misfortune of distant 'others" (Vinnari & Laine, 2017: 5). Antenarrative work combines critical discourse with a poststructuralist interest in effects of power on discursive formations that are relevant to learning organization approaches turning out to be 'good' or 'bad' for planet and people. Further, recent renditions of antenarrative process theory are about

socimateriality, how materiality is in Barad's (2003, 2007) terms, an intra-activity of materiality *with* [critical] discourse, in an ethics of posthumanistm (defined as non-human centric). In her ethics-onto-epistemology there is no separation between person and environment, or between ethics, ontology, and epistemology. Early versions of antenarrative were not sociomaterial, but did address critical discourse (Boje & Rosile, 2004) and poststructuralist methods and theory (Boje, 2001, 2008, 2011).

Antenarrative is a multi-modality turn in storytelling, moving beyond spoken and textual, and beyond dramaturgical modes into sociomateriality. There are several ways for antenarrative to achieve this. We suggest, as a start, Rosile, Boje, Herder, and Sanchez' (2019, in review) Ensemble Storytelling processes. These processes foster inclusionary, co-created, and rhizomatic/assemblage antenarratives. Rosile et al identify 7 Ensemble Storytelling processes can be applied to 'learning organization processes', as follows.

- 1. **Together-Telling** allows multiple voices to be involved in telling the story. This is part of the communicative and relational processes that can constitute learning organization.
- 2. **Materiality** considers the material conditions and the natural world as agential in the story. As such, it constitutes the substantive (mattering) aspects of a learning organization.
- 3. **Economics** considers broader, more egalitarian distributions of who pays and who benefits in the wider context of learning organizations.
- 4. **Worker-to-Worker Processes** reduces emphasis on the formal hierarchy, opening up lateral and bottom-up aspects of learning organization processes.
- 5. **Elicitation** means soliciting stories from multiple actors, each speaking for themselves, so that the learning organization operates in polyphonic ways.
- 6. **Authorship** provides the opportunity for multiple actors to be the "author-ities" in the learning organization.
- 7. **Theatrical Performances** avoids the domination of the written text in learning organizations. Instead, the organization is seen as a 'TamaraLand' of people chasing storylines in dynamic interactivity networks, rather than static learning structures.

Finally, we acknowledge and applaud the work of Learning Organization researchers incorporating sustainability and global environmental concerns in their approaches. We further appreciate the trend towards community-based, collaborative efforts as the means to most effectively enact a story that transcends corporate walls. We hope our antenarrative perspective, together with Ensemble Leadership and Ensemble Storytelling, are helpful in extending these trends in the Learning Organization field.

References

- Argyris, C. and Schön, D.A. (1974) Theory in Practice: Increasing Professional Effectiveness, San Francisco: Jossey-Bass.
- Bradbury-Huang, H., Lichtenstein, B., Carroll, J.S., Senge, P.M. (2010). "Relational Space and Learning Experiments: The Heart of Sustainability Collaborations" in William A. Pasmore, Abraham B. (Rami) Shani, Richward W. Woodman (ed.) Research in Organizational Change and Development, Emerald Publishing Ltd., Vol 18, pp. 109-148.
- Barnosky, A. D., Matzke, N., Tomiya, S., Wogan, G. O., Swartz, B., Quental, T. B., ... & Mersey, B. (2011). Has the Earth's sixth mass extinction already arrived? *Nature*, 471(7336), 51.
- Boje, David M. (*in press*). *Storytelling in the Global Age: There is No Planet B.* Singapore: World Scientific Publishing Co. Pte. Ltd.
- Ceballos, G., Ehrlich, P. R., Barnosky, A. D., García, A., Pringle, R. M., & Palmer, T. M. (2015). Accelerated modern human–induced species losses: Entering the sixth mass extinction. *Science advances*, *1*(5), e1400253.
- Cressey, P., Boud, D., & Docherty, P. (2006). The emergence of productive reflection. *Productive reflection at work*. Pp. 11-26 in Boud, D., Cressey, P. and Docherty, P. (EDs.). Productive Reflection at Work: Learning for Changing Organizations. London: Routledge.
- Easterby-Smith, M., and Araujo, L. (1999). "Organizational Learning: Current Debates and Opportunities" in Easterby-Smith, M., Burgoyne, J., and Araujo, L. (eds). Organizational Learning and the Learning Organization: Developments in Theory and Practice. London: Sage, pp. 1-18.
- Garvey, B., Tyfield, D., & Mello, L. F. (2015). 'Meet the New Boss... Same as the Old boss?' Technology, toil and tension in the agrofuel frontier. *New Technology, Work and Employment*, 30(2), 79-94.
- Garvin, D. A. (1993). *Building a learning organization* (Vol. 71, No. 4, pp. 78-91). July-August: Harvard Business Review.
- Gephart Jr., R.P. (2016). "Counter-narration with numbers: understanding the interplay of words and numerals in fiscal storytelling." Journal of Cross-Cultural Competence and Management, Vol 4, Issue 1, pp.
- Giddens, A. (1990) The Consequences of Modernity, Stanford, CA: Stanford University Press.

- Hall, C., & Klitgaard, K. (2006). The need for a new, biophysical-based paradigm in economics for the second half of the age of oil. *International Journal of Transdisciplinary Research*, I(1), 4-22.
- Hall, Charles AS, and Kent A. Klitgaard. (2011). *Energy and the Wealth of Nations*. NY: Springer.
- Hall, C., Lindenberger, D., Kümmel, R., Kroeger, T., & Eichhorn, W. (2001). The Need to Reintegrate the Natural Sciences with Economics. *AIBS Bulletin*, *51*(8), 663-673. Accessed Oct 4, 2018 at https://academic.oup.com/bioscience/article/51/8/663/220626
- Hendry, J. and Hope, V. (1004) 'Cultural Change and Competitive Performance', European Management Journal, 12, 4, 401–6.
- Kolbert, E. (2014). The sixth extinction: An unnatural history. A&C Black.
- March, J. and Olsen, J. (1979) Ambiguity and choice in organizations, Oslo: Universitetsforlaget.
- Nonaka, Ikujiro. (1991). The Knowledge-Creating Company. Harvard Business Review, November-December. P. 97-xxxx.
- Örtenblad, A. (2007). Senge's Many Faces: Problem or Opportunity? The Learning Organization, 14:2, pp. 108-122.
- Örtenblad, A., and Koris, R. (2014). Is the learning organization idea relevant to higher education institutions? A literature review and a "multi-stakeholder contingency approach." International Journal of Education Management, 28:2, pp. 173-214.
- Örtenblad, A. (2015). "Towards increased relevance: context-adapted models of the learning organization." The Learning Organization, 22:3, pp. 163-181.
- Piore, M.J. and Sabel, C.F. (1984) The second industrial divide: possibilities for prosperity, New York: Basic Books.
- Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F. S., & Lambin, E. W. et al. (2009). Planetary boundaries: exploring the safe operating space for humanity. *Ecology and Society*, *14*(2), 32.
- Rosile, G. A., M Boje, D., & Claw, C. M. (2018). Ensemble leadership theory: Collectivist, relational, and heterarchical roots from indigenous contexts. *Leadership*, 14(3), pp. 307-328. 1742715016652933.
- Rosile, G. A. (ed.) (2016) Tribal Wisdom for Business Ethics. Bingley, UK: Emerald Group Publishing Limited
- Schön, D.A. (1983) The Reflective Practitioner, London: Temple Smith.

- Senge, P.M. (1990) The Fifth Discipline. The Art and Practice of the Learning Organization, New York: Doubleday.
- Senge, P.M., and Scharmer, C.O. (2008). Community Action Research: Learning as a Community of Practitioners, Consultants, and Researchers.
- Senge, P.M., Smith, B., Kruschwitz, N., laur, J., Schley, S. (2008). The Necessary Revolution: How Individuals and Organizations are Working Together to Create a Sustainable World.
- Senge, P.M. (2009). "The Necessary Revolution: How We Got Into This Predicament"
- Senge, P.M. (2011) cited in Stead, J.G., and Stead, W.E. (2014). Sustainable Strategic Management. Taylor and Francis.
- Senge, P.M. (2014). "Systems Thinking for a Better World" Keynote Speech at Systems Analysis Laboratory 30 Years Anniversary Seminar, Aalto University, Finland, Dec 15, 2014. Youtube. https://www.youtube.com/watch?v=0QtQqZ6Q5-o downloaded Jan. 7, 2019, 6:35pm.
- Senge, P.M., Hamilton, H., Kania, J. (2015). The Dawn of System Leadership. Stanford Social Innovation Review, Winter 2015, Leland Stanford Jr. University, pp. 25-33.
- Smith, P.A.C. (2012). "The Importance of Organizational Learning for Organizational Sustainability" in The Learning Organization, 19:1, pp. 4-10.
- Smith, P.A.C. and Sharicz, C. (2012). "The Shift Needed for Sustainability" in The Learning Organization, 18:1, pp. 73-86.
- Smith, W., Boje, D.M., and Melendres, K. (2010) "The financial crisis and mark-to-market accounting; An analysis of cascading media rhetoric and storytelling", Qualitative Research in Accounting and Management, Vol. 7, Issue 3, pp. 281-303.
- Steffen, W., Richardson, K., Rockström, J., Cornell, S. E., Fetzer, I., Bennett, E. M., ... & Folke, C. (2015). Planetary boundaries: Guiding human development on a changing planet. *Science*, *347*(6223), 1259855.
- TwoTrees, K. (2014) in filmed interview in G.A. Rosile film "Tribal Wisdom for Business Ethics" produced with the support of the New Mexico State University and the Daniels Fund Ethics Initiative, available on youtube and at
- Wake, D. B., & Vredenburg, V. T. (2008). Are we in the midst of the sixth mass extinction? A view from the world of amphibians. *Proceedings of the National Academy of Sciences*, 105(Supplement 1), 11466-11473.
- Weick, K.E. (2012). Organized Sensemaking: A Commentary on Processes of Interpretive Work.

Human Relations, 85(1), pp. 141-153. https://doi.org/10.1177/0018726711424235

Whiteman, G., Walker, B., and Perego, P. "Planetary Boundaries: Ecological Foundations for Corporate Sustainability." Journal of Management