***Why I study critical materialist posthumanist storytelling?***

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**Abstract**

Like many of you, I started studying storytelling all caught up in the duality of epistemology and post-positivism. Bob Dennehy started out sharing our grandfather’s stories at a Storytelling Conferences, only to learn there were no notes allowed, not even a PowerPoint to show our pictures (Bøje & Dennehy, 1993/2008). I saw storytelling as both a way of knowing and being used as an in-place metering device, a way to answer (post) positivist questions. I had no idea of the in-between, the borderland, or what lies beyond that duality, where I believe my work now is emplaced and embodied in a critical ontologic pragmatic and posthumanist storytelling.  This presentation will take the audience on a journey through changes in my ways of researching storytelling from human-centric to posthumanist. I will describe what is known widely as ‘critical materialism’ and connect it to some storytelling interventions I am doing, with veterans and stress/suicide, restorying and mindfulness meditation practices, and with sustainability and EcoSacred. You may have noticed I am changing my name for Boje to Bøje. This is because I am working on something called intergenerational soul healing. It is also a mode of ‘critical materialism.’

**Introduction**

As I approach 67, I am more aware that I would like my research to mean something, to change the material world of organizations, to be a path of living story ‘aliveness,’ as Jo Tyler calls it (Tyler, 2010, 2011; Tyler & Bøje, 2009). Or, its dance of living story web of complexity and self-organizing as Ken Baskin calls it (Bøje & Baskin, 2010).

Besides autoethnography of my own living story journey as a storytelling theorist and practitioner, my presentation raises problems with Donald Schön 's (1983) *The Reflective Practitioner.*  Like my earlier work, it is also caught up in this same gap between epistemic and post-positivistic.  For example, the book starts off saying reflective praxis is an epistemology, end of story (ibid, p. vii). Then Schön (1983: 65) wanders into a single sentence reference to John Dewey (1938) that is explained in a footnote:

“The language here is borrowed from John Dewey. In his *Logic: The Theory of* Inquiry, Dewey proposed that problems are constructed from situations of indeterminacy, problematic situations, that we apprehend through the experience of worry, trouble, or doubt” (Schön, 1983: footnote 38, p. 357).

Schön is without awareness that some ten years earlier, Dewey (1929) had left post-positivist experimentalism, and took theory in action into the ontological Dewey after reading Heisenberg's (1927) quantum mechanics’ *Principle of Indeterminacy*. Dewey did not want to take a by-stander observer position on reflective praxis. For Dewey there was no separation of theory and action, and in his reading of the observer effect, there were material consequences of observation itself. In short, his position was a critical (ethics) ontology, the obligation to intervene in social, education, and late in his career he wrote about what he had been lecturing about for decades, how laissez faire capitalism threatened democracy.

Schön's book also travels into 'appreciative systems inquiry,' which I see as a precursor to the social constructivism and relativistic human-centric postmodernism (e.g. Gergen) we all know now, as *Appreciative Inquiry* (AI).  The appreciative practitioner is doing what he calls the “new reflection-in-action” and “the process spirals through stages of appreciation, action, and reappreciation” (Schön, 1983: 132). Schön’s discussion of storytelling is positivistic in an experimenter’s way and epistemic in a human-centric relativistic way:

“Storytelling represents and substitutes for firsthand experience. By his selective questions and acts of attention, the Supervisor shapes the experienced situations to which he will address interpretive inquiry…. Once a story has been told, it can be held as a datum, considered at leisure for its meanings and its relationships with other stories… Some stories can be ignored, or reduced to mere outlines, while others are expanded and elaborated…. By attending to a few features which he considers central, the Supervisor can isolate the main thread of a story from the surrounding factors which he chooses to consider as noise…. And by putting term to his questioning on attention, he can set the boundaries of the universe of date which will serve as material for his experiments in interpretation… Trying now one interpretation, now another, he can make his experimental moves reversible and design his own learning sequence” (Ibid, p. 160).

Schon was more about William James psychological pragmatism than later work of John Dewey that turned to quantum pragmatism (Bøje, in press). Reducing story to datum is entirely positivist disembodiment. How strange in a book on reflexivity? I do like the part where Schön the post-positivist (p. 132) says, “The practitioner conducts an experiment in reframing the problematic situation” and “Reflection-in-actin is a kind of experimenting” since ‘problem solving’ is specifically forbidden by Cooperrider’s AI, for committing the sin of ‘deficit discourse’ (Cooperrider & Srivastva, 1984; Cooperrider, Sorenson, Whitney, & Yaeger, 2000; Gergen, 1994; Ludema, 2001). As Lars would say, there is not Problem Based Learning in AI. In AI, not only problem solving is a deficit discourse, but also all of Critical Theory and Deconstruction and all embodiment, since that is a materialism taboo to Gergen appreciative postmodern social constructionism and exorcism of deficit discourse.

According to Cooperrider (2001), there are six “Vocabularies *of Deficit Discourse”:*

1. Professional Vocabularies of Deficit
2. Bureaucratic Disenchantment

**Original Sins:**

1. Critical Theory
2. Deconstruction
3. Critical-Cynical Media”

Notice that ‘Critical Theory’ and ‘Deconstruction’ are list along with ‘Original Sin.’

Why do I study ontologic storytelling? Because when I was on my journey, like many others, I was caught up in the duality between epistemology and post-positivism. I have come to the turn in my journey into critical ontological pragmatism. It is a political position, where not only do I have observer effect in-action I intervene in political and socioeconomic ways. I choose my research topics, sites, and ontologic places in a posthumanist ontology that does not erase embodiment.

There is an underside to the posthumanist materialisms that become ‘disembodied’ affirmative agents of progress post-corporeal cyber technology, the subalternity of the global economy (Uzel, 2013; Fusco, 1994, 2001). For example, in the posthumanist metanarrative, we find American capitalism’s invisible “workers in low-wage countries on whose bodies the economic reality of hyperbolic posthumanism is played out” at Foxconn, making those i-devices for Apple (Uzel, 2013: 153).

**Living Stories and Material Storytelling -** Work by my colleagues in material storytelling (Bøje, Jørgensen, & Strand; Strand, 2011, 2012) is very relevant here. My work on living stories (Bøje, 2001, 2005, 2006, 2007, 2008a, 2008b, 2009, 2011, 2012a, 2012d, 2012f) continued to apply Twotrees ideas of place, time, and mind. And I have delved more widely into Native American scholar's writing, in particular to ways in which living story is a materiality of survivance (Bøje, Jørgensen, & Strand, expected 2013, citing from our article next):

Stories connote a special sense of materiality, what Vizenor (1998: 15) calls "transmotion' defined as "that sense of native motion and an active presence, [that] is sui generis sovereignty" and "a reciprocal use of nature, not a monotheistic, territorial sovereignty." The transmotion of ledger art is a creative connection to the motion of horses depicted in winter counts and heraldic hide paintings" (p. 179).

What do these choices say about me researcher, as a person? I began my writing career lost in the *epistemic****-****(post) positivist* struggle. I then got lost in social constructivist positions on storytelling. I am now doing work in what is call the ‘new critical pragmatic materialisms.’ And I am once again lost in posthumanist materialisms. The ‘new materialisms is the new turn, a move away from ‘old materialism’ of Newtonian physics, and its entrenchment in organizations as mechanistic and even organic systems theory. The ‘new materialisms’ are explained in the work of Jackson and Mazzei (2012), how the Baradians are doing their rendition of Deleuzian ontology (e.g. Deleuze, 1994; Deleuze & Guattari, 1987). In Deleuzian ontology there are rhizomes crossing rhizomes, such as the opposition of smooth space and striating space crossing through one another, changing one another. Barad’s (2007, 2010, 2013) epistemic-ontology of *spacetimemattering* is part of the ‘new critical materialisms,’ a growing literature being applied to managing and organizing processes (Coole & Frost, 2010; Jackson & Mazzei, 2012; Carlile, Nicolini‬, Langley‬, & Tsoukas, 2013).

Where am I headed? Instead of retiring altogether, I just retired from the *Academy of Management*. In a recent book (in press), I wrote, “Contemporary critical new materialisms seem to me, to avoid the whole realm of ‘*quantum spiri*t’ in Tamara-land, reducing vitalism to something between Bergson *élan vital* or the Deleuzian rhizome of self-organizing vitalism of assemblage forces of open systems thinking.” I am headed deep into quantum posthumanist metaphysics, leaving post-positivism, and epistemic narrative representationalism far behind. What is this quantum spirit in Tamara-land? If it is quantum in the sense of Barad (2010), it is a spirit that haunts Bohr’s Principle of Complementarity and Heisenberg’s Principle of Indeterminism.

Patrice Haynes (2012: 3) says her "non-reductive” “critical materialism" calls for a project "concerned with recovering the concept of transcendence" that rejects the "traditional opposition" of matter and spirit, yet retains a critical exploration in a "renewed materialism."   I am resisting the transcendence, headed instead of pagan spiritual ecology, the dwelling of spirits, their specters and apparitions in Tamara-land of organizational storytelling. She and Deborah Cook (2006) are calling for an Adorno ‘new critical materialism.’ Haynes does have a direction I applaud: a new critical materialism crossed with critical pragmatic storytelling, all headed back to forgotten lessons from Critical Theory, to Adorno-Horkheimer-pragmatism (Adorno, 1973; Adorno & Horkheimer, 1955/1997). Their ‘critical materialism’ is a dialectical relation between epistemology and ontology’ different than Barad’s (2007), which Haynes says mirrors the relation between subject and object" in a critical ethical "critique of modernity" for its "disenchantment of the world by instrumental reason" in "capitalist system of exchange" (Haynes, 2012: 128-9).  I suppose that is where I am headed. The indigenous exemplars of spiritual ecologies, such as Cajete (2000), have yet to make dramatic changes in Western consumerist capitalism.  You could say I am headed into the premodern, into spiritual ecology, emplaced spirits, some quite toxic, other delightful, haunting organizations. I am becoming animist.

I would like to provide some examples of where my reflective practitioner and reflective critical pragmatist research is headed these days.

1. **The Leviathan of institutions** working on stress after military service. It is straight out of Thomas Hobbes. It is Diane Coole that we have to thank for this ‘new materialism.’ This is a critical materialism project that continues my quest to reform the military. As many of you know I am a Vietnam veteran. As an organizational scholar, I am sensitized to the ways the pharmaceutical industry is profiting form the Life Time Disorder Label, PTSD. Somehow US society, its medical establishment has bought into the name game, naming post-deployment stress a Disorder. The government funders on university research that is making matters worse spend millions of dollars. Yet there are 22 veteran suicides a day, which is 8,030 a year, and 56,210 in seven years, which is more than we lost in combat during that period. This is of course an undercount, because many people are checking out by running their lives in ways that insure their premature death. What is most relevant to organizational scholars, is the rate of suicide is increasing, and one possible reason is the medication approach, the labeling stress, anxiety, a Life Time Disorder, as Gerald W. Vest, professor emeritus of NMSU calls it. The Life Time Disorder labeling is making it all the more profitable for the meds industry, but a tragic loss of life to the world. A related critical organizational assessment concerns the junk science associated with the Diagnostic and Statistical Manual of Mental Disorders (DSM). Wait till you hear what Jillian Saylors has to say about DSM, at the end of this conference. There are scores of empirical studies challenging the validity and reliability of the DSM PTSD, PSD, and anxiety protocols. Yet, they continue to be in widespread use in hospitals, VA, the military at large. The problem is a Leviathan of institutions that are increasing rates of suicides, and then blaming the victims of these meds, and DSM industries (see <http://peaceaware.com/ptsd>).
2. My sense is the living story is an aliveness (Jo Tyler) that is being overshadowed, crowded out of awareness-domination of the grand narratives of macho-soldier, medication-only path to health, tough it out and never seek help, and the permanent Lifetime Disorder Label (PTSD) as Professor Gerald W. Vest calls it. The restorying process is a super powerful approach to healing when combined with the Psychocalisthenics exercises Gerry Vest and/or the Vipassana meditation that Febna Caven is doing here in Las Cruces, New Mexico (see <http://peaceaware.com>).
3. On Wednesday, April 9 2014 I am going to what journalist Diane Sawyer calls, ‘One of The Most Dangerous School in America. I am working as a volunteer board member on Krisha Coppedge’s ***KMC Empowering Educational Corporation*** located in Philadelphia. I work with the Grants Committee, finding and help writing grants to finance several interventions. This is a school that, I believe, in my opinion, prepares students for prison.
* [ **6:00**](https://www.youtube.com/watch?v=I9gT_Nc41s4)

### [One of the Most Dangerous Schools in America](https://www.youtube.com/watch?v=I9gT_Nc41s4) by [ABC News](https://www.youtube.com/channel/UCBi2mrWuNuyYy4gbM6fU18Q); Diane Sawyer looks at the courage and struggle to educate students under dangerous circumstances.

* [ **7:32**](https://www.youtube.com/watch?v=NS9eg0jqpfo)

### [At Strawberry Mansion High, There's Fear, Hope - Video - ABC News](https://www.youtube.com/watch?v=NS9eg0jqpfo); Diane Sawyer spent months inside one of the country's most dangerous schools. At Strawberry Mansion High, There's Fear, Hope ...

* [ **4:16**](https://www.youtube.com/watch?v=4Hm29CFognE)

### [Hidden America: Diane Sawyer Revisits a School at Risk School Called Strawberry Mansion High](https://www.youtube.com/watch?v=4Hm29CFognE) by [ABC News](https://www.youtube.com/channel/UCBi2mrWuNuyYy4gbM6fU18Q)

1. My other critical pragmatist-materialism project is to ‘Greening the Curriculum’ of my university (see <http://peaceaware.com/sustainability>). In terms of critical materialism, I want a kind of storytelling that places sustainability in a EcoSacred context, a project Jack Appleton and I started recently (see <http://ecosacred.net>). “*We live in an enchanted world. When we absent the sacred, we disenchanted that world and wind up with all the woes of climate change, the death of species, and so forth. Let us act intelligently, with a heart-of-care for the Eco-Sacred*” (from our website).
2. I am changing my name to Bøje. I am half Danish and half Scottish. I would like to get in touch with my pre-Christian, more tribal side. That means, I want to understand Being-Viking, and Being-Druid (Picts). The Dane and Scot in me were, once upon a time, tribal, in the Iron Age (about 500 to 1000 B.C.E.). The reason I study this is in the living story on line study guide (see <http://peaceaware.com/Boje/What%20is%20Living%20Story.htm>). I will close with a quote from that website.

“Living story has a place, a time, and a quantum-materiality (see definitions that follow). My place: David M. Bøje is half-Danish and half-Scottish, and resonates with those places. My time is primordial from womb to tomb, across 7 plus 7 generations of Bøjes, a crossing of Viking on my Danish side with Druid on my Scottish side, courses through my veins. My living story of Self, is inter-generational, extending at least back seven generations, and a future arriving from at least seven more generations. There are many kinds of materiality. My Self is an energy Being, in a world of energies, within a Milky Way of energies, in a universe of energies. Not only is my Living Story entangled in places and times of generations, there are currents and vortices of energy that entangle me intergenerationally, and cross-culturally. For example, it is not just Danish and Scottish that I integrate.”

“After immigrating from Europe, both sides of the family married into Native American tribes. And the rest of the family wrote them out of the history books. The microstoria (Boje, 2001), the ways those Native American Bøjes resisted the grand narratives (manifest destiny, Euro-American colonialism, western capitalism, etc.) has a 7+7 intergenerational soul wounding on the Bøje settlers (Duran, 2006). It is the internalized oppression, Duran calls being bitten by the vampire of a "measured historical trauma" and carries forward "symptoms of emotional distress" connected to the genocide of American Indian people (p. 17). So many living stories, a web of them entangled, in 7+7 generations.”…

“Posthumanists seek the sustainability of all species of animals, plants, as well as the sustainability of the elements of life itself. For me, those elements are earth, water, air, and fire. I took up blacksmithing to reconnect to the denied heritage, the family secret kept silent by my mother, of my great-grandfather, being a blacksmith, my grandmother and her brother, marrying Natives” (from <http://peaceaware.com/Boje/What%20is%20Living%20Story.htm>; and Bøje, 2005).

**References**

Adorno, Theodor W. (1973). ***Negative dialectics***. Vol. 1. Continuum International Publishing Group.

Adorno, Theodor; Max Horkheimer, Max. (1955/1997). *Dialectic of Enlightenment*. Verso.

Barad, Karen. (2007). ***Meeting the universe halfway: Quantum physics and the entanglement of matter and meaning***. Durham, NC: Duke University Press.

Barad, Karen. (2010. "Quantum entanglements and hauntological relations of inheritance: Dis/continuities, spacetime enfoldings, and justice-to-come."*Derrida Today* 3.2: 240-268.

Barad, Karen. (2013). Mar(c)king Time: Material Entanglements and Re-memberings: Cutting Together-Apart.  Pp. 16-31 in Paul R. Carlile‬,

Bøje, D. M. (2001). Narrative Methods for Organizational & Communications Research. London: Sage.

Bøje, D. M. (2005). Wilda. Journal of Management Spirituality & Religion, Vol 2 (3): Article: 342-364, Epilogue: 399-405. (with accompanying commentaries by Eduardo Barrera, Heather Höpfl, Hans Hansen, David Barry, Gerald Biberman, Robin Matthews & John W. Bakke).

Bøje, David M. (2014). Welcome to the Leviathan of Institutions profiting from Stress Disorder, Junk Science, While Increasing rate of Suicides. Working paper, January 1, 2014; Revised April 7, 2014, online at <http://peaceaware.com/ptsd>

Bøje, David M. (in press). ***Storytelling Organizational Practices: Managing in the Quantum Age.*** London: Routledge.

Bøje, D. M.; Baskin, K. (2010). ***Dance to the Music of Story: Understanding Human Behavior through Intervention of Storytelling and Complexity Thinking***. Litchfield Park, AZ: Emergence Publications.

Bøje, D. M.; Dennehy, R. (1993/2008). ***Managing in the Postmodern World: America's Revolution Against Exploitation.*** *2008 edition Charlotte, NC: Information Age Press; 1st & 2nd edition, Dubuque, IA: Kendall Hunt Publishing, 1993, 1994 349 pages. 1994 2nd Edition. Kendall Hunt Publisher. Instructional materials online at* [*http://business.nmsu.edu/~dboje/mpw.html*](http://business.nmsu.edu/~dboje/mpw.html)

Bøje, D. M.; Jørgensen, Kenneth Mølbjerg; & Strand, Anete M. Camille. (expected 2013) Towards a postcolonialist Storytelling Theory of management and organization," accepted 9/27/2011 for publication in Journal of Management Philosophy. Pre-press PDF at <http://peaceaware.com/vita/paper_pdfs/postcolonial_storytelling_j_of_philosophy.pdf>

Cajete, Gregory. (2000\_. *Native science: Natural laws of interdependence*. Santa Fe, NM: Clear Light Books.

Carlile, Paul R.‬;

Cook, Deborah. (2006). "Adorno’s critical materialism." *Philosophy & social criticism* 32.6: 719-737.

Cooperrider, D. L. (2001). ‘Appreciative Inquiry, the Positive Core of Change’ presentation to the *University of St. Thomas OD Program and MN OD Network* about Deficit discourse. [[1]](#footnote-1)

Cooperridder, D. L., and Srivastva, S. (1984). Appreciative inquiry in organizational life. In W. A. Pasmore and R. W. Woodman (eds.), ***Research in organizational change and development*** (Vol. I). Greenwich, CT: JAI Press.

Cooperrider, D. L., & Srivastra, S. (1987). Appreciative inquiry in organizational life.

Cooperrider, D.L., Sorenson, P.F. Jr., Whitney, D., & Yaeger, T.F. (2000). ***Appreciative inquiry: rethinking human organization toward a positive theory of change****.*  Champaign, Ill: Stipes.

Coole, Diana, and Samantha Frost. (2010). *New Materialisms: Ontology, Agency, and Politics. Durham y London: Duke University Press*.

Cooperrider, D. L., Sorensen, P. F., Yaeger, T. (Eds.). (2001). ***Appreciative Inquiry: An Emerging Direction for Organization Development***. Champaign, IL: Stipes Publishing.

Deleuze, Gilles. (1994). ***Difference and Repetition*** (P. Patton, Trans. English translation ed.). New York, NY: Columbia University Press.

Deleuze, Gilles, and Pierre Félix Guattari.(1987). *A thousand plateaus: Capitalism and schizophrenia*. Vol. 2. University of Minnesota Press.

Dewey, John. (1929). ***The Quest for Certainty***. GIfford Lectures.

Dewey, John. "Logic: ***The Theory of Inquiry*** (1938)." *The later works* 1953 (1925): 1-549.

Fusco, Coco. (1994).  "The other history of intercultural performance." TDR (Cambridge, Mass.) Vol. .38 (1): 143-167.  Available on line at <http://go.galegroup.com/ps/i.do?id=GALE%7CA15464923&v=2.1&u=nm_a_nmlascr&it=r&p=AONE&sw=w&asid=b9e6fca45fbd889c21420066be6d7754>

Fusco, Coco. (2001). 'At your service: Latin women in the global information network.'  Pp. 186-201 in Coco Fusco (ed.) the Bodies That Were Not Ours and Other Writings. London/NY: Routledge/Inviva.

Haynes, Patrice. (2012). ***Immanent Transcendence: Reconfiguring Materialism in Continental Philosophy*.** Continuum International Publishing Group.

Heisenberg, W. (1927). Über den anschaulichen Inhalt der quantentheoretischen Kinematik und Mechanik. ***Zeitschrift für Physik A Hadrons and Nuclei***, Vol. *43*(3), 172-198. Online at <http://people.isy.liu.se/jalar/kurser/QF/references/Heisenberg1927.pdf>

Jackson, Alecia Youngblood; Mazzei, Lisa A. (2012). *Thinking with theory in qualitative research: Viewing data across multiple perspectives*. London: Routledge.

Ludema, J. (2001). From Deficit Discourse to Vocabularies of Hope: The Power of Appreciation. Appreciative Inquiry: An Emerging Direction for Organization Development (First ed.), Chapter 29 in Cooperrider, D. L., Sorensen, P. F., Yaeger, T. (Eds.). (2001). [***Appreciative Inquiry: An Emerging Direction for Organization Development***](http://appreciativeinquiry.cwru.edu/research/bibPublishedDetail.cfm?coid=2311). Champaign, IL: Stipes Publishing. Online <http://www.stipes.com/aichap29.htm>

Schön, Donald A. (1983). ***The reflective practitioner: How professionals think in action***. NY: Basic Books, Inc.

Strand, Anete Mikkala Camille. (2011). Presentation on ‘material storytelling’ to 20th anniversary meeting of sc’MOI, meeting in Philadelphia, April.

Strand, Anete Mikkala Camille. (2012). The Between: ON Dis/continuous intra-active Becoming of/through an Apparatus of Material Storytelling. Unpublished Doctoral Dissertation, Aalborg University, Denmark.

Tyler, J. (2010). Story Aliveness. Chapter 3, Pp. 61-81 in D. M. Boje and Ken Baskin (Eds.) ***Dance to the Music of Story: Understanding Human Behavior through Intervention of Storytelling and Complexity Thinking***. Litchfield Park, AZ: Emergence Publications.

Tyler, J. (2011). Living story and antenarrative in organizational accidents. Pp. 137-147 in Boje (ed) ***Storytelling and the Future of Organizations: An Antenarrative Handbook***. NY/London: Routledge.

Tyler, Jo A.; Bøje, D. M. 2009. (Sorting The Relationship of Tacit Knowledge to Story and Narrative Knowing. Pp. 81-97 in Dariusz Jemielniak, Leon Kozminski and Jerzy Kociatkiewicz (Eds.) ***Handbook of Research on Knowledge-Intensive Organizations***. Hershey, NY: Information Science Reference (formerly Idea Group Reference), an imprint of Idea Group Inc. Pre press version at [http://peaceaware.com/vita/paper\_pdfs/Sorting\_Rel\_of\_Tacit\_K\_in\_Story\_Narr\_K\_Jos\_V[submit].pdf](http://peaceaware.com/vita/paper_pdfs/Sorting_Rel_of_Tacit_K_in_Story_Narr_K_Jos_V%5Bsubmit%5D.pdf)

Uzel, Kaya. (2013). "The Material Underside of the Posthuman: Notes on the Foxconn Suicides and the Biopolitics of Outsourced Electronics Manufacturing." ***Kaleidoscope*** 5.2: 151-179.

1. ###  See Cooperrider slide 14, (PPT) – Deficit Discourses, <http://appreciativeinquiry.case.edu/uploads/AI%20at%20Univ.of%20St%20Thomas%20and%20MN%20OD.PPT>

 [↑](#footnote-ref-1)