Preface to the Quantum Storytelling Consulting Handbook: An Introduction
David M. Boje, Mabel Sanchez, with Rohny Saylors
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Quantum Storytelling Consulting (QSC) is a type of consulting that uses storytelling and quantum physics. QSC's main purpose aims to help change how humankind relates to the planet itself, and offers a sustainable perspective to consulting in an effort to decrease our carbon footprint. One way it achieves its goal is by allowing people to pre-care for the world in different levels and dimensions that may have been ignored by current consulting strategies. In quantum physics, observing things changes them by collapsing the waves of possibility into particular event. For example, an electron is a wave until it is observed, then it becomes a particle-event. This is well known as the 'quantum observer effect.' We connect this idea to storytelling. In storytelling, what we bet on in the future changes what event arrives from the future. This is a process called antenarrative. Antenarrative means observing the future as it is arriving. It is called prospective sensemaking. By using quantum physics and antenarrative, we explain how to prepare in advance for, and create, and fore-care in advance for new futures. Antenarrative generative process (AGP) is the term for how we do this fore-caring for the future. AGP looks at how quantum waves of what are possible turn into things that happen and which we make sense of. We compare fore-caring (quantum storytelling consulting) to the ten giant consulting firm approaches.

Quantum Science of Wave Collapse "In February, and then again in June, physicists announced they heard the subtle rumbling of a ripple in spacetime, the result of two black holes colliding into one another. These observations confirmed the existence of "gravitational waves," which were predicted by Albert Einstein more than 100 years ago but never actually recorded until this year. The waves were picked up by two huge science experiments — one in Louisiana and one in Washington state — called LIGO, or the Laser Interferometer Gravitational-Wave Observatory."[1]

It's quantum storytelling because there is an observer effect experiment, and there are articulations about waves collapsing possibilities. Einstein was right! We also collapse different waves of possibility by our action or our denial of climate change. These observer effects speak to how intertwined human kind is with Nature, how embedded we are in all the Earth's eco-systems, and even the black holes in our cosmos. Our destinies are intertwined and entangled.

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[1]
http://www.vox.com/science-and-health/2016/12/22/14053036/gravitational-waves-breakthrough-year-science

This book is about how to enact fore-caring, practicing an ethics of care about the 7th generation. We want to have life and well-being for our grandchildren's children's grandchildren!. In our acts of fore-caring we are either in denial or acting to choose non-fossil fuel transportation, get produce locally, and doing either less meat or meatless diets. That is how we can bring down the CO_2, and methane, and other greenhouse gases, so that the 7th generation has a fighting chance to survive.

In Trump-Land, the climate deniers are in power, in control of government institutions. The climate deniers are defunding climate science, installing chairs of climate denial in public and private universities, paid for by the Koch brothers, and by Exxon-Mobil and other fossil fuel corporations. Multinational fossil fuel and fast food giants are pirated gouging wealth from acts of capitalism that are dangerous to the survival of the 7th generation.

The alternative is for all of us to collapse fore-caring waves, rather than waves of climate interference rooted in observer effects of ignorance, selfishness, and what we will call greed capitalism.

The contribution of antenarrative, is the fore-caring steps that can help the 7th generation. It is to help us move away from how consulting is done by top agencies in ways the promote greed over 7th generation. We do this by looking at the top ten firms, giants of industry, centers of greed based capitalism. Greed based capitalism is the old way of thinking and acting. QSC is a new way of thinking and acting. QSC helps us think about how our actions impact people seven generations from now. QSC does this through the preparing in advance that is fore-caring. Fore-caring helps us to prepare to turn waves of potential into things that happen. It helps us see waves arriving from the future. It helps us collapse waves using an ethics of care, which sees all people as linked and attends to the vulnerable ecology. QSC helps us prepare to overcome the messy problems humans have brought upon the planet. QSC helps guide us to make sense of responsible capitalism (RC). For example, economic RC is where firms choose less money now to keep making it in the future. Or, for example, socially RC, where making money and doing good go together (Savall & Peron, 2016; Boje, 2016).

Why Quantum Storytelling Waves Matter?

"Just as sound waves disturb the air to make noise, gravitational waves disturb the fabric of spacetime to push and pull matter as if it existed in a funhouse mirror. If a

gravitational wave passed through you, you'd see one of your arms grow longer than the other. If you were wearing a watch on each wrist, you'd see them tick out of sync."[2]

We collapse waves affecting the future of our climate, and the well-being or mal-being of the lives of the 7th generation. We live in four ecosystems of, each of which are made of matter and energy. These systems are physical, biological, chemical, and geological. We live in them by way of spacetimemattering (Sg)[3]. There is no separation between space, time, and mattering because they are entangled. This means that space time and mattering are each part of the other. QSC sees what happens before what an organization does as different from its consequences. QSC can show the difference between causes and effects. The ways an organization behaves are causes. On the other hand, ecosystems see the effects. Unlike with Newton, in QSC causes do not lead perfectly to effects. We assume human minds cannot be split from bodies. In QSC people are organic, evolved, living systems (Brier, 2010). We are matter in ways often studied by physical sciences. We are energy in ways often called spiritual. Søren Brier's four-legged Star captures what we have in mind for QSC.

1. Matter/Energy physical, biological, chemical (in ecosystem environment)
2. Life/Living System embodiment in organic evolution (living embodiment)
3. Inner Life/Consciousness in our existential development (mental world)
4. Sense/Meaning in Society and Language (diversity of other cultures)

Peirce came up with a new theory of communication. His theory works between other ways of thinking. Even ways of thinking that are used by different groups of researchers. His new theory is related to his old theory. His old theory is about semiotics, or how symbols are used to share meaning. His old theory is also about cognition, or how people feel like they know things. His new theory is quite different from the usual theories of how symbols and meaning work.

Usually we think of symbols as made up ways of sending information. We also think of ideas as different from symbols because they have meaning. But with Pearce's new theory symbols are real because they help us get meaning from information. Pearce's idea can make

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[2]
http://www.vox.com/science-and-health/2016/12/22/14053036/gravitational-waves-breakthrough-year-science

[3] Barad (2012: 32) defines spacetimemattering, "Phenomena are entanglements of spacetimemattering, not in the colloquial sense of a connection or intertwining of individual entities, but rather in the technical sense of "quantum entanglements", which are the (ontological) inseparability of agentially intra-acting "components". We use Sg for short.

even more sense if we also think about self-creation. Self-creation is the way things work to make, remake, and change themselves. Luhmann's term for this is autopoiesis. Brier (2008, 2011) says this happens in each of the ecosystems. Putting Luhmann and Peirce together helps us see that form is what is shared in communication. Brier does this in his Star Model.

The middle of the Star Model is the way that the system is seen. This is called an observing apparatus (OA). A scientific tool is an example. It makes up storytelling accounts of reality. OA's collapse waves of the possible into single actual events. The Star Model is a way of unifying different ways of being, it is an ontology. Star Model Ontology (SMO) helps us see system relations. It relates four dyadic systems. 1) The matter and energy of the environment. 2) The life and living systems of evolved bodies. 3) The Inner life and consciousness of a developing mental world. 4) Sense and Meaning of society, language, and diverse cultures (Brier, 2015).

What is Quantum Storytelling Consulting? QSC is respect and care, for ecological, social, gender, and race splendors. QSC is preparing in advance to collapse waves of potential good into good events. By good, we mean the most positive ecosystem consequences. These waves come from the star model systems. They are prepared for using fore- having, structuring, conceiving, and seeing. Boje and Henderson (2016) say that similar looking patterns, called fractals, are how we think. These patterns are called fractals. Fractals are waves that repeat and vary in amplitude. For example, coast lines at the size of fjords look similar to the patterns at the size of waves, and the size of particles. In the same way whirlpools, tornadoes, hurricanes and so on look similar. As do the other parts of the four dyadic systems. This concept is seen in the movies Arrival, in language, and Frozen, in snow.

We have incorporated work by Quantum Storytelling Conference participants in developing fore-caring (Boje, 2014; Boje & Henderson, 2014; Boje, 2015; Henderson & Boje, 2015; Boje, Svane, Henderson & Strevel, in press; Boje, Svane, & Gergerich (2016); Svane & Boje, 2014; Svane, Boje, Gergerich, 2015; Svane & Boje, 2015; Varra, Sonenshein, & Boje, 2015). The main reason QSC produces a different outcome is that there is a antecedent generative process (see work by Bhaskar, 1975, 1993/2008, 2010; Bhaskar et. al., 2010) of preparation-in-advance to bringing about alternative futures to the status quo, through four 'antenarrative' steps of fore-caring that accomplish a downward causation that offsets the atomism upward causation.

Next we present our Cornucopian Model of the fore-caring process. The theory is that by taking more preparatory steps, better results happen for spacetimemattering of wave collapse

into events of ecosystems, including the psychosocial, socioeconomic, political and cosmos (including spiritual).
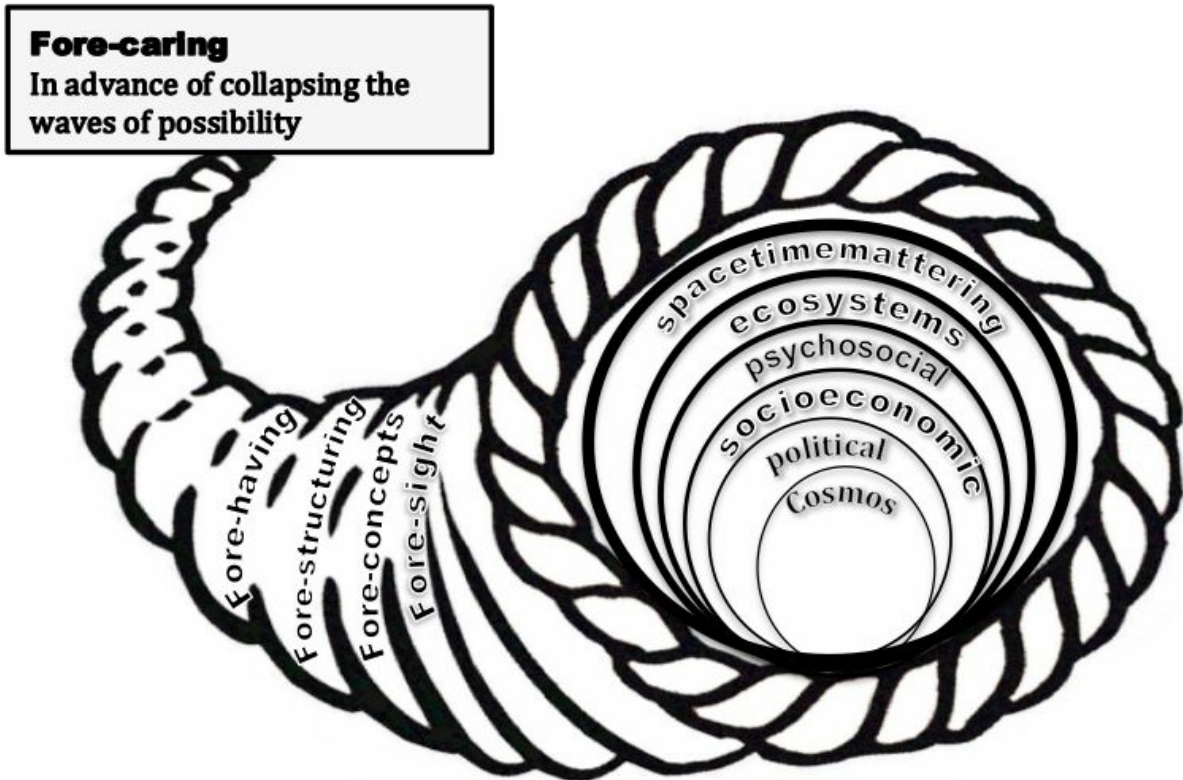

Figure 1 – CORNUCOPIAN MODEL of Quantum Antecedents of Fore-Caring Steps Before Collapsing Waves of Systemic Possibility for the 7th Generation

The Cornucopian Model depicts four fore-caring steps for the 7th Generation:

1. Fore-having: The preparations BEFORE narrative and story
2. Fore-structuring: The preparations BETWEEN processes
3. Fore-concepts: The BENEATH to have language, symbols, gestures to communicate about advance preparations
4. Fore-sight: The BETS on the possible Future arriving, and collapse them into becoming event, becoming story and or narrative

The collapse of the arriving waves of possible futures. The antenarrative fore-caring process results in a signal that in quantum storytelling is nonlocal and instantaneous. QSC antenarrative principle: the antecedent signal, the observer effect collapses alternative waves of arriving

possibility into one event. Amit Goswami (2011: 6) puts it this way, "As you may know, in Einstein's theory of relativity, all interactions in space and time must occur via signals." The antenarrative generative processes, their fore-caring are such signals. Hence, the nonlocal instantaneous downward causation must be antecedent (in principle), in advance of collapsing weaves of possibility, bringing about an event and or experience effect. These events and experiences in narrative sensemaking are retrospective backward glances. The antenarratives are processes of preparation, in advance of observer effect. For Goswami the quantum collapse is outside ordinary spacetime and is therefore transcendent. We agree that all communication, even the observer effect, must use signals that bring about nonlocal instantaneous weave collapse into actuality and manifestation of event. In the old paradigm consulting-atomism, it's all about upward causation to get a vision, mission, and strategy planning out of the retrospected experiences.
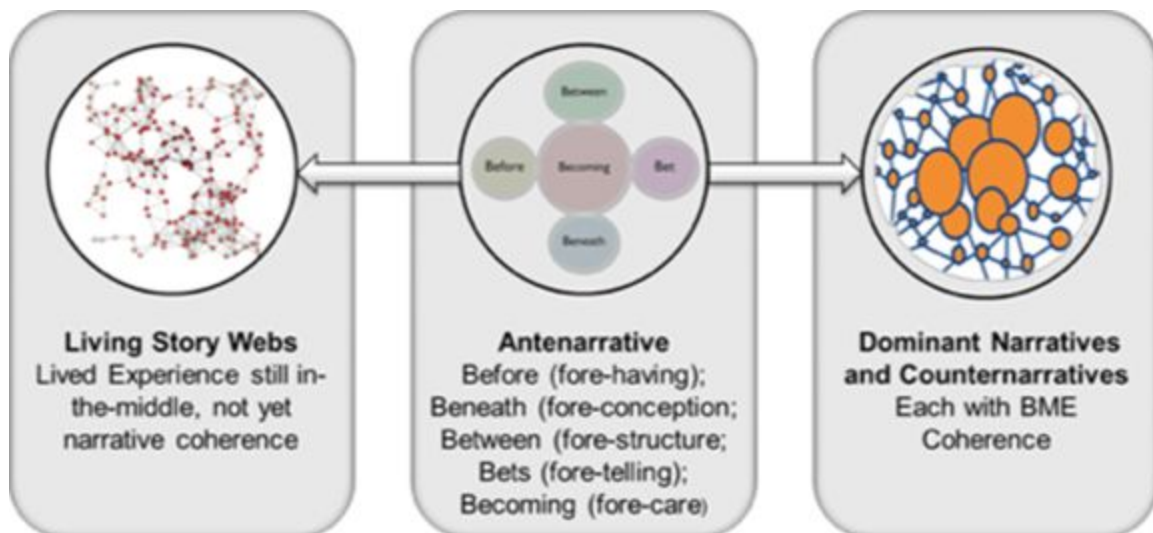
Figure 2 – Antenarrative Fore-caring steps (fore-having, fore-conception, fore-structure, and fore-telling) are before both living story web of lived experience (still-in-the-middle), and dominant narratives and counternarrative each with Beginning-Middle-End (BME) plot coherence (Figure by Marita Svane, see Svane & Boje, 2015)

Here, we introduce an ethics of care for our ecosystems, our matter/energy, life/living systems, inner life/consciousness, and we believe the fractal language arrives before the sensemaking experiences of sense/meaning of our five senses (see, hear, touch, taste, & smell). We go a step further. We want to fore-care for eco-systems in our model of consultancy. Fore-caring means to care-in-advance, before we collapse the weaves of possibility into event

after event. We collapse weaves of matter/energy, life/living system, inner life/consciousness, and then afterwards we do retrospective (backward looking) glances at the result through sense/meaning sensemaking.

"Antenarratives" are defined here as "pre-narrative fragments in search of coherence, bets on future possibilities, the beneath (untold stories) covered over by grander narratives, and the in-between living story webs without end and those grand narratives trying to universalize everything" (Boje, 2016a).

What is Fractal Storytelling? Fractal storytelling is defined by Boje (2016a, 2016b), as "the study of the relationship between many small events in living story webs, brought into antenarrative processes into interactivity with the grander narratives of quite few events. Here we focus on Awareness, Alignment, Attunement, and Antenarrative processes that are as Barad (2003, 2007) puts it in dynamic 'intra-activity.'"

Defining Fractal Narrative Alternatively, what "*Fractal narrative*" is defined as "*a narrative that finds its best accomplished form in the Web*" in hyperlink networks (Duarte, 2014: 284, bold, italics, mine). Antenarrative-fractals are not only linear, they can be cyclical, centripetal, and monologic structures where the heroic character traverses complex plots within plots, and patterns within patterns, that repeat, in sequels, again and again, such as in the movie Dune, or the Star Wars, Star Trek, Matrix, and Blade Runner movies. Duarte argues that the Mandelbrot fractal geometry applies to films and novels that are veering away for linear plot structures. Though they do not stray far from the heroics of war.

Defining Fractal Story "A fractal story is defined here as a web of fluid 'living story' interrelationships between urban-chaos and fractal-cyber-order that is centrifugal veering away from order, toward anarchism, discontinuity, and the erratic" (Henderson & Boje, 2016: 87).

Defining Fractal Antenarrative Finally, and "Hence, antenarrative fractal change management manages the entangled processes of spatializing across scales, temporizing, and mattering (the sociomateriality; the entangled processes of meaning and matter) in the quantum storytelling field. Antenarrative managing is managing spacetimemattering in the ontological situation" (Svane & Boje, 2015: 26; Svane, Boje,

& Gergerich, 2016: 141). As Svane, Boje and Gergerich put it "In this open-ended process of becoming, fractal change management relate to the pre-reflexive level of embodied, emotional, and sentient beings alert to and responding at the vague signs of little wow moments indicating changes, novelty, and new directions.

Spiral Fractal Antenarrative Antenarrative managing is managing spacetimemattering in the ontological situation. Boje's (2012a: 47, 102) work in spiral fractal antenarratives: "The antenarrative spiral is a wave function, quite different from the linear wave or the cyclic type. In the antenarrative spiral is a vortex or even a series of vortices." " The momentum can be upward or downward, or move in spirals from left to right, or any other direction" (Boje, 2012a; 47). "Fractal-spiral-antenarrative" (2012a: 143), "one that has a lot of fullness of Being, and is encompassed still by Nothingness, above, below, around, and there are little spiral at every choice point, and passageways between the twirls and swirls are negations." "A spiral-antenarrative, unlike the linear- and cyclic-antenarratives is about repetitions of difference, that can amplify or counteract, alternative" (Boje, 2012b: 25).

'**Quantum Spiral**' (hereafter, Q-Spiral). Prior work on organizational spirals has put them in duality (upward or downward). "Cycles of a Q-Spiral are of varying breadth (expansion), from narrow orbits to wider orbits. Q-Spirals have offshoots called 'fractal-spirals' …   Q-Spirals have directions of up, down, in, out, amplification, and contraction. A Q-Spiral is defined by its spatial landscape, its temporal" (Boje, 2012b: 29).

Linda Hitchin (2014: 214) observes a connection between the antenarrative communicative processes and Actor-Network Theory (ANT) of Bruno Latour (1996). There are not only human actors, but also important actants such as mattering of animals, plants, geology, biological systems, and ecological systems that are important to sustaining life. The matter/energy and life/living systems have fore-caring, and we the humans need to do fore-caring for and not limit our understanding to just the inner-life consciousness and sense/meaning. That just perpetuates the fantasy and destruction of the 10 giant firm consultancy-advice to organization stakeholders. Hitchin (2015) connects antenarrative (the fore-caring steps) to Tamara-Land, and to her own work in 'untold stories.' Structural

functionalism has control of the narrative of organization consultancy work, and it is resulting in major problems for ecology and equity. Hitchin is able to see the relation between quantum theory mechanics in Boje's (2007, 2011, 2012) work and the complexity dynamics of storytelling organizations, called Tamara-Land. We cannot collapse the waves of possibility arriving from the future, into event after event by one resounding story or narrative. The reason is that in organizations hundreds, even thousands of people are spatially distributed in different rooms, and even with digital technology, cannot be in every room at once, observing and participating in the story and narratives taking place. Rather, the only sensible move is fore-caring, by an ethics of care, and an ethics of answerability for preparing the ground, so when the waves are collapsed from antenarrative (fore-caring steps) into this or that particular event of future, arriving in non-locality and instantaneously in spacetimemattering that it's the right choice, in the right place, at the right time.

Boje and Saylors (2013) develop antenarrative in an answerability ethics, being answerable as the one person in once-occurrent Being that acts with an ethics of care. The idea is vibratory energy frequency (VEF) of fore-caring makes a difference in wave-collapse outcomes. The antenarrative fore-caring steps are like ripple waves that affect the wave collapse in wider arenas. Hence, QSC as a new paradigm combines quantum processes with storytelling (antenarrative signals) and an ethics of caring for what kinds of futures are created in collapsing waves of possibility into events and or experiences.

What is structural functionalism? It is a framework of a complex system of parts working in solidarity (invented by Herbert Spencer). Robert Merton, contributed the idea of latent functions behind the manifest functions and structures. Talcott Parsons, known as the greatest of all structural functionalist, synthesized Emile Durkheim and Max Weber into a bureaucracy theory of controlling social norms. It is thought widely that structural functional reached its peak of popularity in the 1930s and 1950s, then declined rapidly. This would be wrong, since the top 10 giant consultancy firms (Table 1) have kept structural functionalism and Social Darwinism, survival of the richest at the expense of the poor as the model of greed capitalism. Let us be blunt: functionalism is a tautology: rich bodies control the social body and political body in order to accumulate wealth for the rich. It is a teleological argument for greed in which only billionaires have agency.

Next, we explore the ten consultancy giants that are key agents and leading players, diffusing TFW-virus to the corporate Fortune 500, national governments, and health and education organizations (see Tables 1 & 2).

We make a bold claim. The Ten Giant consultancy firms that have the ear of the corporate 500, most nations, healthcare, and educational organizations à are blind to the fractal relationality, have no fractal concepts (or only linear branching fractal advice), are stuck in old paradigm Cartesian split of mind from body, and have not down the paradigm jump from Newtonian physics to quantum physics. What is the consequence? The advice whispered in the ears of powerful CEOs, is all about command and control to establish the stability of structural-functionalism, while exploiting the natural environment.

Table 1: Top Revenue-Earning Consulting Firms

Giant Firm	Revenue $/Billion	Revenue Growth %	Market Share %
1. **Deloitte Consulting**	14.7	6.0	11.7
2. **Strategy&** (part of PwC Network)	12.7	10.0	10.2
3. **Ernest & Young** Consulting Practice	12.1	12.7	9.6
4. **KPMG**	10.7	5.2	8.6
5. **Accenture**	4.1	4.4	3.3
6. **IBM**	4.0	2.1	3.2
7. **McKinsey & Company**	2.3	5.5	1.9
8. **Booz Allen Hamilton**	2.1	-2.9	1.6
9. **CGI"Conseillers en Gestion et Informatique"**	1.5	3.4	1.2

10. **CSC "Computer Sciences Corporation"**	**1.4**	**-3.6**	**1.1**

 "The analysts find that globally spending on management consultants has grown to $125.2 billion in 2014, up 6.1% from $118.1 billion in 2013**. The top four largest consulting firms, all with a heritage in the accountancy sector, known as the Big Four (Deloitte, PwC, EY and KPMG), hold a combined 40% of the total consulting market" (10 Largest revenue consultancy firms).[4]

Table 2: Comparisons of 10 Giant Consultancy Models on Domains of Contrast

CONSULTANCY GIANTS:	Easily Imitated Structural Functionalism	Denier of Answerability for Ecosystem consequence	Neo-Taylorism Time & Motion	Neo-Fayolism Admin. Order	Neo-Weberian Bureaucracy
1. **Deloitte Consulting**	✔	✔	✔	✔	✔
2. **Strategy&** (part of PwC Network)			✔	✔	✔
3. **Ernst & Young** Consulting Practice	✔	✔	✔	✔	✔
4. **KPMG**	✔	✔	✔	✔	✔
5. **Accenture**	✔	✔	✔	✔	✔
6. **IBM**	✔		✔	✔	✔
7. **McKinsey & Company**	✔	✔	✔	✔	✔

[4] http://www.consultancy.uk/news/2149/10-largest-management-consulting-firms-of-the-globe

8. **Booz Allen Hamilton**	✔	✔	✔	✔	✔
9. **CGI"Conseillers en Gestion et Informatique"**	✔	✔	✔	✔	✔
10. **CSC "Computer Sciences Corporation"**	✔	✔	✔	✔	✔

Our big challenge is the big 10 giants keep reinventing structural functionalism, despite the proliferation of contradictions of race, gender, class, and the destruction of one ecosystem after another in the name of wealth accumulation for billionaire investors and millionaire CEOs.

The big 10 missed the 1960s where structural contradictions (of their consensus theory), the inequalities of race, gender, and economic class played out on the streets. Spencers', Durkheim's, and Parsons' theory missed the concept of functionalist-system contradictions. Sorry to inform you, billionaires are not necessary to perform functions necessary to middle class, or to trickle down crumbs to the poor class.

The functionalism was critiqued for being static, Parson's so called moving equilibrium model, became widely questioned by the light of the reality of the Vietnam War, then the Gulf War, Iraq and Afghanistan wars, and now our permanent state of war. Contradictions abound still. Fear, anxiety, and turbulence abound today, and any consultancy firm doing structural functionalism is a relic of Social Darwinism.

Structural functionalism assumes that core technology, core processes, can be bounded off from the turbulence and uncertainty of the surrounding environment. But this model is just duality, the split of a bounded complexity from the complexity of the environment. The untold story is that the organization and environment are fractal, and inter-penetrate each other with VEF upon VEF. The big 10 consultancy giant reinvent TQM, Taylorism time and motion central control, Fayolism administrative order, and Weberian bureaucracy (an infectious TFW virus), and that is not the waves we need to be collapsing into the events of organizational systems. Why? It is destroying the ecosystem, exacerbating the contradictions of race, gender, and class, and Parson's moving equilibrium is complete fantasy. It is a misplaced structural functionalist concreteness, when the untold story if fractal VEF is that state of affairs.

The big 10 put people in a panoptic prison, an iron cage of surveillance (Boje, 1996). All the disciplinary mechanisms of big 10 consultancy, their technologies of power and control, result in ecological dysfunction (p. 338), and can bring about Rachel Carson's Silent Spring.

What Henderson and Boje (2016a: 152) propose is the Fractal Action Research Model (FARM) rooted in an ethics of fare and fore-care, so that empire culture can be accountable and answerable for the consequences of that waves they collapse, the wicked problems of climate change, war, and famine that are now global, and non-stop. No amount of free market structural functionalist (invisible hand) propaganda is going to erase these wicked problems of greed capitalism.

It is time to wake up from the claims of organization theory that the environment is only other organizations (Emery & Trist, 1965; Hannan & Freeman, 1978; Aldrich, 1999). Rather, the environment includes the spacetimemattering of fractality that is physical, biological, geographical, and cosmological. To pretend otherwise is to court the collapse of civilization.

There are vortices of multifractal matter/energy that do spiral turns, spiralic path movement, and their amplitude and frequency vibratory waves are part of the processes of planetary life. These are not symmetrical like the drawings we see, rather we live in asymmetry, where spiral helix ahas its offshoots, the whorls are irregular, and we have movement across the terrain of our ecosystems. There are governing laws of vortex flow, and multifractality that need to be addressed in consultancy. There are left-handed and right-handed (counter-clockwise, and clockwise) motions (Minahen, 1992: 164).

Tetranormalizing (Boje, 2016a) is the dialectic between fractal-norms (bottom-up self-organizing) and fractal-standard processes (dictated top-down or by external hierarchies of domination and control). There are four kinds of norms and standards in interplay for any organization doing business globally. "This tetra (4 forces of norms/standards) can present the enterprise with incompatible (incommensurate) stakeholder expectations" (Boje, & Rosile, 2009). The four kinds of tetranormalizing fractals are social, trade, economy/accounting and ecology /quality.

The big ten Giant Consultancy Firms are all about linear- and cyclic-standards fractals, repeating patterns of self-sameness across scales. Examples from Boje (2016):

annual budgeting, steps in recruitment. Other fractals are cyclic, repeating the same stages (or phases), again and again, without change to any process. Examples: product life cycle, inspection cycle, leadership life cycle, organization life cycles. But when that cycle (e.g. product cycle, organization life cycle, etc.) changes even one stage, or adds/subtracts a small stage, that cycle begins to transform into a spiral, its momentum further distorting what came before as a sequence of stages.

QSC's way of thinking and doing things produces different outcomes than old linear and cyclic ways of thinking and doing things followed by the top ten firms. Their way Taylor, Fayol, and Weber-ism, which Saval calls the TFW virus. (c.f. Worley, Zardet, Bonnet, & Savall, 2015). QSC is new, and is just beginning to recognize how to change the multifractal entanglement, beyond linear- and cyclic-fractal standardizing processes and getting to the spiral and rhizomatic patterns of today's self-organizing complex adaptive systems.

Tetranormalizing Fractals in the World of Contradictory Standards What Boje (2008, 2011, 2012, 2014, 2016a) calls the 'spiral-antenarrative is always on the verge of becoming rhizomatic. Deleuzian rhizomatic feedback loops make irregular and monstrous fractal patterns inevitable. Compliance to external standards is an essential condition of global commerce. However, organizations are confronted by a confusing array of human relations, trade, quality, environment, accounting, and economic standards there are supposed to comply with. *Tetranormalization multifractals* interact, creating more chaos or, in some rare cases, bringing order out of chaos, resolving pathways through the myriad of interdependent (linear-cyclic-spiral-rhizome)-fractal-standards and fractal-norms choices, all the entanglement of multifractal processes, tools, best practices, hypothesized solutions.

The big 10 greed consultancy giants, or greed giants, are stuck in the old way of thinking and doing things. These old ways are based on models infected by the TFW virus. This virus spread during the First Industrial Revolution (FIR). The 19th century FIR came from agricultural innovations made by the steam engine. The Second Industrial revolution (SIR) reinforced this change. SIR saw changes in the production of steal, cars, and oil, leading to trains, planes, and agribusiness. The greed giants' models of change create cycles of boom and meltdown. They the gap between a few billionaires and the billions of poor people. The greed giants create

crises, defunding public health, research universities, and k-12 public schools. They destroy the middle class, the resources of the earth, and innumerable species. They push cancer like growth, control of politics, and denial of climate change. This creating crisis and then denying it is what we call greed based capitalism.

A war is won with order, discipline, and chain of command. Organizations strive for order, discipline, and chain of command in order to succeed. Population ecologists will say organizations are at war to survive (e.g. survival of the fittest). Economist refer to this phenomenon as strategizing to get the largest piece of the profits pie. Yet, this type of strategizing is not sustainable.

Money is a made and used to conceptualize power and make it tangible. However, we are at war with ourselves to obtain money/power. Strategies, particularly organizational strategies, rarely take into account the depletion of the earth resources as it is not part of the original war-like organizational strategy of order, discipline, and chain of command. Resource accumulation by single individuals has reached ultimate heights, with the richest man on earth being Putin with an estimated $87 Billion. This new level of resource accumulation can only be achieved through kleptocracy, the act of using political power to obtain resources that otherwise cannot be obtained.

The strategies used by consulting companies infected with the TFW virus spread the idea of unsustainability. The current war-like strategy implies that only then can a company be truly successful. History has shown time and time again that survival of the fittest does not apply to humankind, it is the resource hogs that survive and are aligned with success. This acceleration of crisis, and its denial, can be summed up in two words, 'greed capitalism.' It is a model of upward causation 'old paradigm thinking', known as 'atomism.'

Upward causation in organizational systems is seen by important by everyone. Upward causation is how we know what to do at the higher levels that we care about. But if all cause goes from high to low, and we exist in the higher levels, how can we change the lower? With downward causation we are able to reach the lower levels and change how upward causation is working.

Big ten consultancy giant firms in old paradigm models have become disconnected from fore-caring processes, and are driven by TFW virus that have produced disastrous consequences, exacerbating wicked global problems: global warming creating climate change, economic cycles of boom and bust, the accumulation of most of the wealth of the planet in the hands of a few billionaires creating the demise of the middle class as they enter the ranks of the lower class and power. The QSC, by contrast, is a new paradigm of downward causation, combined with fore-caring steps, liberates institutions from the old paradigm (upward causation) limits by initiating a restorative praxis, bringing humankind institutions and Nature into a sustainable relationship of socially-, economically-, and environmentally-responsible capitalism. The results of the ten old paradigm consultancy models used by virtually every Fortune 500 corporation, public university reengineering, national and state government change, public K-12 education and national health institutions à speaks for itself in the destructive outcomes realized. The reason for these messy problem (or wicked problem) outcomes is that the top ten consultancy models are rooted in old paradigm atomism. QSC, by contrast practices an ethics of care to implement the four fore-caring steps depicted in Figure 1.

The Stuck Paradigm of Top 10 Consultancy Firms

The 10 prestigious and preposterous consultancy firms (Table 1 & 2, above) use an upward causation model. It is operationalized as follows. The atomism defines all client problems by parsing out core values that inform top-down strategy, with system of command and control, bureaucratic structure, a more or less participative middle management style, and core competencies (or skills) that planning time and motion staff decide workers need to conform to. Communication is typically top-down. Eric Chin's (2014) list of the big three consultancy firms, stresses this history after the great depression: "The management consulting industry was born early in the 20th century during the Second Industrial Revolution. The father of scientific management, Frederick Taylor, perfected his management system in solving manufacturing problems through observation in the course of his consulting experience. In these early days manufacturing companies formed the foundation clientele on which the consulting industry was built."

Chin (2014) continues, "From humble beginnings in shop floors, the management consulting industry's importance grew rapidly after the Great Depression, to Boardrooms. In The Origins of Modern Management Consulting, Christopher McKenna chronicled the growth of then management engineers as the investment bankers hired external consultants to gauge the viability of their investment companies to cope with the Glass-Steagall Banking Act of 1933. It was during this time that management consulting firms grew beyond its founding partners and foundation offices."

Next, we look briefly at the model of each of the ten consultancy firm giants.

Deloitte Consulting The number top giant consultancy firm was just paid $618,905 for a reengineering cost control and downsizing intervention, straight out of Hammer and Champy (1991/2009), so it's a bit over 20 years old, and something, we have been challenging ever since (Boje, Rosile, Dennehy, & Summers, 1997). As they describe it:

"The idea of improving business processes was introduced by Michael Hammer after massive restructuring and downsizing of U.S. companies had left them unprepared to operate in the 1990s. The restructuring focused on automating processes by embedding information technology (IT) into them. Hammer, however, believed that businesses should be reengineered, thus the term business process reengineering (BPR), by using "the power of modern information technology to radically redesign our business processes in order to achieve dramatic improvements in their performance."[3]

The Deloitte moxls begins with customer cagments, channels, and products and services. This leads to organization designed around business process reengineering (BPR), supported by information and physical assets, which in their 'people model' leads to development and deployment for performance management. Over time, Six Sigma, Kaizen, and Theory of Constraints became merged with BPR.

Business process Reengineering (cut - cut - cut) to save hidden cost, only contributes more TFW viral dysfunctions to NMSU and UNM. The reengineer consultants claim to save a university (or business) millions and millions of dollars of cost saving to the bottom line (cash flow, income statement, balance sheets), but the top-down, one-sided implementation does not get at Agility, does not convert hidden costs into value-added activity (p.51, Worley, Zardet & Savall, 2015, Becoming Agile: How the SEAM Approach to Management Builds Adaptability). In

Agile, we implement the think of transformation of hidden costs into value-added by actual project teams to make local improvement, get training in how to find hidden costs, get empowered to actually change the the traditional management control practices, including training of administrators how to invest in the human potential of their workforce. Hidden costs are "slack resources" that and be used to bring about creation of potential (p. 58). More at http://business.nmsu.edu/~dboje/448/448template.htm If undergrads can do this, certainly we can to.

The Deloitte Consulting strategy to transform NMSU into a 21st Century University" planning model for staff development of human potential or the price tag announced.[5] They also sold this (non-)best practice to Iowa State University.[6] The top-down implementation of reengineering (which is quite an unscientific procedure, and found lacking by most top tier journal reviews), of cut after cut, without the actual participation of people doing the heavy lifting work, is not an intelligent answer to how to sustain a 21st Century Public University? It ends up costing more money to repair the cost-cut, position cut, damage after Deloitte has left. Elimination of faculty and staff and teaching assistantships is not the answer. Rather the entire bureaucratic top down cuts strategy needs a new direction one that looks at the cost issues, in terms of how to generate revenues. The five task forces produced only 3 to 6+ page reports, and on that meager study evidence, the cut after cut is being implemented. There are tried and true alternatives that could be explored. I should know, mange professors have been teaching and writing about the stuff for 35 years. There seems to be a problem of inductive (faulty) reasoning, in the entire approach.

'Strategy&' Consulting (PwC) - Their approach, called "Capabilities-Driven Strategy" is "A company's right to win in any market depends not just on external market positioning and not just on internal capabilities, but on a coherent strategy that aligns these factors at every level":[4]

PwC does include besides Tax Impact, and Economic Impact, the Social IMpact (health, educaiton, community & empowerment), and Environment Impact (greenhouse gases, other air emissions, land use, waste, and water use). PwC was part of the road to #Paris2015,

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[5] http://staffingstudy.nmsu.edu/activity-analysis-presentation/;
https://business.nmsu.edu/krwg-news-report-highlights-organizational-challenges-for-nmsu/
[6] http://web.iastate.edu/efficiency/

a conference held in Paris which brought 195 governments together at the United Nation's 21ˢᵗ Conference of Parties (COP21) that agreed to adopt the global warming limit two degrees below.

PwC's Business Model[1]: creating exceptional insight & know how; understanding

client needs & opportunities; harnessing technologies and delivering distinctive solutions;

attracting and developing diverse talent.

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[1] http://www.pwc.co.uk/who-we-are/corporate-sustainability/business-model.html (as

of December 19, 2016).

PricewaterhouseCoopers (PwC) defines consulting as "achieving your objectives to gain advantage requires experience and foresight. Make the best decisions to move your business forward with confidence."[7]   PwC uses a methodology they have trademarked as "Connected Thinking," which is a methodology that guides them to the "best decisions." This method involves challenging conventional thoughts and solutions and brings people to work together to draw on the collective knowledge and experience that may benefit all parts of the organization. PwC offers audit and assurance, crisis management, human resources, performance improvement, and tax and transactions.[8]⁷

Three interlocking elements make up a capabilities-driven strategy:

- **Way to Play:** How you choose to face the market and create value for your customers.
- **Capabilities System:** What causes you to choose your way to play and what allows you to deliver on it. This system is made up of three to six distinctive capabilities, the key strengths that set your company apart from its rivals. Each capability is ensured through

⁷ http://www.pwc.co.uk/who-we-are/corporate-sustainability/business-model.html (as of December 19, 2016)
 http://www.pwc.com/gx/en/services/advisory/consulting.html (as of December 19, 2016)
 http://finance.toolbox.com/companies/pwc-financial ; http://slideplayer.com/slide/8370069/   (as of December 19, 2016)

the right combination of processes, tools, knowledge, skills, and organization, all focused on meeting the desired result.

- **Product and Service Fit:** Based on your chosen way to play and capabilities system, which elements in your portfolio will grow ... and which should go?

Ernst & Young Consulting The basic framework is built around seven key components driving continuous improvement: Organization, Policy, Process, Performance Measurement, Do it, People, and Technology. Organization is about structure to deliver service to the business, and global structures of shared service centers. Process is delivery of effective and efficient processes to right location, and so on.

KPMG - one of the big auditing companies (tax, audit, & advisory). KPMG was established in 1879, when accountant WIlliam Barclay Peat began his firm in London. In 1911 the firm merged with NY-based Marwick Mitchell & Co. KPMG was a merger of Peat Marwick International and Klynveld Main Goerdeler in 1987. KPMG International is a network of independent firms, including KPMG LLP. The advisory services are organized into three areas: management consulting (performance & technology transactions and restructuring, and risk compliance). It now employs 189,000 people. In 2001 KPMG divested its U.S. consulting firm, in public offering called, BearingPoint, and in 2009 they filed for bankruptcy. KPMG business model has six components: Services, functions and processes; organization and governance; technology; sourcing and locations; performance management; and people and skill. KPMG 6 element model (Management & Organization, Processes, Culture, People, Resources & Systems, and Performance).

Accenture Strategy - redefines the rules in the digital age to increase competitiveness. One way of increasing competitiveness is by adopting one or all five circular business models: 1) Circular supply-chain; 2) Recovery & Recycling; 3) Product life-extension; 4) Sharing

platform; 5) Product as a service. These models turn incentives for product durability and upgradeability on its head, changing the organization's focus from volume to performance.[8]

Accenture Strategy follows their research finding on what they call circular advantage. They claim that leading organizations are adopting circular economy models that decouple growth from scarce resources and this gives them a competitive edge or circular advantage. Through Accenture's industry experience, they are able "to provide working strategies on the ground that shape our client's business and ecosystems."[9]

Accenture Strategy states that the linear growth model is no longer viable "due to rising global affluence, the inability of many nonrenewable resources to keep up with demand, the strained regenerative capacity of renewable resources, and the threatened planetary boundaries." [10]

IBM Business Consulting Services - their Component Business Model (CBM) uses a "process-optimized" business design model operate more efficiently, improve quality, and boost coordination across the firm's cross-organizational teams, and business units while sharing technology costs and risks. Still there are issues of silo. Interconnection costs and complexity costs grow in the process designs across business units. "Process optimization is a necessary but not sufficient means for succeeding in today's networked marketplace. For all its appeal, process optimization still leaves firms with complex, hardwired processes".[11] IBM uses a quadratic equation to make process improvements in the interconnections among multiple business units. IBM has these business components: business purposed, activities, resources, governance model, and business services.

McKinsey & Company The 7-S consulting model, which I learned 35 years ago, is called 7-S: strategy, structure, systems, style, staff, skills, and shared 'core' values. The problem is the 7-S's are already infected by TFW virus within the context of greed capitalism. McKinsey did 4000 projects in last five years with public sector foundations, non-profits and governments

[8] https://www.accenture.com/us-en/insight-circular-advantage-innovative-business-models-value-growth
[9] https://www.accenture.com/us-en/strategy-index (as of December 20, 2016)
[10] https://www.accenture.com/us-en/insight-circular-advantage-innovative-business-models-value-growth (as of December 20, 2016)
[11] http://www-935.ibm.com/services/us/imc/pdf/g510-6163-component-business-models.pdf

(local, state, regional). McKinsey has social practices that give back to society, such as, its own the youth employment initiatives. It is rated the most prestigious consultancy company. While its corporate client list and consulting practices are shrouded in secrecy, we know they serve 80 of the top 100 largest U.S.-based firms, from the quarterly journal that they address strategy, operations, and technology.   The 7-S's are implemented in a linear causality process. **McKinsey 7-S model for strategic fit**. It was developed over thirty years ago by strategy consultant McKinsey, and popularized by Tom Peters and Robert Waterman's book "In Search of Excellence".

Criticisms Of The McKinsey 7S Framework O'Mahoney and sturdy (2015" 1) critique, "McKinsey deploys multiple forms of power, but is also substantially resisted, not only by clients, but by a range of agentic, institutional and ideological factors that are rarely considered together."

"The 7 S model is about achieving strategic fit across the organization. Richard D'Aveni in his book Hypercompetition argues that this consistency makes the business predictable and therefore easier for a competitor following an aggressive strategy to anticipate and beat.
It's an interesting idea and a case of "your strength becomes your weakness". With the 7 S Model, you chances of implementing strategy increase but competitors can guess what you're trying to do."
(Paul Simister, 2011)".[1]

Booz Allen Hamilton (BAH) BAH say they serve clients by helping them to invent the future. BAH offers a blend of management, technology and engineering expertise together with products to deliver the right breakthrough ideas.[5] Their six components of BAH Total Rewards Systems aligns employee performance with corporate mission/vision: 1. Incentives aligned to mission, strategy, and values; robust and credible performance management process; Objectives measures (competencies, SMART goals, balanced scorecard); timely employee conversations; customized rewards (e.g. merit pay, cash bonus, training); and individual, team, and organizational based programs.

CGI - Conseillers en gestion et informatique or IT and Management Consultants is a Canadian global company headquartered in Montreal, Quebec, Canada. It provides consulting, systems

integration, outsourcing, and solutions to its clients through the use of its managed services model. CGI believes that "end-to-end services provide the depth and innovation to achieve results." [12]

It uses different models for its different services. Like for example, IT outsourcing services uses CGI's outcome-based model that is deemed better than the common models focused on costs cutting by using temporary hired-workers or outsourcing to markets that pay lower wages. The model is founded on the benefits it provides rather than the resources it involves. [13]

IT transistion

CGI's IT governance model is based on an optimal division of responsibilities and goes far beyond traditional management models and those that focus on cost provisioning and labor arbitrage. CGI's IT governance model allows clients to maintain optimal alignment of strategic IT functions to meet their business needs and increase competitiveness, as well as to apply best practices in order to reduce costs and delivery time for operations and special projects alike. The model is based on four fundamental principles:

CGI's **global delivery model** helps drive down costs and speed up implementation of strategic initiatives, enabling you to compete and win in the global economy. At CGI, we invest to meet our clients' future challenges through a full-service portfolio and flexible delivery options that balance cost, quality and risk. Our best-fit delivery approach includes CGI's unique client proximity model that provides for local resources to deliver the quick response and local accountability required for success. Through these local teams, we offer onshore, nearshore and offshore options that include the skilled resources of 18,000 members in our global and local delivery centers, which operate under a common governance model that delivers consistent results.

Transitioning IT services, know-how and people in an outsourcing engagement can be complex. Effective **IT transition management** ensures your environment is integrated in a seamless manner with a focus on maximizing business availability.

CGI's proven transition methodologies, practices and processes focus on results and identify sustainable opportunities for streamlining and strengthening your operations. Our approach is

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supported by a rigorous project management framework and effective communication and governance.

At CGI, IT outsourcing goes hand-in-hand with our Management Foundation governance model. This model includes three major frameworks, including one that focuses on quality assurance and client satisfaction, which we call the Client Partnership Management Framework (CPMF). The CPMF covers every aspect of our engagements, including service offerings, contract negotiations and service delivery, and makes use of the best IT **tools and processes** available.

CGI's **IT outsourcing services** allow business executives to retain control over IT strategies while benefiting from reduced operating costs and risks without compromising service delivery to end users and their clients. With CGI's *managed services* model, we assume responsibility for operations delivery, drawing on IT governance best practices. As a full-service IT provider, CGI rigorously manages operations, focusing on quality and operational excellence, while offering competitive pricing. We build lasting partnerships based on trust and transparency. Our service delivery approach is rooted in operational excellence, and our management model puts accountability and leadership first.

Computer Sciences Corporation (**CSC**) is an American multinational corporation that provides information technology (IT) services and professional services. Its headquarters are located in Falls Church, Virginia. **CSC** has 6,000 consultants and 56,000 employees in 70 countries. They are organized. The are organized around technology consulting, enterprises solution consulting, and industry consulting services. CSC's purpose-designed computer software used to satisfy the needs of an organization rather than individual users. Their reputation has a few wrinkles.

"In June 2013, Margaret Hodge, chair of the Public Accounts Committee, a Select Committee of the British House of Commons, described CSC as a "rotten company providing a hopeless system" with reference to their multibillion-pound contract to deliver the National Programme for IT Lorenzo contract."[36]

"In December 2011, the non-partisan organization Public Campaign criticized CSC for spending $4.39 million on lobbying and not paying any taxes during 2008–10, instead getting $305 million in tax rebates, despite making a profit of $1.67 billion".[37]

"In February 2011, the U.S. Securities and Exchange Commission (SEC) launched a fraud investigation into CSC's accounting practices in Denmark and Australian business. CSC's CFO Mike Mancuso confirmed that accounting errors and intentional misconduct by certain personnel in Australia prompted SEC regulators to turn their gaze to Australia. Mancuso also stated that the

alleged misconduct includes $19 million in both intentional accounting irregularities and unintentional accounting errors."

FRACTAL CHANGE MANAGEMENT CONSULTANCY

Nine of the ten consultancy giant firms reviewed here (except PwC), are without awareness of ecosystems, and treat the environment as if ony other organizations matter, ignoring Gaia, the living planet. All ten are stuck in structural-functionalism, and the TFW-virus. We would like to conclude with a presentation of a quantum storytelling approaches: Fractal Change Management (FCM), Fractal Action Research Method (FRM), and sociomateriality (Henderson & Boje, 2016; Boje & Henderson, 2015).
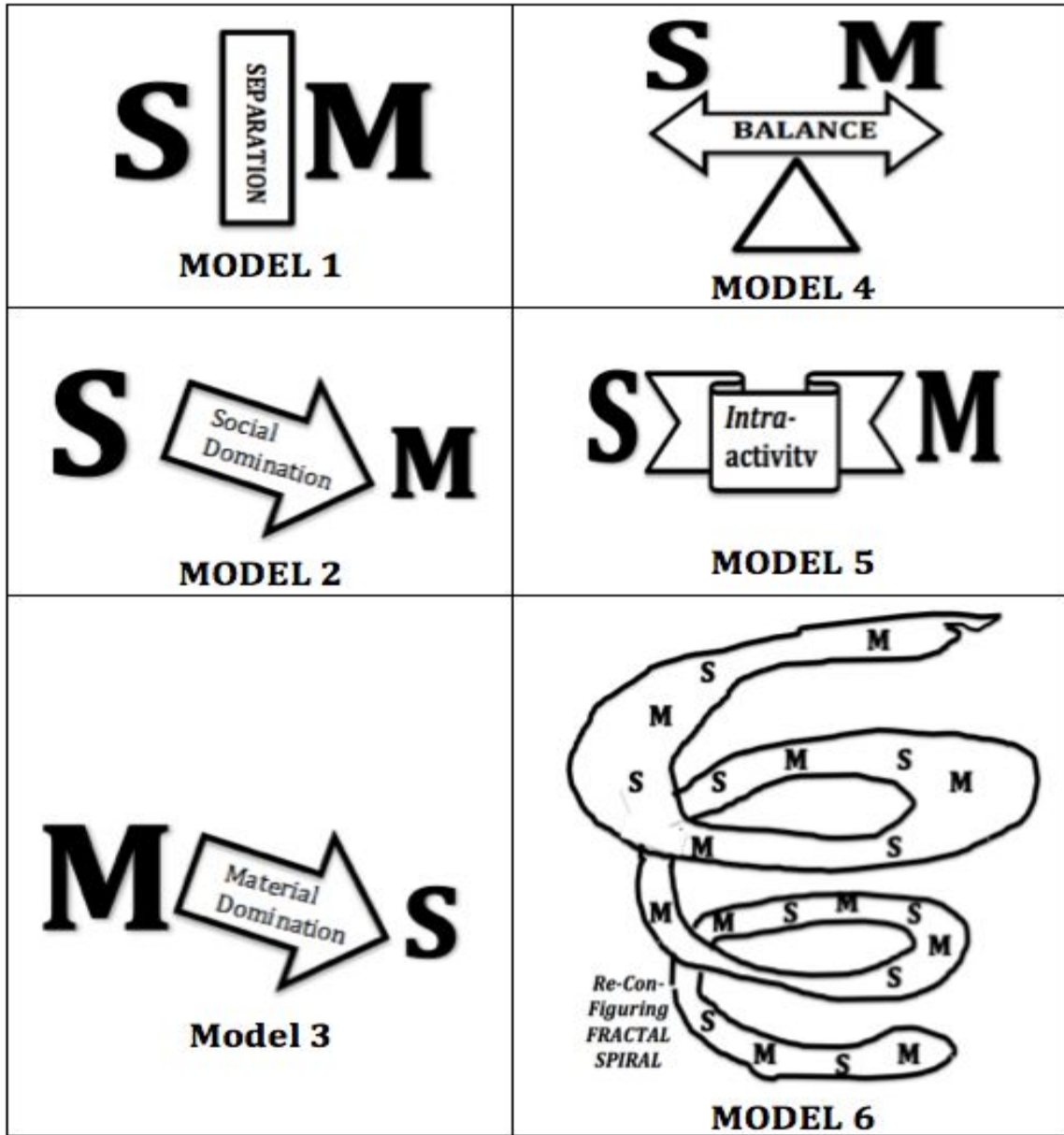
Figure 3: Six Models of Sociomaterialism (Original drawing by D. Boje, used by permission; adapted from Henderson & Boje, 2016).

Henderson and Boje (2016) propose six models of socialmaterialism and use Aristotle's fourfold cause and effect notion: 1. Efficient cause of the human doing to organizing, 2. Formal cause of the image-in-mind of the final effect, 3. Material cause of the materiality itself shaping what is effected, and 4. Final cause (such as the acorn seed destined to produce the might oak tree).

Model 1 (in above figure), is the Cartesian dualism, a separation of social (S) and materialism (M). In quantum storytelling consulting (QSC) we reject the Cartesian separation of S

from M. Social bodies are material, entangled in the inseparability of spacetimemattering (Barad, 2003, 2007). We contend that without exception, the ten Giant Consultancy Firms have a Cartesian split between S and M.

Model 2 (Social Domination Model) S → M, the social dominates the material. It is rooted in Social Darwinism (Herbert Spencer) where social systems are constructed as the primary force shaping the material realities of organization and ecosystem. It is Aristotle's efficient cause of human agent sculpting the materiality. In the structural-functionalist frameworks of the ten Gian Consultancy FIrms, the social hierarchy and administrative order rule supreme over materiality. Henderson and Boje (2016a: 7) give this illustration of the Social Domination Model: it "follows the Western habit of placing man at the top of the hierarchy, giving him biblically inspired dominion to shape the posthuman assemblages of which he or she is a part at will, assigning socially constructed meaning that is accepted in the greater context without challenge." The attempts to install a management 'style' of participation get overrun (e.g. in McKinsey 7's) get overwhelmed by the TFW-virus of hierarchical formism-cause of command and control. We agree with Mazmanian, Cohn, and Dourish (2014) that: "Indeed, the term 'sociomaterial' itself is potentially misleading here, since it seems to frame the social and the material as different and distinct domains, suggesting that the goal is to draw the appropriate boundaries, identify material features pliable to social norms, or expose social norms that sediment otherwise flexible materials."

Model 3 (Material Domination Model) M ⟶ S, Aristotle's material cause dominates both formism and efficient causes. In mechanistic organization formism cause, it is the materiality that rules over the social (efficient causes). The mechanistic processes, even in the venerated TQM, Kaizen (continuous improvement) and Business Process Reengineering (BPR) processes, touted by the big ten Consultancy Giants, are a material domination model of material causation. The material substantively limits the way the social (management, workforce, suppliers, customers) are assembled into the material operation processes. Deloitte relies on BPR as materiality dominates all social aspects into submission. Other consultancy firms install ***Enterprise Resource Planning*** (ERP), a process of purchasing consultancy software and hardware that materially manages the manufacturing process, the information system itself calls forth planning,

purchasing, inventory stocking points, supply chain production and delivery, sales, human resource, and even finance software scripts to order about the social components of the enterprise.

ERP consultancy is important to coping with standards. Boje (2016) describes how ISO 9000, for example, uses process terms (inputs, outputs, controls, resources, information, agent constraints, etc.) performed in an enterprise's situations. In ERP, a *Motivating Scenario* narrative, with its process terminology concepts is used to represent products produced in an enterprise. In ERP, if faulty products are measured, causes are projected for inspection and testing of nonconformities. Competency questions are asked along with agent constraints, and process control. Products pass or fail inspections and/or tests according to defined criteria, in accordance with ISO standards. In ERP, automations, the *Motivating Scenario mono*-narrative (linear fractal), each employee has his or her role in the production, inspection, testing, and reporting micro-theory, but it is so far a very linear.

Tetranormalizing the ERP standards fractals means questioning the rational choice and self-interest, bring in biological and cultural fore-caring, beyond survival of the fittest or most authoritarian. Each Wing of Tetranormalizing (Boje, 2016a) is increasingly multifractal, the iterating, self-similar, and simple standard-fractals and norm-fractals repeating, at ever-finer scales of analysis — creates emergent Tetra-complexity patterns that are nonlinear. Attunement comes from a fore-caring ontology. In a *Tetranormalixing* the four *Fores*:

1.   Fore-having preparation in advance by normalizing not just standardizing externally

2.   Fore-structuring against confining standards inducing bureau-pathology conditions

3.   Fore-concepts a new language, new visuals, new antenarratives to understand the patterning process of not only linear- and cyclic-fractals, but to discern and prepare notions to conceive of the spiral- and rhizomatic-fractal patterns.

4.   Fore-sight and fore-telling the future developments of multifractal patterns being collapsed into Being by ERP.

Table 3. Firms with ERP (a process to spread the TFW virus)

Consultancy Giant Firms	ERP
1. **Deloitte Consulting**	✔
2. **Strategy&** (part of PwC Network)	✔
3. **Erest & Young** Consulting Practice	✔
4. **KPMG**	✔
5. **Accenture**	✔
6. **IBM**	✔
7. **McKinsey & Company**	✔
8. **Booz Allen Hamilton**	✔
9. **CGI"Conseillers en Gestion et Informatique"**	✔
10. **CSC "Computer Sciences Corporation"**	✔

Critics of ERP consultancy packages (Stapleton, 2006; Willis & Chiasson, 2007,[14] point out this commoditization of business processes is a competitive disadvantage. Most of all the result of ERP is that it is no longer a human system, it's a material actant driving the social, and may be a weak cultural fit to the client. Strategy& (PwC) says it "has found that many ERP programs do not result in a sustainable competitive advantage or improved financial performance."[15]

First, since all companies purchasing the same material ERP hardware-software will perform their reengineered processes in exactly the same predictable way.

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[14] Bayt.com https://www.bayt.com/en/specialties/q/253629/what-is-one-of-the-criticisms-of-erp-systems/ accessed December 21 2016

[15] http://www.strategyand.pwc.com/media/uploads/ERP

Second, the cost of ERP planning, customization, testing, and implementation is too high. The payback period to recoup results can wipe out the advantages of ERP.

Third, it is too time-consuming, often taking 1-3 years, which is great for Giant Consultancy Firm billing revenues, but locks the client into something that is now too costly and too time-consuming to change.

Fourth, without customization (which increases cost and time) it is impossible to strap on an ERP that is an exact or even an approximate fit to the client's business model parameters. The social is bound in so many restrictions that the self-organizing complex adaptive sociomaterial models below do not have. With high customization, the upgrade costs are too high, and the client is stuck, unable to change, as competitors, customer preferences, technologies, and materials change.

Fifth, once the client organization is in the M $\longrightarrow$ S model, then the participation it takes by the suppliers, customers, all functions and levels to co-create successful implementation requires so much training, it's s doomed to fail (Aristotle's final cause). ERP is difficult to learn and use, but once in, the materiality of software-hardware dominates the social. Sixth, there are added material costs. Besides software-hardware, and training, there is the cost of infrastructure, upgrading wireless networks, server capacity, etc.

Seventh, migration from the existing material and social systems to the standalone ERP system can be the end of flexible adaptive and decentralized self-organizing responsiveness of the client organization's business units and processes.

Finally, the ERP locks-in the client to a single vendor for upgrades and training, making the client dependent.

Model 4 Balancing S and M The Balance Model seeks equilibrium, harmony, or symmetry between S and M. This is a common fallacy of systems thinking, that balancing is possible, since it assumes separation of S and M, and then that there is an invisible hand that balances them. Henderson and Boje (2016: 8) call this a gross

'narrative generalization' and it's a false assumption of coherence, and also misplaced concreteness. Balancing denies the forces of self-organizing adaptive complexity, that our model of fore-caring antenarrative processes have as standpoint. Balancing does not work. Big ten Consultancy Giants are too quick to give advice to CEOs to cut back on hours, and force workers to accept even lower subsistence wage rates. As the descending spiral-fractal deepens, there are less resources available to reterritorialize the ascending spiral. Wealth has become an abusive power that depreciates worker standards of living, with depressive effects on production and distribution. Boje (2016a) argues that this descending spiral is sucking all the vitality out of the ascending spiral. The market has nothing by artificial regulation, so it is not possible to rebalance the ascending and descending spiral relationship, given the reality of the next two models.

Model 5 *intra*-activity of materiality with discourse In Karen Barad's *intra*-activity model of sociomaterialism called agential realism, it assumes materiality that is already entangled with social-discourse (aka, storytelling, tropes, rhetoric, and metaphors) that makes separation of Model 1, the dominance of either S or M, and the balancing act, an impossibility. It is impossible because of the inseparability of spacetimemattering in quantum understanding of physics or our Being-in-the-world of entanglement. Barad takes a posthumanist ethical standpoint called onto-epistemology. Humans are not the only species, and have no more right to the planet than any other species, or to the air, fire, water, and earth materialities upon which all species are dependent for life. Barad says the mapping practices, such as the structural-functionalism, and BPR we have discussed, draw problematic boundaries about some objects and persons in ways that materialize *intra*-action shifts in sociomateriality by their agential cuts. For more on ' Barad's agential realism model, see, Van der Tuin and Dolphijin (2010), Jackson and Mazzei (2016), and Parkins (2008).

Model 6 re-con-figuring Fractal Spiral Both Barad (2001) and Barad (2001: 103) says "the material-discursive apparatuses of production which take account of the intra-active topological dynamics that reconfigure the spacetime manifold." These

agential cuts bring up important problems of sociomaterial connectivity, boundary formation, and exclusion of those beyond the cuts made by those enacting the geometry of power. It is the agency of the sociomateriality assemblage in spacetime mattering that has agency. It is not S or M by itself, or in balance. A related Model 6 is Mazmanian, Cohn, and Dourish (2014) dynamic re-con-fig-uration analysis of planetary exploration. It is a sociomaterial ethnography of the material and social realms are constitutively entangled within organizations engaged in a NASA space mission. We chose to depict it as a re-con-figuring fractal spiral as technologies and storytelling processes re-con-figure each other. For Mazanian, Cohn and Dourish (2014: 2-3) the paradigm shift is:

> "Rather than focusing on the distinct attributes of material and social agencies, configuration takes up the question of how such bounded categories of the social and 3 the material, and the agencies attributed to them, are co-constructed (or con-figured, that is, figured together)... Thus, we focus on this process of dynamic reconfiguration – the ongoing, shifting, and open-ended work to delimit and define the social and the material and the relationship between them. Social and material are each figured in relation to each other, and in relation to the phenomenal objects of work practice, in an ongoing manner."

They invoke quantum storytelling (p. 4):

> "Commands to conduct scientific observation, navigation maneuvers, and health and safety checks will be radiated via microwave beams to the spacecraft that has been orbiting the planet for close to seven years. The commands radiate to the craft and everyone sits tight waiting for the three-hour round-trip light-time before they will get confirmation that commands have been received and executed properly on board the craft. As the bits rain back down to earth, scooped up by the antenna, the screens become active, showing contact has been successful. These commands are sent using one of the most well known symbolic systems, on/off, yes/no, zero/one, the information bit – a system scalable, durable, and deceptively robust. However, it is also precarious. For in deep space a zero is not always a zero. Occasionally a bit gets flipped. The engineers spot something unexpected on the screen indicating a problem encountered by the spacecraft. They analyze the spacecraft data in order to deduce the cause of some anomalous behavior. They run tests in the basement laboratory that contains a simulation of the spacecraft's on-board computer systems. And after much research they figure out that a bit has flipped. A high-energy particle traveling through deep space – a "cosmic ray" – has intercepted the bits transmitted from earth, turning a zero into a one and, in a

very real sense, reconfiguring how those on the ground orient to and understand the craft in space."

The problem space that QSC addresses is the challenge of fore-caring for the mutual entanglement of information and material processes that are already entangled and not just selective projections of a S or M structural functionalism. Model 6 of the re-con-figuring Fractal Spiral is a process whereby sociomaterial phenomenon be it FORTRAN-based legacy software, hardware, microwave beams, observational apparatus such as cameras pointing to and capturing images, mechanical equipment, bits of particle raining down on antennas, navigating the spacecraft, and so are re-con-figuring in a fluid, adaptive way to the situation earth in the cosmos.

In conclusion, the ten Giant Consultancy Models, do not fully account for ways in which social and material worlds are inseparable configurations, that have the agency of self-organizing complex adaptive systems, an agency all their own. It is our challenge to develop QSC to fill this gap.

In this handbook, we build on the work of the quantum storytelling conference participants who over the past six years have developed quantum storytelling interventions .

Boje, Svane, Henderson, and Strevel (in press) connect the ethics of answerability to the kinds of sociomaterial circumstances of Tamara-Land. They focus on the tetranormalizing fractals (see Boje, 2016a). Actors and actants staged in different rooms of an organization (or across many organizations geographically distant) are simultaneously doing storytelling in a distributed sociomaterial re-con-figuring, and also trying to ascertain how the story and official narratives are unfolding in other locations around the world.

In this book, Anete Strand (and colleagues) continue their work on material storytelling, an approach to organization design, rooted in Karen Barad's agential realism model 5, intra-activity, and in Bojean storytelling dynamics between living stories, antenarratives, and grander narratives.

Tonya Henderson continues her work on Fractal Change Management (FCM). Her model of Fractal Action Research Model (FARM) begins with recognize and attuning to turbulence, getting a baseline of its effect on organizational systems, tracing the fractal patterns, and exploring them to assess antenarrative potential for fore-caring. This is an ontological fractal inquiry based on her dissertation (Henderson, 2013: see also Henderson and Boje, 2016: 152). There are multifractal configurations of branching fractals, spiral fractals, Koch snowflake fractals, Sierpinski selfsame triangle fractals, and Mandelbrot fractals to name but a few. These fractal patterns have inspired movies, graphic depictions, even songs about fractals that are infecting popular culture (the movies Frozen and Arrival, are examples). This has given rise to fractal stories, fractal narratives, and fractal antenarratives.

In sum, quantum storytelling consultancy (QSC) includes antenarrative fractal change management to cope with entangled spacetimemattering processes across scalability, through fore-caring, in advance, before re-con-figuring, collapsing waves into particular events.

References

Barad, K. (2001). Re (con) figuring space, time, and matter. *Feminist locations: Global and local, theory and practice*, 75-109.

Barad, K (2007). Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning, Duke University Press.

Barad, K. (2003). Posthumanist performativity: Toward an understanding of how matter comes to matter, Signs, vol. 28, no. 3, pp. 801-831.

Barad, K. (2011). Nature's queer performativity. *Qui Parle: Critical Humanities and Social Sciences*, *19*(2), 121-158.

Bhaskar, R. (1975). 1978. A Realist Theory of Science. London/NY: Routledge Taylor & Francis Group.
http://uberty.org/wp-content/uploads/2015/09/Roy_Bhaskar_A_Realist_Theory_of_Science.pdf

Bhaskar, R. (1993/2008). *Dialectic: The pulse of freedom*. London/NY: Routledge Taylor & Francis Group.

Bhaskar, R. (2010). Contexts of interdisciplinarity" interdisciplinarity and cliate change. Pp. 1-24 in Bhaskar, R.; Frank, Cheryl; Hoyer, Karl Georg; Naess, Petter' Parker, Jenneth. (Eds.). (2010). *Interdisciplinarity and climate change: Transforming knowledge and practice for our global future*. London/NY: Routledge Taylor & Francis Group.

Bhaskar, R.; Frank, Cheryl; Hoyer, Karl Georg; Naess, Petter' Parker, Jenneth. (Eds.). (2010). *Interdisciplinarity and climate change: Transforming knowledge and practice for our global future*. London/NY: Routledge Taylor & Francis Group.

Boje, D. M. (*in review). Action Research Needs a Quantum Storytelling Theory of Action and Research.* In review. Pre-press version at
https://davidboje.wordpress.com/2016/11/18/action-research-needs-a-quantum-storytelling-theory-of-action-and-research/

Boje, D. M. (1995). "Stories of the Storytelling Organization: A Postmodern Analysis of Disney as 'Tamara-land.'" Academy of Management Journal. 38(4): 997-1035.*http://business.nmsu.edu/~dboje/papers/DisneyTamaraland.html or print out the PDF version

Boje, D. M. (2008). *Storytelling Organizations*. London: Sage.

Boje, D. M. (2011). *Storytelling and the Future of Organizations: An Antenarrative Handbook* (London: Routledge Studies in Management, Organizations and Society).

Boje, D. M. (2012a). *Quantum Storytelling*. Free book on line.
http://www.learningace.com/doc/2435498/2c58a299cd4b320ebbcdfa219906a5b2/the-quantum-physics-of-storytelling-in-book-format-jan-2011-boje or
http://business.nmsu.edu/~dboje/448/The%20Quantum%20Physics%20of%20Storytelling%20in%20book%20format%20Jan%202011%20Boje.pdf

Boje, D. M. (2012b) **Quantum Spirals for Business Consulting.** Free book online.
http://business.nmsu.edu/~dboje/448/QUANTUM%20SPIRALS%20for%20Business%20Consulting%20a%20book%20by%20David%20M%20Boje%20July%209%202012.pdf

Boje, D. M. (2012c). Reflections: What does quantum physics of storytelling mean for change management?. Journal of Change Management, 12(3), 253-271.

Boje, D. M. (2014). *Storytelling organizational practices: Managing in the quantum age*. London/NY: Routledge Taylor & Francis Group.

Boje, D. M. (2016a). Change solutions to the chaos of standards and norms overwhelming organizations: Four wings of tetranormalizing. London/NY: Routledge.

Boje, D. M. (2016b). Dialectical Storytelling Science in a Multifractal World. Blog post
https://davidboje.wordpress.com/2016/05/24/dialectical-storytelling-science-in-a-multifractal-world/

Boje, David M.; Cast, Melissa; Saylors, Rohny. (2014). Liquid times for the entrepreneurial identity of non-profit organization. Pp. 140-152 in Jerzy Kociatkiewicz and Monica Kostera. London/NY: Routledge (Taylor & Francis Group).

Boje, D. M. & Henderson, T. L. (Eds.). (2014). Being Quantum: Ontological Storytelling in the Age of Antenarrative. Cambridge Scholars Publishing.

Boje, David M.; Henderson, Tonya L. (2016). Fostering awareness of fractal patterns in organizations. Pp. 22- 36 in Bernard Bunes and Julian Randall (Eds.) Perspectives on Change: What academics, consultants and managers really think about change. NY/London: Routledge (Taylor & Francis Group).

Boje, David M.; Saylors, Rohny. (2013). Virtuality and materiality in the ethics of storytelling answerability: Implications for leadership and change. Pp. 75-96 in Rune Todnem BY and Bernard Burnes (Eds.) Organizational Change, Leadership and Ethics; leading Organizations Towards Sustainability. London/NY: Routledge (Taylor & Francis Company).

Boje, D. M., Rosile, G. A., Dennehy, R., & Summers, D. J. (1997). Restorying Reengineering Some Deconstructions and Postmodern Alternatives. *Communication Research*, *24*(6), 631-668.

Boje, D. M., Svane, M., Henderson, T. L., & Strevel, H. B. (in press). Critical corporate social responsibility in tamara-land: The role of tetranormalizing fractals. In R. Ocler (Ed.), Book

chapter for a Springer collection, Rodolphe Ocler (ed.).
http://davidboje.com/vita/paper_pdfs/CSR%20Chapter_16_March_2015.pdf

Boje, M., & Svane, M., Gergerich, E. (in press). Counternarrative and Antenarrative Inquiry in Two Cross-Cultural Contexts. European Journal of Cross-Cultural Competence and Management, Vol. 4, No. 1, 2016 55-84. Pre-press draft available at
http://davidboje.com/vita/paper_pdfs/CHAPTER_Fractal%20change%20management%20and%20counternarrative%20in%20crosscultural.pdf

Brier (2015). *For Progress in Biophysics and Molecular biology: Special theme issue on Integral Biomathics: Life Sciences, Mathematics, and Phenomenological Philosophy. In* Progress in biophysics and molecular biology. Butler, J. A. V., & Noble, D. (Eds.). (2015). Elsevier.

Chin, Eric. "The MBB Trio In Management Consulting". *www.beatoncapital.com*. Archived from the original on 22 October 2014. Retrieved 18 October 2014.
https://web.archive.org/web/20141022145029/http://www.beatoncapital.com/2013/08/the-mbb-trio-in-strategy-consulting-a-tale-of-three-kingdoms/

Duarte, G. A. (2014). *Fractal Narrative: About the Relationship Between Geometries and Technology and Its Impact on Narrative Spaces* (Vol. 12). transcript Verlag.

Greiner, Larry; Olson, Thomas (25 June 2004). *Contemporary consultant casebook: educating today's consultants*. Thomson/South-Western.

Hammer, M., & Champy, J. (1993/2009). *Reengineering the Corporation: Manifesto for Business Revolution, A*. Zondervan.

Henderson, T. H. (2013). *An ontology of storytelling systemicity: Management, fractals and the Waldo Canyon fire* (Doctoral dissertation, COLORADO TECHNICAL UNIVERSITY).

Hitchin, Linda (2016). Method and story fragments: Working through untold method. Pp. 213-238 in Michal Izak, Linda Hitchin, and David Anderson (Eds.) Untold Stories in Organizations. NY/London: Routledge (Taylor & Francis Group).

Hopfl, Heather. (2005). Indifference. Pp. 61-71 in Campbell Jones and Damian O'Doherty (Eds.) Manifestos for the Business School of Tomorrow. Stanford, CA: Creative Commons. ISBN 952-91-8907-9 (print).

Jackson, A. Y., & Mazzei, L. A. (2016). Thinking with an agentic assemblage in posthuman inquiry. In *Posthuman Research Practices in Education* (pp. 93-107). Palgrave Macmillan UK.

Kötke, William. H. (1993). The Final Empire: The Collapse of Civilization and the Seed of the Future. Portland, OR: Arrow Point Press.

Minahen, Charles D. (1993). Votex/t: The Poetics of Turbulence. University Park, PN: The Pennsylvania State University Press.

Machiavelli, N. (1513/2010). *The prince*. IL: University of Chicago Press.

Mazmanian, M., Cohn, M. L., & Dourish, P. (2014). Dynamic Reconfiguration in Planetary Exploration: A Sociomaterial Ethnography. *Mis Quarterly*, *38*(3), 831-848.

O'Mahoney, J., & Sturdy, A. (2015). Power and the diffusion of management ideas: The case of McKinsey & Co. *Management Learning*, 1350507615591756.

Parkins, I. (2008). Building a feminist theory of fashion: Karen Barad's agential realism. *Australian Feminist Studies*, *23*(58), 501-515.

Rosile, Grace Ann; Boje, David M.; Nez, Carma Claw. (2016). "Ensemble Leadership Theory: Collectivist, Relational, and Heterarchical Roots from Indigenous Contexts." Leadership journal.CLICK HERE for online prepublication draft

Stapleton, L. (2006). Modes of reasoning in theories of the social impact of advanced technology: A critique of ERP systems in healthcare. *Annual Reviews in Control*, *30*(2), 243-253.

Svane, M., & Boje, D. (2014). Merger strategy, cross-cultural involvement and polyphony. Between Cultures and Paradigms, IACCM 2014, University of Warwick, UK. Conference Proceeding. To be published in: European Journal of Cross-Cultural Competence and Management.

Svane, M.; Gergerich, Erika M.; Boje, D. M. (2016). Fractal change managment and counter-narrative in cross-cultural change. Pp. 129-154 in Kuhn, Timothy, Mariann Wolff Lundholt, and Sanne Frandsen (Eds.) *Counter-Narratives and Organization*. NY/London: Routledge.

Svane, M., & Boje, D. (2015). Tamara land fractal change management – in between managerialist narrative and polyphonic living stories. Sc'Moi, Standing Conference for Management and Organizational Inquiry, Las Vegas. http://vbn.aau.dk/ws/files/225730097/Tamara_Land_Fractal_Change_Management_Las_Vegas_Paper.pdf

Van der Tuin, I., & Dolphijn, R. (2010). The transversality of new materialism. *Women: a cultural review*, *21*(2), 153-171.

Varra, Eero; Sonenshein, Scott; Boje, David. M. (2015). "Narratives as Sources of Stability and Change in Organizations: Approaches and Directions for Future Research", **Academy of Management Annals**. Nov 24 2015 published on Taylor & Francis Online. It is available at: http://www.tandfonline.com/doi/full/10.1080/19416520.2016.1120963

Szczerba, Marta (5 March 2014). "The Big Three: meet the world's top consulting firms"(72). The Gateway. Retrieved 18 October 2014

Vault Survey Report (2015). http://www.vault.com/company-rankings/consulting/best-consulting-firms-prestige/?sRankID=77&rYear=2015

Weick, K. E. (1995). Sensemaking in Organizations. CA: Sage.

Willis, R., & Chiasson, M. (2007). Do the ends justify the means? A Gramscian critique of the processes of consent during an ERP implementation. *Information Technology & People*, *20*(3), 212-234.

Worley, C. G., Zardet, V., Bonnet, M., & Savall, A. (2015). *Becoming Agile: How the SEAM Approach to Management Builds Adaptability*. John Wiley & Sons.

Žižek, S. (2012). *Less than nothing: Hegel and the shadow of dialectical materialism*. Verso Books.

---

[1] http://www.differentiateyourbusiness.co.uk/mckinsey-7-s-framework-for-strategic-fit

[2] Wikipedia https://en.wikipedia.org/wiki/Big_Three_(management_consultancies)

[3] Deloitte website https://www2.deloitte.com/content/dam/Deloitte/sg/Documents/risk/risk-sea-analytics-driven-process-design.pdf

[4] http://www.strategyand.pwc.com/cds

[5] http://www.boozallen.com/content/dam/boozallen/documents/about/Booz-Allen-Defining-Moments-100-History-Book.pdf

[6] http://www.pwc.co.uk/who-we-are/corporate-sustainability/business-model.html (as of December 19, 2016)

[7] http://www.pwc.com/gx/en/services/advisory/consulting.html (as of December 19, 2016)

[8] http://finance.toolbox.com/companies/pwc-financial ; http://slideplayer.com/slide/8370069/ (as of December 19, 2016)

[9] http://www.pwc.co.uk/who-we-are/corporate-sustainability/valuing-our-total-impact.html

[10] slide 24 http://www.slideshare.net/ernstandyoung/building-a-mobility-policy