Quantum Storytelling: An Ontological Perspective on Process

Abstract

The purpose of this chapter is to bring the reader from the present state of storytelling research to the cutting edge of process theory in storytelling. Most importantly, this brings to the surface quantum storytelling. We do this by outlining a three part model of the quantum storytelling process: Empiric Stories, Epistemic Narratives, and Ontological Living Stories; each connected to one-another through the antenarrative process. If these concepts are novel do not worry, we will define them as we go through. We further develop the ontological by delving in to eleven Ds that are manifestations of the ontological. This is a contribution both in terms of advancing narrative analysis and in elucidating the processual dimensions of narrative and storytelling research, thus adding to the conversation surrounding process organization studies.

Introduction

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   In order to draw the reader through our development of this idea Boje (the I referenced in the text) will present, throughout, the art of the metal working process, based on Heidegger's *Being and Time, Question Concerning Technology,* and *Poetry, Language, and Thought*. Heidegger's work has several examples of hammers as equipment, and the hammering process, in relation to equipmentality. My focus here is on

blacksmithing that has to do with taking care of things, such as one's hammer. This essay develops the theory and method in an ongoing study of blacksmith artists and their artwork in Canada, France, Greece, Poland, U.K. and U.S. Here I will report on my own autoethnography of blacksmithing.

Blacksmithing, goldsmithing, silversmithing, swordsmithing, armorsmithing, and the other metalsmithing arts date back to the most ancient premodern times, and are mentioned several times in Homer's (800 BCE) poems:

> Nestor gave out the gold, and the smith gilded the horns of the heifer that the goddess might have pleasure in their beauty (Homer, 800 BCE Odyssey, Book III).

> As a blacksmith plunges an axe or hatchet into cold water to temper it- for it is this that gives strength to the iron- and it makes a great hiss as he does so, even thus did the Cyclops' eye hiss round the beam of olive wood, and his hideous yells made the cave ring again (Homer, 800 BCE Odyssey, Book IX).

> Before him he held his shield of hammered bronze, that the smith had beaten so fair and round, and had lined with ox hides which he had made fast with rivets of gold all round the shield … (Homer, Iliad, 800 BCE, Book XII).

Homer's references to blacksmithing predate modern industrial processes of metalsmithing. I live in New Mexico. Blacksmiths accompanied the Spanish conquistadors and later were part of the U.S. military, setting up blacksmith shops in the forts. In southern New Mexico Don Juan de Oñate went up the Santa Fe Trail from Mexico to about where Socorro New Mexico is today. Blacksmiths followed Oñate in colonization of the upper Rio Grande Valley of New Mexico. Each immigrant would replicate the old ways of blacksmithing from their home country. The early Spanish and Mexican blacksmiths sold products to the Mexico settlements, in artistic and craft styles
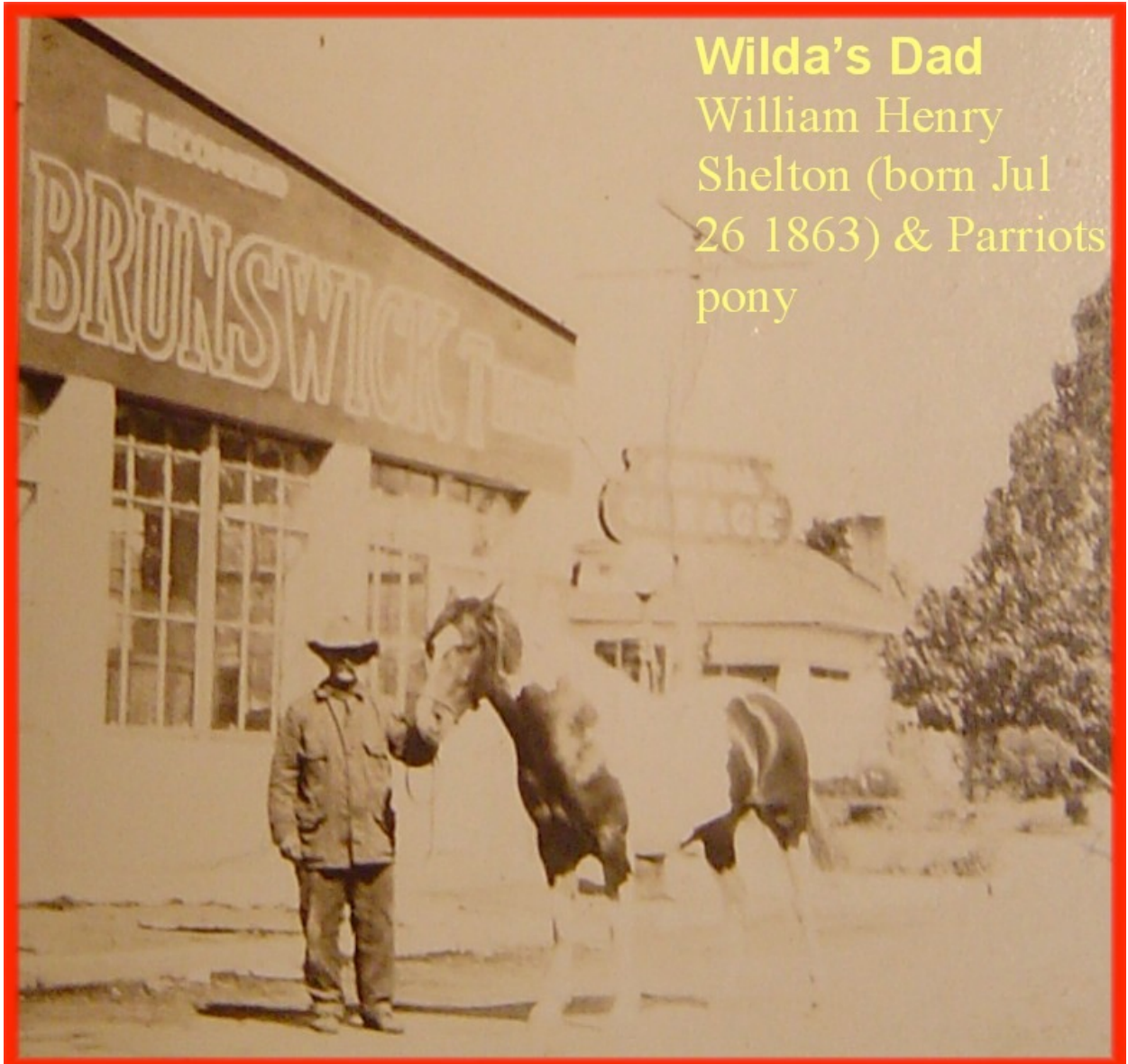
the people knew so well as their cultural heritage. As a master smith, who trains me, tells it, that was the first blacksmithing in New Mexico. On the way back, Oñate had his troops melt down some of their body-armor in order to make horseshoes.

What is the ontological character of a blacksmithing?

> "The real excitement for me in a lot of ways is the process, the physical act of doing it. When you heat something up and you hit it really hard it moves and you can bring it to life, soften it up, and make it hand friendly… learn skills to portray the metal in its most honest form." (quote from Mark Aspery, a blacksmith for 30 years)

> For the past five years I have been learning to move hot metal, to bring it to life, to bring out some artistic form to metal using the ancient elements: fire, earth, water, air, and ether. My blacksmithing is along a path of storytelling being interfused with metal-matter. Sometimes the blacksmithing world offers different paths that open up.

> When I discovered that my great grandfather Sheldon (on my mother's side) was a blacksmith in Goldendale, Washington, after his family crossed the Rocky Mountains in covered wagons, migrating from Iowa along the Oregon Trail, how could I resist the destiny path? William Henry Shelton (born Jul 26 1863 in Brownstown, Indiana; died Aug 18 1946 in Toppenish, WN; buried at Tacoma Cemetery in Yakima, WN) was my grandma Wilda's dad.

Image 1 – William Henry Shelton

Great grandpa Shelton in the late 1800s could forge weld. Many blacksmiths take a forge weld to be a more authentic thing than an arc, a Mig or Tig-weld. Forge welding is the way blacksmiths did things not only in the Middle Ages, but in the time before that, when Homer wrote his poems. I admit it. I still struggle to make a reliable forge weld. You have to heat both pieces of metal to the same orange-yellow color, at a heat of about 2200 degrees Fahrenheit. Then quickly grasping them in tongs, move them to the anvil, and strike gently before one of the pieces cools ahead of the other. I think that forge

welding is essential to making 'authentic' blacksmithing works of art. Entry into what today passes for journeyman blacksmith means being able to forge weld. There is this struggle between the old school of blacksmithing that forge welds and the new school of industrial blacksmithing that uses welding technology.

Hammers are more than things - In *Being and Time* (Heidegger, 1962/1996) the main illustration of thingness is the 'hammer'. And there are passages about 'hammering' as a process of handicraft. And how hammers and tongs go together in metalworking that a blacksmith does. In the essay "The Origin of a Work of Art" (1972 1971) there is a discussion about the thing-concept of what we now call sensemaking (the hardness, the sound that matter makes, its visual form, etc.). The thing-concept, the "conceptual schema" (1972 p. 27) is epistemic, something dear to retrospective-narrative-sensemaking (Weick, 1995). The blacksmith work of art is "the interfusion of form and matter: into 'matter-form'" (1972, p. 28). The thingness of thing, the work of art, is ontic, the matter content of formed matter, its living story (Boje, 2001, 2008). Tools and equipment in blacksmithing art have the "peculiar position intermediate between thing and [art] work" (Heidegger 1972 1971: p. 29).

I will be looking at storytelling/narrative too, in epistemic, empiric, and ontological ways. Care is all about the ontological storytelling life-path people in their organizations are moving along through the world, its environmental landscape. The quantum physicist Karen Barad (2003, 2007) has developed a quantum appreciation for matter in relationship to discourse. Storytelling is one domain of discourse. And discourse is one of the main ways Heidegger suggests that an inquiry into ontology can be done. Quantum storytelling is constituted by three modes of inquiry: epistemic, empiric, and ontological.
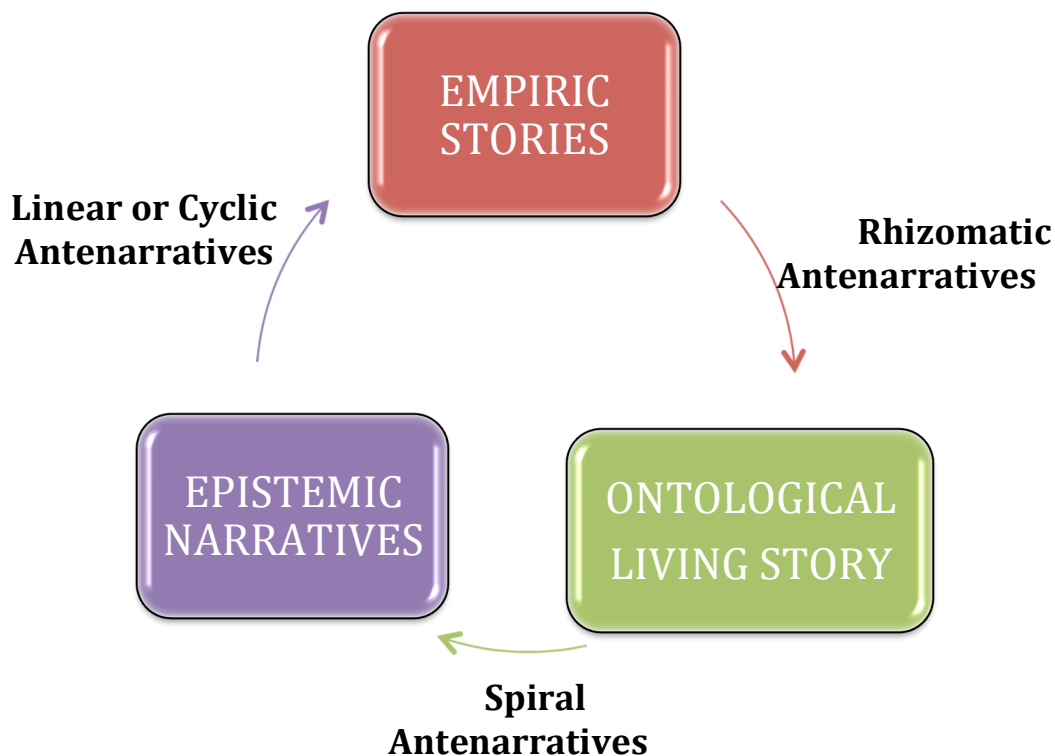
Quantum Storytelling Model

EMPIRIC STORIES

ONTOLOGICAL LIVING STORY

EPISTEMIC NARRATIVES

Linear or Cyclic Antenarratives

Rhizomatic Antenarratives

Spiral Antenarratives

Figure 1- The Three Modes of Storytelling Inquiry: Epistemic, Empiric and Ontological

"The observer is part of the system of description; his/her language is one among several possible others" (van Foerster, 1981, as cited in Antonacopoulou & Tsoukas, 2002: 858). Along with the living stories, the observer effect includes yourself, your voice and stance as Observer who is also Intervening. According to the Quantum Physics of Storytelling (Boje), the observer just by observing is intervening in the process, so might as well stand answerable for it, and include that in your living storying. This is known as your personal reflection on what is happening. Before returning to the world of blacksmiths, process, and equipment, we will present a definition, and hopefully intuitive understanding, of each of the novel concepts presented above.

Modes of Quantum Storytelling Inquiry

        Empiric Stories. The empiric stories are all the 'stuff' that happened. Everyone has their own slice of the world from which they see things, and every one of those views is its own story. These stories do not converge to bring about a 'real story', but rather the whole story is all of the physically real stuff that happened from every possible perspective.

        Epistemic Narratives. The epistemic is what the Greeks called logos, or the logical. It is the part of our being that is trapped within the prison house of language. It takes the story, all the 'stuff' that happened, and turns it into a linear sequence of events running from beginning to middle to end.

        Ontological Living Story. The ontological is the care toward some end which allows for transparent action. A living story is an understanding that stories grow to have lives of their own, a kind of end state of being told and perpetuating themselves. In systems theory each level has an emergent property to it, in living story the emergent becomes the side-mergent, down-mergent, in-mergent etc. Stated simply, the complexity of storytelling systems gain a life of their own such that human intentionality is often utilized transparently *by* living story. This is a complex issue, no doubt, and clarity will only come from fully delving into the ontological Ds that follow. But we will hold that discussion for now and move into the antenarrative processes that connect these three modes of quantum storytelling.

Antenarrative Linking Processes

        Linear/Cyclical Antenarrative. The antenarrative is pre-narrative, a bet that a fragmented polyphonic story will make retrospective, narrative, sense in the future. In a recent description of the bet aspect of antenarrative Karl Weick has said "To talk about antenarrative as a bet is also to invoke an important structure in sense-making; namely, the presumption of logic (Meyer, 1956). 'Without faith in the purposefulness of, and rationality of art, listeners would abandon their attempts to understand, to reconcile deviants to what has gone before or to look for their raison d'être in what is still to come' (1956: 75)." (2012). Antenarratives serve a similar purpose. The process of moving from the nebulous and chaotic story to a narrative with a beginning middle and end is the

antenarrative faith that story fragments will make retrospective sense some time in the future (Thorpe & Holt 2007).

Spiral Antenarrative. Spiral antenarrative goes beyond linear and cybernetic, closed signal loop, systems. Instead it utilizes the dialectic of deviation-amplification and deviation counteraction to show dynamically changing meanings. This is where antenarrative participates with heteroglossia. This is a connection between more immediate-emergence-sensemaking and a prospective-sensemaking that anticipated a possible future by enacting particular sorts of actions of caring and in-Being involved, for a while, iteratively. Spirals are like circles except in that the variability of the trajectory is, itself, dissymmetrical (Deleuze & Guattari, 1994). Meaning that, unlike cycles, that which is part of the new spiral may be made up of, and utilize things unrelated to, the previous iteration.

Rhizomatic Assemblage. Rhizomatic assemblage antenarrative, is the antenarrative process that is not theoretically causal, but rather combinatorial. It builds on the theoretical tradition of qualia, which allows for assemblages of interacting processes. When a narrative is forming but still maintains a level of ambiguity regarding the multiple linear potentials, all of which interact during the formation, then the antenarrative is rhizomatic. Form a storytelling method standpoint, an assemblage (rhizome) has visible runners and invisible roots that connect agents (usually people, but also animals, and the fire of the forge) with actants (usually material things, such as the iron, the carbon, the subatomic stuff). Agents and actants, people and things, are networked together by their runners and rooting connectivity. This shows a kind of rhizome-ontology that can be found amongst various actors and actants. Once we have a grip on this concept, we can move onto looking deeper into the Ds that form our explication of ontological living stories.

The Ontological Ds

I should explain why blacksmithing has anything to do with 'quantum storytelling'. I worked on implementing processes that will be able to help me fashion quantum storytelling with the iron forging and repoussé in my blacksmith shop these past six years. And I am trying to understand just how the storytelling is disclosed in the quantum-ness of the metal, and how the metal is disclosed in the quantum-ness of the

storytelling in the past three years. I am becoming a blacksmith that does quantum storytelling in metal art. What does that look like? I wish I knew. It is a glimmer, that I can almost fore-see, but not quite make out, as my future. I had an idea for doing a sort of double slit experiment by using spark testing just the other day, and a film crew put it on video. A link will appear soon on my website http://peaceaware.com .

Quantum storytelling is a pragmatist-ontological approach to storytelling organization theory, inquiry, and intervention research. It began by developing five Ds in response to Appreciative Inquiry's 4 Ds, as a kind of humorous critique. Now there are 11 Ds. AI's 4 Ds are Destiny, Development, Dream, and Design. It is part of the positive social science, positive psychology, positive organizational behavior, positive change and positive leadership movement. Over the years, debates have raged at the Academy of Management with AI proponents, proposing 'restorying' (White & Epson) as a middle ground with critical theory, and Boje wrote about the sideshadows of AI and with Rosile its relation to other kinds of storytelling consulting; More recently the debate took place on the pages of Journal of Management Inquiry (Boje, 2008a, 2010; Boje & Luhman, 1997; Boje & Rosile, 2003b; White & Epson, 1991; Fitzgerald & Hoxsey, 2010; Boje, 2010). AI, for example, treats deconstruction and critical theory as 'deficit discourses' and, in its method, collects five positive stories for every negative one.

My review of the ontological coaching literature is that many of those books, articles, dissertations, and coaching practice pieces may mention Heidegger's ontology, in passing, as their foundation, but then do not actually render any of his concepts. It is a kind of bait and switch, claiming ontology, then substituting epistemology (knowing, knowledge management) or an Appreciative Inquiry coaching (Carter, 2009) with the four D's, Dream, Design, Develop, Destiny. Boje therefore came up with the 11 Ds approach (Boje 2012 a to g). What began as a joke, in specifying some critical and hermeneutic D's from Heidegger, to oppose the 4Ds of appreciative inquiry, become a complete project with the production of a book (201df), and the film (2012d) on quantum storytelling. A film that was debuted in Aalborg University for my honorary doctorate lecture, and as basis of keynote lecture to the Process Conference in Kos, Greece.

Table 1 – 'D-Concepts,' Questions Asked, Definitions

D-Concepts	Questions Asked	Definitions
1. Directionality	What is the directionality of the processes; to what future are they headed?	Spiral-antenarrative moves right & left, in & out; plunges or ascends
2. Datability	What is the datability of the process developments?	Dates that are primordial from birth to death of some process
3. Duration	What is the duration of various processes?	The span of a process before it changes; threshold
4. Disclosability	What is the disclosability of the future processes revealed?	How future processes are disclosed
5. Destining	What is the destining of the processes unfolding in ways you can foretell? Follow up, in fore-caring, fore-structuring, fore-having, fore-conceiving	The destining of a process that can be foreseen and cared for.
6. Deployment	What is the deployment of processes, in-order-to, for-the-sake-of?	Processes deployed, in-order-to accomplish or for-the-sake-of
7. Dwelling	What is the dwelling, in-place, in the world of blacksmithing art processes?	Dwelling, or 'place' of Being-in-the-world
8. Deseverance	What is the de-severance (de-distancing) of space-time-mattering?	To de-sever space, such as with radio, TV, cell-phone, far is brought into nearness; Desevering time, experience from long ago is connected to one present, or a future event is linked to a current one. Desevering matter in quantum physics is called entanglement.
9. Drafts	What are the drafts, updraft, and downdraft, into tighter (down) orbits, or into more open outer orbits (up), and the turning points from one draft to another?	In a spiral-antenarrative there are choice-points to move from orbit to orbit, or from a down-draft of tight orbits to an updraft of wider orbits that have more libratory potential, at which there are choice-points to head into tighter orbits of downdraft.
10. Dispersion	What is the dispersion of processes, too diverse, or consolidating them?	Blacksmiths accumulate many processes, some are antiquarian blacksmithing practices, some are more monumentally aimed at shaping the future of art, and others are critical historical projects (Nietzsche's three types of history) which Heidegger (1962/1996) refers to towards the end of his book.
11. Detaching	What is the detaching from being drawn into they-ness, they-relations, they-self and finding a path of ownmost	Detaching from processes, to follow a more authentic path in one's art, so one can become what they can Be, instead of follow other's in imitation, one innovates.

| authentic potentiality-for-Being-a-whole-Self? | |

Directionality. Heidegger (1962, # 109, p. 143) "out of directionality arise the fixed direction of right and left" & "left and right are not something 'subjective' from which the subject has a feeling; they are directions of one's directedness into a world that is ready-to-hand already".

Datability. Heidegger (1962, #407, p. 459) "seemingly obvious relational structures which we call 'datability'"; (#408, p. 441) Datability "is the most primordial way of assigning a time"; (#409, p. 462) "allowing oneself time concernfully"; (# 422, p. 474) instead of a succession or a " 'flowing stream' of nows'" in "the course of time" that is a "present-at-hand) "world-time" he proposes "the datable 'now'", "In the ordinary interpretation of time as a sequence of 'nows, both datability and significance are missing" and "covered-up" in a "datability" that "gets leveled off"; (#413, p. 466)

Deployment. Heidegger (1962, p. 89) "the 'in-order-to', the 'for-the-sake-of', and the 'with-which; of an involvement" are "relationships in which concernful circumspection as such already dwells" (cf. dwelling-in). Deployment of tools and processes in my blacksmith shop is all about equipmentality, a deployment not just in space, but in time and in mattering. Hammers in my shop are deployed in processes, in-order-to be ready-to-hand, handy for that process. There is a place for each hammer. This deployment, or "in-order-to: of "serviceability," "Usability," and "manipulability" defines each hammer's deployability, in the totality of equipment, in "equipmentality". It is not a "geometrically spatial" (Heidegger 1962: #68-9, p. 97-8), of the Cartesian or proximal. It is close or far in terms of the role in that process of making something artistic. When a hammer breaks I notice the deployment of the hammer, otherwise I take it for granted. When the hammer is "material unsuitable" to "usability" then that circumspection of deployment is unveiled in its "conspicuousness" (Heidegger 1962: #73, p. 103). The hammer cannot be used and is devoid of readiness-to-hand, and thinghood. It becomes present-at-hand, and I work on bringing it back to readiness or leave it in the random mess. It has no "authenticity" in the process-ness of the shop. It is not serviceable, usable, and manipulable in those processes. It is not equipment ready-to-

hand in-order-to do stuff. What gets illuminated is the caring I do to move the hammer from present-at-hand to readiness-to-hand (IBID, #75, p. 106).

Disclosability. Heidegger (#75, p. 105) says "'disclose' and 'disclosedness' will be used as technical terms in the passages that follow, and shall signify 'to lay open' and 'the character of having been laid open.' Thus 'to disclose' never means anything like to obtain indirectly by inference'"; (#110, p. 145) "co-disclosedness of space"; (#75, p. 105) "disclosedness:, i.e. of a "whole 'workshop' – as that wherein concern always dwells" and "context of equipment is lit up" and "world announces itself"; (#175; p. 219) "The disclosedness of Being-in-the-world"; (#180, p. 224)

Disclosability is something I get in little glimpses. Disclosability is in-space, in-time, and the in-mattering of the future processes I am heading toward, and that are coming my way in the fore-caring of those processes. Wrought iron, for example has .2% carbon (long yellow streaks, becoming leaf like in shape before expiring), mild steel has .3% (more variety in streak length with smaller leaves and some sparking), and medium-carbon steel has up to .59% (almost no leaf, some forking great variety of streak length, sparking nearer the wheel), and high-carbon steel up to 1.5% (no leaf, bushy spark pattern, forking and sparking starting very close to the wheel, less bright than medium-carbon steel) (see Capeforge.com, igor.cudov.com, or Scrapmetaljunkie.com). A high speed grinding wheel knocks off fragments of iron and carbon, which attain a white heat, which mixes with the oxygen in the air to form carbon dioxide, and visible carrier lines. The unique carbon content of iron has its distinctive spark picture, with varying carrier lines, colors, appearance or not of star bursts at the end of the lines, and branches or not in the lines. From a quantum mechanics perspective, what is happening? Particles at greater velocities cause carbon to combine with oxygen, forming carbon monoxide, which gives a luminous color, and a particular trajectory. For fun I conducted my own blacksmithing double slit experiment. When I send sparks of carbon, combining with the oxygen, through two slits, will they make just two impressions on a screen, or will there be the alternating bands? And how do I make that into art. That is the disclosability I am working on.

Destining. Heidegger (19, p. 57) destining is not a succession of eras; (1972) destining; (1962, #56, p. 82) "Being-in-the-world" is bound up with "destiny" of Being of

entities encountered, such as metal of corporeality of Being; (#344, p. 436) Destiny is not something that puts itself together out of individual fates, any more than Being-with-one-another can be conceived as the occurring together of several Subjects"; (#385, p. 437) Generations of blacksmiths, for example, form a historic community grounding in advance the possibilities in "Being of care" the "futural" and in "authentic historicality"; (#150, p. 191) destining is an "interpretation" "grounded in something we have in advance – in afore-having … fore-sight … fore-conception"; (#80, p. 110) "A warning signal, what is coming"; (#90, p. 111)

Destining is a particular teleology in Heisenberg (1958). In the Copenhagen interpretation, there is a change in how we think of materialism. My art is here to rescue materialistic Newtonian mechanistic physics and put blacksmithing into the Quantum Age. My observation is not cut off from the rest of the world. My observation is part of destining of many possibilities, one of which is a quantum probability. I want to do art with old ways of blacksmithing, include some power hammering and plasma cutting, but use the art to express quantum understandings of materiality. In a quantum storytelling, I use the quantum language because it is not a language dominated by classical physics concepts. My art is not yet a reality but only a possibility, what Aristotle calls potentia. My shop and business is called Metallicwind. I use the element of wind to make the sculpture move. I use fire, air, earth, and water as a blacksmith alchemist, but one who is in the Quantum Age. The horse sculpture became a living thing, an actuality of quantum storytelling, made by forging and repoussé processes, where the metal froms out of potentiality. Quantum storytelling is not a dualism of quantum as matter, and storytelling as mind. I can fore-tell the metal with the storytelling coming my way. My art is telling a story, but in quantum ways. Destining is about fate.

Duration. Heidegger (1962 BT, 18, p. 39) "Aristotle to Bergson and even later"; (ibid) "as against Bergson's thesis that the time one has in mind in this conception is space" and is "ontic" and no longer has "authentic ontological relevance"; (#26, p. 49) duration is present-at-hand, as with Parmenides it is ontic. Kant and Bergson are too influenced by Aristotle's essay on time in Physics book; (#47, p. 73) Bergson understands duration as "philosophical anthropology" of experiences; (#333, p. 382) critique of Bergson – "it is not an externalization of a 'qualitative time' into space, as

Bergson's Interpretation of time – which is ontologically quite indefinite and inadequate – would have us believe"; (# 106, p. 140) "'half an hour' is not thirty minutes but a duration which has no 'length' at all in the sense of a quantitative stretch" (ibid) duration is "the pathways we take: that "vary in length from day to day"; (ibid) Duration is not a stretch of space or time, or "corporeal Thing" present-at-hand, rather it is ready-at-hand "a kind of concernful Being:; (#106, pp. 140-1) "a pathway which is long 'Objectively; can be, much shorter than one which is 'Objectively' shorter still but which is perhaps 'hard going' and comes before us as interminably long" yet is "authentically ready-to-hand"

When I am hammering, the duration is not objectively measureable in clock time, nor is it some sort of psychological subjectivity of a tacit knowledge, that could be made explicit in a Polanyi (1966) sense. I become aware when I am in duration time, when Grace Ann comes out to say something, and I am so startled, it is like a missile was fired over my head. I am hammering in the once-occurrent event-ness of 'Being' that Bakhtin (1993) describes, and the Being-in-the-world Heidegger calls duration. When something interrupts me, then I notice, I have been in duration. When I stop and narrate about hammering, I am no longer 'There' in-Being, I am reflecting.

Dwelling. Heidegger (1962 BT, #54, p. 80) "to dwell" signifies Being-in and means "I reside" or "dwell alongside" the world; (# 61, p. 89) we can look at the work from a view-point, "such looking-at enters the mode of dwelling autonomously alongside entities within-the-world. In this kind of 'dwelling' as a holding-oneself-back from any manipulation or utilization, the perception of the present-at-hand is consummated"; (#80, p. 111) "Signs always indicate primarily 'wherein' one lives, where one's concern dwells, what sort of involvement there is with something" such as equipment "ready-to-hand"; (#107, p. 141)

I make-room for tools, by making their dwelling-places, but not in any "metrical science: of distances (Heidegger 1962 BT, #112, p. 147). The places for equipment are ready-to-hand because of their living story involvement not only in the world but in the worldhood of blacksmithing itself. Each hammer "dwells" in its closeness, to ready-to-hand, not in some distance measured in inches from this forge, or in yards from the barn.

De-severance. Heidegger (1962 BT, # 107) "Because Dasein is essentially spatial in the way of de-severance, its dealings always keep within an 'environment; which is desevered from it with a certain leeway…. Accordingly our seeing and hearing always go proximally beyond what is distantially 'closest.'". "Occupying a place must be conceived as a desevering of the environmentally ready-to-hand into a region which has been circumspectively discovered in advance"; (#108: p. 143) "Both directionality and de-severance, as modes of Being-in-the-world, are guided beforehand by the circumspection of concern"; (#109, p. 144) "De-severance and directionality as constitutive characteristics of Being-in are determinative for Dasein's spatiality – for being concernfully and circumspectively in space, in space discovered and within-the-world"; (#299-300, p. 346) "Being-in-the-world has a spatiality of its own, characterized by the phenomena of de-severance and directionality"

De-severance removes remoteness in-space, in-time, and in-mattering. Yet, when I take a Bailey-hammer for granted, my closeness to the hammer, sitting on this anvil, next to me, is as remote as the barn is from this blacksmith shop. "'De-severing' amounts to making the farness vanish." De-severing the remoteness of my Bailey-hammer is a living story, that the hammer is not just proximally close or far from the anvil, but I am "putting it in readiness." De-severing "does not measure off a stretch of space as a corporeal Thing" (ibid). It is not about measuring the hammer in some geometric space, or some corporeal hammer that is present-at-hand. It is about the desevered hammer being ready-to-hand for a lived duration of hammering, not measured in clock time. De-severing in time is when I use a very old blacksmithing process and a very new one. De-severing in space is when I put the remote styles from France (across the ocean) in use in my shop in New Mexico. De-severing in mattering, is when I forge-weld, change carbon alignment by forging, etc. to shape the mattering of my art work.

Drafts. Boje's spiral-antenarrative processes of the thingness of things is in the path of caring, of what Heidegger calls the widest "orbit of the whole draft" (1972, 1971, 130). The widest orbit of the spiral-antenarrative is an unshieldedness Boje calls "inner ♥-space of our worldly existence" based on Heidegger's "heart's space" concept, "inward the true interior of the heart's space" (p. 130). The spiral-antenarrative is a primordial path from birth through death, downward "where all ground breaks off- into the abyss"

(1972, 1971: 119), and upwards, into that end of this life, and into the afterlife. The other attractor is the whole sphere (space-time) force of integral draft. These define the simultaneous forces of the spiral-sphere. The spiral-antenarrative activities and processes are in the "sphereicity of the unifying" a sort of "lightning" (1972, 1971: p. 123). This is the draft attraction of place. The well-roundedness of the spiral-sphere can be "thought of as the Being of beings in the sense of the unconcealing-lightning unifying" (ibid, p. 123). "The widest orbit is the wholeness of the whole draft of attraction: (ibid, p. 124). "When we are touched from out of the widest orbit, the touch goes to our very nature" (ibid, p. 125), in the "globe of Being" (p. 124). For more see Boje (2012b)

Dispersion. Heidegger (1962 BT, # 109, p. 144) "the equipment-context of a world"; (#110; p. 145) "equipment-context ready-to-hand"; (#112, p. 147) "totality of places belonging to equipment ready-to-hand"; (#390, p. 442 "dispersion" and "disconnectedness" arises in an "inauthentic historicality"; (#390, p. 442) "dispersal" of "unity" "our lostness" in the "they"; (#391, p. 442) "The Self's resolution against the inconstancy of distraction"; Another dispersion of processes is a "dispersal" away from "unity" in a shop by following too many other people's ways of doing blacksmithing, which is the "they-self" mimicking of other iron artists (Heidegger 1962 BT, #392, p. 444).

Detaching. Heidegger (1962 BT): Detaching - the process is no longer useful (# 82, p. 113), a severing takes place. Detaching is also something to do with getting out of inauthentic relations to 'they-self' so a Self can form. When the process is a part of disclosability, and directionality, it is not detachable (#95, p. 127). (#130, p.168) "Authentic Being-one's-Self does not rest upon an exceptional condition of the subject, a condition that has been detached from the 'they'' it is rather an existentiale modification of the 'they' – as an essential existentiale."; (#177, p. 221) "Idle talk is not something present-at-hand for itself within the world, as a product detached from Being-with-one-another."; (#298, p. 344) "Resoluteness, as authentic Being-one's-Self, does not detach Dasein from its world, nor does it isolate it so that it becomes a free-floating 'I'."; (#397: p. 449) ""But in so far as this 'today' has been interpreted in terms of understanding a possibility of existence which has been seized upon – an understanding which is repetitive in a futural manner – authentic historiology becomes a way in which the

'today' gets deprives of its character as present' in other words, it becomes a way of painfully detaching oneself from the falling publicness of the 'today'."

Detaching, for me, is about how to get away from imitation, and develop my own uniqueness. In the sense that forging iron has some basic moves one has to learn and then detaching is not possible at that level. But to become a whole-Self as an artist, I detach from certain styles, so as to find my own. If I detach too much, no one can relate. Which renders moot the idea of individuality, at least in the context of shared culture and society. What value is there to being an "individual" except to leverage such an idea to earn profit off of ignorant people.

Discussion

It is with headful concern and care, that a smith decides where to locate hand-held and power hammers in the shop, so they are ready-to-hand. In setting up work to be forged, the hammers most necessary are set out, especially when forge-welding, where the delay of half a second can prevent the weld from taking hold.

I am on a life-path that is already-ahead-of-itself. I am on the way in-the-world, to Being that possibility, rather than the actuality (present-at-hand). This is not some linear concept of time (past-Present-future), but rather a deployment along a path (for-the-sake-of; in-order-to) and the path has a directionality that I am attuned to: up, down, left, right, inward, outward, amplifying, contracting, and so forth. These are not compass directions, not measurable, calculable directions.

Being-ahead-of-itself, the life-path is a projection of nonlinear- and non-cyclical-antenarratives that I call spiral- and rhizomatic-antenarrative life-paths. I find myself in a landscape whose contour features are not of my own choosing. I have little control over the constitutive relations of the life-path. I am 'dwelling-in' the landscape, in-place. I did not choose some of the linear- and cyclical-antenarrative projections being made for this life-path. Things show up along the spiral- and rhizomatic-antenarrative life-path. I have an attunement to the life-path I find myself moving along. My metal art work is developing along a path of art where sculptors use forge weld, use handicraft equipment such as handheld hammers instead of power hammers. I am at best an intermediate blacksmith, no longer the novice, not quite the journeyman, but a long road ahead to become a master smith. It is an ontological path ahead of itself.

Existing research on discourse has reached a great deal of depth within the bounds of narrative. The next move for this theoretical lens is to expand the scope of the epistemological project. Integrating new streams of sociological research that look at the processes of turning subjective experience into narrativized understanding (Caduri, 2013). In particular, adding other methods to this research method can help shore up its limitations with a greater focus on the materiality of discourse, as a way to avoid discourse colonization (Alvesson, & Kärreman, 2000). For example, as Vizenor (2008) has pointed out, when Native American materiality is integrated with discourse it helps resist the colonization of native storytelling in time and place by Anglo contract systems. Future discourse story research has great, but much different, potential.

Because empiric story gains a greater width, being open to polyphonic interpretations of discourse, the question of subjective narrativization becomes less salient while the role of critical balancing discordant voices gains in importance. Discourse oriented story research could be of great value by adding a polylogical intertextuality to conversation analysis. In particular, looking at the kinds of discourse that flow into any conversation, both being aware of it beforehand and using storied discourse when analyzing conversation, can help move toward a more ontological understanding of the process.

Ontological living story theory presents an emergent ground upon which to understand the process of discourse. This new process understanding of discourse opens new questions such as: Who is subject to the storytelling process in this discourse? What is the process by which intertextuality becomes salient? Why is the discourse in the time and place it is? When has this discourse process reached its limits? Most importantly, where does this discourse matter and where does the intertextual meaning lose its salience?

Conclusion and Future Research

We have brought you, dear reader, from the present state of storytelling research, to the cutting, some now are surely thinking of it as the bleeding, edge of process theory in storytelling. Most importantly we have brought quantum storytelling to the surface. We did this by outlining a three part model of the storytelling process: Empiric Stories, Epistemic Narratives, and Ontological Living Stories, each as connected to one-another

through the antenarrative process. Each of which was defined, along with the ancillary antenarrative processes. Because of our discussion and detailing of the various ontological Ds we have now provided you with a series of questions to use in studying storytelling ontology, and the philosophy underpinning said questions.

What is already known in storytelling is more than could ever be expressed here. In particular, conversational lines regarding narrative, myth, discourse, storytelling, and of course antenarrative, are all extended by focusing on the ontological. Having grasped some level of understanding of the ontological we can move scholarship away from pure focus on the logical, the mimetic concepts of truth, and into the ethical and passionate, where beauty define what is good and worthy. Anywhere an analysis focuses on what people say they think, or express a retrospective explanation, that does not include the passions of that person: there is a gap that quantum storytelling can fill. This is because ontological theorizing gets at being before and between words.

There is something unexplainable in verbal terms that occurs, even enacts, the in-between. Theorizing that stops looking for the discriminant validity of constructs, and instead looks for the beautiful ways that ideas might, possibly, hang together is quantum. Anywhere an analysis makes a cut, giving agency to some noun, you can be sure that there is an ontological gap that quantum storytelling can fill. For example, when we study any individual and blame the individual, instead of understanding that every system is perfectly designed to get the results that it gets, we make a cut that opens a research gap quantum storytelling can fill. Whenever we see retrospective sensemaking turning what were emotional decisions into rationalizations, we see a gap that focus on the ontological can fill.

What is the future of storytelling as it relates to process research? Storytelling and process theory, method, and praxis have been moving beyond epistemic and empiric approaches to ontological standpoints. Ultimately, the interplay of epistemic, empiric, and ontologic storytelling needs to be addressed in relation to process. Sandberg and Tosukas (2011), Tsoukas and Chia (2002), and others are calling for more ontologic approaches to process. The strategy-as-practice approach develops ontologic process theory and method. Storytelling strategy was initially an epistemic (deductive) constructivism (e.g. Barry & Elmes, 1995) and is being brought into ontologic-

storytelling-strategy (Boje, 2008, 2011, 2012). There appears to be two directions. First, an ontologic-storytelling process approach would look at historicality, the ways storytelling and process form inter-play relations in place, in time, and in material ways. Second, the conception of time changes from the traditional linear arrow of time (past→present→future) to an arrival of future into presence and into revisions of how the past is understood (future→present & future→past). Work we explored by Heidegger (1977), Dewey (1929), and Mead (1932) takes the second approach.

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