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Paper submission

Gly's purse: Materiality as viewed through a three-fold diffractive lens

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Abstract:

Many recent works suggest that material items may have agency. That is the ability to affect action, whether independently or as part of an assemblage or collective. As a theoretical lens, we propose a threefold approach to material agency, offering a new analytical approach that adapts Barad's (2007) concept of diffraction to suggest a "reading through" one another of agency derived from spirituality, utility, and physical properties of the matter in question. We begin the chapter with an ontological story, describing the history and agency of a family heirloom. This story serves as the basis for introducing the framework and explaining its application. We then apply this lens to consider materiality in the context of research done in a third order cybernetic network under stress. The data, collected using Boje's (2011a) Quantum Ontological Storytelling Inquiry methodology were part of a dissertation study examining fractal patterns manifested through storytelling by eleven nonprofit executives in the city of Colorado Springs, Colorado. As an accident of fate, roughly two thirds of the data were obtained while the city in question was facing a natural disaster, a fire that burned over three hundred homes and forced the evacuation of roughly 32,000 people. This application of the theory to an aggregate data set combines with its explanation via ontological storytelling to suggest a simple framework for conceptualization and analysis of material agency.

Introduction

The role of material resources in business, non-profits, and the public sector is the “gorilla in the living room” for ethicists and promoters of social and environmental sustainability. The material modes of production and basic profitability remain central to any for-profit business model and reflect the more persistent elements of Marx’s philosophy, undeniable even to ardent capitalists. Recent works by Strand (2012), Bennett (2010), Barad (2007), and Boje et. al. (2012) address the agency of material things. Others such as Latour (1999, 2005), Boje (Boje, 2010b, 2011b), and Haraway (1992, 2008) address the power of material objects in posthumanist assemblages and collectives.

In effort to understand material agency building on the work of Bennett (2010), Barad (2007), Latour (1999, 2005), and Boulding (1956), we devised a framework for considering the nature of material agency. In this work, we begin with a discussion of materiality drawing from the literature. We then approach the concept of material agency by considering the effects of a single object using ontological storytelling as demonstrated by Bennett (2010), followed by an examination of material concerns discovered in the context of a third order cybernetic system under stress (Wakefield, 2012b). As a theoretical lens, we propose a threefold approach to material agency, adapting Barad’s (2007) concept of diffraction to suggest a “reading through” one another of agencies derived from the physical properties, utility, and social/spiritual significance of the matter in question. We apply this theory to a set of story performances collected using Boje’s (2011a) Quantum Ontological Storytelling Inquiry methodology¹ (Wakefield, 2012b). Given the inevitable role of material resources, it is important to explore what effects material elements have on human systems, particularly in the context of human and nonhuman hybrid assemblages.

Materiality

In the world of business and economics, materiality makes the ultimate difference. The ability to obtain resources, produce products, and exchange goods in the open market comes down to materiality, so much so that prior to the emergence of socio-technical systems (STS) theory (Trist, 1981) it was greatly overemphasized. To those who grew up in America prior to the 1960’s accumulation of capital was generally thought of as good. Soon Watts (1970) and others bemoaned America’s disconnectedness from materiality as youths frustrated by mass consumerism and the Viet Nam conflict rebelled against materialism, soon after which America cycled back into hyper-emphasis of material goods, leading to corporate scandals and a collapsing economy. Today material imbalance is identified as a major source of corporate dysfunction, though it must share the stage with social and environmental concerns (Savall, et al., 2008).

From antiquity, the notion of objects that hold mysterious power over men has existed, bringing to mind idols, talismans, and greed-inducing gold. Henri Bergson’s notion of *élan vital* has often been debated and generated differing opinions (Bennett, 2010; Kauffman, 1995). While black body and non-black body radiation are now the

¹ The goal of the study was to examine fractal patterns manifested through the storytelling of eleven nonprofit executives in the city of Colorado Springs, Colorado (Wakefield, 2012b).

stuff of science labs and spectrometry, the release of energy based on chemical composition does not constitute the mysterious force described (Bygstad, Nielsen, & Munkvold, 2010; Prigogine, 1996). Yet it does suggest the ability of material entities to act independent of human involvement, as radioactive decay and other natural processes attest.

Absurd though this notion may appear to some, materiality does influence human actions, particularly when the inanimate joins in diverse assemblage with humans (Bennett, 2010; D. Boje, 2010; Latour, 2005; Savall, Zardet, & Bonnet, 2008). Bennett (2010) describes vital materialism, claiming that agency is not limited to living things, but that all materialities have the power to affect action. Barad (2007) conceptualizes scientific apparatuses as part of phenomena co-created by an active assemblage of human and nonhuman actors. Nuclear weapons, insecticides and genetically modified foods have their own brands of agency, creating ethical debate through their very existence, let alone their use (Haraway, 1992; Lockwood, 2002; Myerson, 2001). The effects of poverty and wealth on human resilience suggest the tragic global war between greed and suffering that has characterized the darker side of humanity for centuries (Alan Snitow, 2004; Christopher Dillon Quinn, 2006). The effects of material agency are also found in Maslow's hierarchy of needs, wherein the fulfillment of physical needs precedes higher-level concerns such as self-actualization (Antonioni, 2003; Francis, 2006; Greene & Burke, 2007; Oleson, 2004; Stein, 2001). While human receptivity to material emissions often requires biomediation in the form of a spectrometer, Geiger counter or other sensing device and *élan vital* is of doubtful credibility, the effects of material entities considered in assemblage with human agency and intent are difficult to deny.

Many argue for the abolishment of boundaries between human, animal and machine, the elimination of conceptual dualities that create distinctions (Bell, 2007; Haraway, 1992, 2008; Myerson, 2001). The bio-mediated body is conceptualized as an open systems combination of the human body and technology, redrawing the boundary of self to include media and/or material prosthesis (Barad, 2007; Haraway, 1992, 2008). The implications are that in defining material agency, one can not easily distinguish whether an entity under study is material or process, animate or inanimate, solid or energy; one can only consider the assemblage. To examine materiality is to embrace its agency and attend to the processes inherent therein. Each relationship then becomes an exchange. Each exchange becomes a transaction involving not transmission from sender to receiver as in the traditional telecommunications model, but rather as a poly-vocal mode of listening and talking that intermingles different kinds of energy on different wavelengths to generate future-shaping diffractive patterns of possibility. A cacophony of intermingled TCP-IP,² broadcast, and multicast replace one-way serial protocols, with linked content and side-trips along the way. Twitter replaces phone calls and easily controlled news media. Our two tin cans and piece of string are tossed aside for the energies of a crowded room, whether virtual (chat) or traditional (conferences and parties). This apparent chaos necessitates a new kind of intelligence, adaptation, selective processing and discarding of that which is harmful.

² TCP-IP is the common mode of communication among computers, wherein all communications are two-way.

New York Times columnist Collin Allen (2011) considers related ethical concerns in a mainstream forum. He raises the specter of Kurzweil's (2005) singularity, which suggests a future wherein human powers of cognition are quickly outpaced by machines.³ Allen's point in doing so is to take our consideration of morality and machines out of the realm of science fiction and into the foreground of how we as humans think about what is to come. For him, the development of increasingly autonomous machines, for instance capable of guiding a car through traffic, brings us to consider how we program those agents to react in murky situations. These quandaries include moral dilemmas wherein the value of one life, that of the passenger, relative to another, say a pedestrian, must be weighed. Such ethical quagmires are unlikely to become less complex as post-humanist ideas spread.

An ontological story

We found a simpler materiality-derived series of ethical dilemmas in the story of a family heirloom. Following Bennett (2010), we have sometimes found it useful to begin a chapter or analytical piece using an ontological story (Boje & Wakefield, 2011; Wakefield, 2012a). In each case, we elect to lure the reader into the theoretical realms of our living story webs by authentically drawing on our own *temps durées*, favoring lived experience as many scholars who came before us (Bakhtin, 1993; Boje, 2010a; Deleuze, 1994). This preference for the tangible does not reflect a rejection of the transcendental, but rather its exposition through sensory means. It honors the agency of material things in assemblage. We do so now via an ontological story of multi-generational, interstate material agency involving a family heirloom.

Gly's purse.

My mother has been dead for nearly three years now and I still cry when something good happens to me. It isn't that I am ungrateful. It is just that for the whole of my existence, nothing has been real until she knew about it. My appointment to Annapolis, my commissioning, meeting my husband... Even the births of my children were somehow more real once she held them in her arms; once I saw her smile with tears in her eyes, then I could feel the true measure of my joy. But this story is not about me and my loss. It is uniquely hers, but I am left to tell it.

You see, my mother was not well educated, though she was one of the most brilliant and insightful people I have ever met. She always said she should write a book and I regret not taping her storytelling over the years. She wanted her story told, in all of its triumphant strength and ugly truths. But she was afraid of how others would take it and whom she might hurt in telling it. But no good will come of breaking decades-old confidences. So I will offer you only a glimpse, one micro story among many that detail a rich life. We storytellers must attend to story rights.

She was the youngest of six children and spent her youth caring for a mother dying of emphysema and father suffering from WWI mustard gas along with a severed arm, from an accident working in a furniture company after the war. In those days, employers

³ It has been noted that we can then use such machines to bio-mediate ourselves, extending our hybrid agency to an extent that invigorates some and makes others very uncomfortable (Clough, 2008; Haraway, 1992; Jonas, 2012; Kurzweil, 2005).

were not held liable and disability insurance was unheard of. Worst of all, she came home from elementary school one day to find her home burned to the ground. I don't know if someone rescued the purse from the fire or if it wasn't there at the time; perhaps it was safe in the hands of a relative on a nearby farm.

Growing up I always thought that she left school to marry my father, but before he died he told me different. It turns out that Mom's departure from school had to do with her duties at home. Her mother died a slow and painful death from emphysema, not unlike the diabetic horror she would later suffer herself. I remember that my mother kept my grandmother's last pack of cigarettes in a cedar chest in the closet. Once in a while she would open the chest and cry, then show me the packet of cigarettes and tell me how horrible her mother's sickness had been and what it was like in the end, how awful it was to watch her suffer. She made her point. I don't smoke.

I first saw the purse in 2007. Dad was still healthy, but Mom, wheelchair bound, was on dialysis three times a week. My brother, cousin, and an aunt had been packing up a lifetime of collecting everything of interest into boxes, for several days. Mom didn't want to part with anything. Everything was a treasure to her, a memory of a place visited, an adventure shared, a joke laughed at... Apart from a few covert trips to charity drop offs, I ended up bringing things to her and asking what to do with them. I opened a cedar chest and lifted out a department store shopping bag. I looked inside and saw it wrapped in plastic and brought it to my mother. "What's this?"

In my hands I held a small handmade, intricately beaded antique purse. Figure one shows the detail on one side. All four are similarly adorned. This was something precious.



Figure 1. Gly's purse. The purse is similarly detailed, with hand-beaded images on all four sides, depicting a rabbit, a flag, and an eagle.

“Shhh... Is my sister around?”

“No.”

“Don’t tell her I have this.”

She proceeded to explain that this purse was the one her mother carried on her wedding day. I had long known the family story of my grandmother and her sister, both of whom came from money but married into poverty, two sisters marrying two brothers, giving up lifestyle for love.⁴ I knew that my grandfather had died two weeks after she did, supposedly of a broken heart. This intricately beaded purse was more than an artistic vestige of a time long past. It represented one of the last truly fine things my grandmother had. I am told that when Mom was a teenager, her mother gave it to her. Her sister wanted it too and it had long been a bone of contention between them. I was instructed to smuggle it to the new house in Colorado, and to deny having seen it.

Mom and Dad moved into the house I chose for them, a large purchase made, sight unseen, with me standing in for them at closing. It is one mile from my door, an empty reminder of my losses, with a real estate sign in the front yard. Over the coming months, Mom got sicker and sicker and life got progressively harder, but I did not forget my charge. I went to an art supply store and bought a small display case, wrapped the purse, inside the case, and placed it underneath what would be my mother’s last Christmas tree. In the coming months she would try repeatedly to give the purse to me, but I did not want to be in possession of something that would surely be fought over.

She died in her sleep one night in April 2009, after a long, terrible struggle. In the depths of my father’s grief, he received a letter from my aunt, asking for the purse and explaining that Mom had promised it to her years ago. I found this surprising, given what I knew. Dad denied having it, the only lie I ever recall him telling. He tried to give it to me and I, again, declined. A few months later a much favored cousin, whom everyone loves and respects immensely, wrote on her mother’s behalf and said that if we ran across it, her mother had said she should have it as the oldest of the female cousins in my generation. While Mom would have been fine with her having it, since they were close, my father again asked me to take what my mother had tried repeatedly to give me. I finally conceded and today it sits on my fireplace mantle, surrounded by books.

Gly’s purse offers a compelling case for material agency, offering a physical example ripe for diffractive theoretical exploration. This lone artifact is central to an improbable course of events, bearing witness to a young girl’s marriage for love against her parents’ wishes; the hard life and subsequent illness that followed; my mother’s service as caregiver, wife, and mother; her suffering and my father’s service as caregiver; and the mixture of joy and grief that have played out in front of its new vantage point above my fireplace. It has been central to deceit, concealment, and the lie of an impeccably honest man. The story of the purse may be likened to the Tamara play in that the audience and characters, in this case a post-humanist assemblage, intermingle to create a story that looks much different from each vantage point (Krizanc & Boje, 2006). We now borrow from its considerable agency to suggest a theoretical approach to materiality.

⁴ I knew my great aunt and uncle, but never had the opportunity to meet my grandparents, both of whom died before I was born.

Material agency: a threefold diffractive approach

We propose a threefold, diffractive approach to the analysis of material agency. We explain the three aspects suggested herein, illustrating each through the ontological story above. The three aspects of material agency we propose are non-sentient exchange, utility, and social/spiritual. They are addressed in increasing order of human involvement and can be considered as markers on a continuum ranging from chemistry-derived radiative transfer that lacks human involvement, to purely socially constructed talisman-like effects.

Yet such an approach risks linearity (Boje, 2008). Boje (2008) criticizes Boulding's (1956) General Systems Theory hierarchy for its failure to accommodate systemicity, wherein multiple levels of complexity can appear in the same system, shifting dynamically. Rather than repeat this error, we suggest Barad's (2007) diffractive approach. If one reads these different aspects of material agency through one another as she suggests, allowing their energies to build on each other, cancel each other out, and reflect their newly co-created signals, it may be possible to gain a richer understanding of what Bennett (2010) terms "thingness." Figure 2 depicts the model.

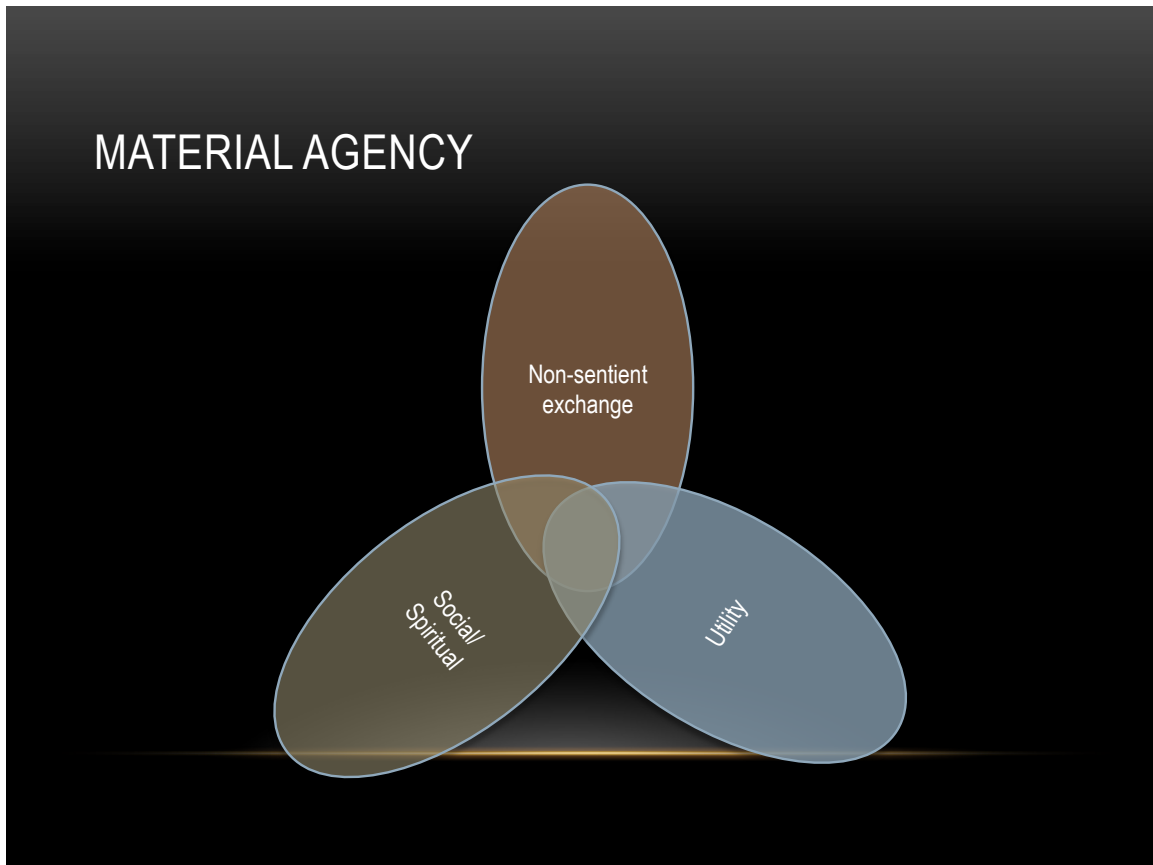


Figure 2. Material Agency Model. This model serves as a framework for considering the kinds of agency manifest in material objects.

Non-sentient exchange.

Non-sentient exchange includes radiative transfer and other kinds of natural phenomena. Inspiration is drawn from Bruno Latour's (1999) description of the

collection and classification of Brazilian soil samples intended to distinguish an encroachment of the forest on the savanna from its reverse. His treatment of the scientific processes and expeditionary practices brings to light interactions of non-sentient entities, in this case clay and sand, of non-sentient exchanges beyond radiative transfer (the exchange of chemical components, microorganisms, etc. from one section of soil to the next). This category is therefore inclusive of all types of material exchanges occurring independent of sentient perception.

Non-sentient exchange exists primarily in the nonhuman realm, as biomediation is often required for its perception. Radiative transfer, its simplest form, consists of radiation emitted by a material artifact. While emissions may be stimulated intentionally, exchanges of this sort can occur independent of sentience. For example, a common physics classroom exercise is to identify the sun's elemental composition using spectrometers to identify the wavelengths of its light, which is emitted independent of human observation. Radiative transfer also enables remote sensing of the earth from space (Kidder & Vonder Haar, 1995). Although there are exceptions, such as a human's ability to feel the warmth of the sun or to receive the visible spectrum of light through finely tuned senses, most radiative transfer is invisible to humans absent sensory augmentation.

Radioactive decay serves as an example. Absent the biomediation of a Geiger counter people generally cannot detect most forms of radiation in the short-term. However, long-term exposure brings a clearly perceptible deterioration of the human body, which may be considered a receptivity of sorts. Ample proof of non-sentient exchange exists in physics books, laboratories, and commercial practice. Non-sentient exchange on the part of Gly's purse is minimal. Like any other material, it absorbs and emits energy based on the chemical composition of its materials. Light and radio signals are absorbed and reflected in an uneventful way. Nothing more comes of it. Similarly, nothing significant comes of non-sentient exchanges involving Gly's purse.

Utility.

Utility-derived agency merges service as tools, general economic utility, and service as a conduit. In each case some benefit occurs, whether the beneficiary is human or not. Conduction, reflection, and refraction constitute such utility, evident in purposeful use of copper wire to transmit energy and communications signals and in natural occurrences such as the simple reflection of light by bodies of water. Benefactors are sometimes human, sometimes not. For example, a plant may derive utility from reflected sunlight, benefitting from the water's agency and using the sunlight as a raw material for photosynthesis. These types of intra-actions (Barad, 2007) may or may not require sentience-in-assemblage, in effect, making it optional. With or without human actors, non-sentient material entities continue to conduct, absorb, diffract, process (in the case of plants), and reflect energy.

Gly's purse is of limited utility in its current configuration, sitting in a display case atop the mantle. Yet on its original owner's wedding day its utility was much different. Apart from being aesthetically pleasing, it may have served to carry gloves and a handkerchief, perhaps some money and jewelry as she left home to marry the man she loved. It may have even carried an early indication of the fate she would later face, her cigarettes. After her death, however its utility was limited to its ability to provide pleasure to those who held it and observed its craftsmanship. The object's utility varies

according to the different human actors in its assemblage and their varied aims.

Social/spiritual.

The socially constructed and spiritually significant elements of material agency are combined into a single category in light of the requirement for sentient actors in both types of transactions. To have spiritually derived agency, sentient beings must perceive, construct, or experience the phenomenon of interest. The existence of the soul, collective consciousness, some sort of transcendental entity (Dyer, 2007; Tolle, 1999, 2005), is required for spiritual significance. Similarly, socially constructed agency requires at least one sentient being to do the constructing. Someone must arrange the conditions, setting the stage for emergence as Pasteur did for his famous lactic acid ferment (Latour, 1999) or as a leader desiring innovation in his organization might (Aaron & Fiona, 2006). In the absence of a conscious being capable of creating meaning, no socially constructed or spiritually derived agency on the part of any inanimate object is conceivable to us.

The social and spiritual elements illustrated by Gly's purse are complex. Its agency is apparent when viewed through this lens in particular. Its socially derived "thing-power" is poly-vocal, as human reactions are invoked by the sight of it (Bennett, 2010). Even those who do not know its history are sufficiently impressed by its workmanship that they feel compelled to comment. Spiritual components, born of belief systems and grief, add to the mix giving this object sufficient agency to invoke squabbles uncharacteristic of those involved.

Socially, it is an object that invokes strong emotions on the part of each individual associated with it. For us, it is a reminder of Tonya's mother, closeness, her illness, and death. For Tonya's father it invoked memories of his beautiful wife in her youth, caring for her sick mother and having so little in the way of material possessions. For Tonya's mother it was a cherished possession, a piece of her history and her mother's, something to hang on to and eventually pass on. For Tonya's brother it is something she was meant to have, something he is happy to see in a place of honor when he visits her home. For her aunt it is something rightfully hers, of which she likely feels deprived. In each case, this simple object invokes deeply felt, visceral reactions. These reactions sometimes unfold into conflict and hurt feelings.

Spiritual components to this object's agency are also multifaceted. It has been cherished by and physically held by members of four generations, linking the living with the dead in a way that tangibly transcends at least eighty years of linear clock time. If one believes in life after death, or in the worlds of the spirit common to so many religious traditions, it could conceivably serve as such a conduit. In each case, its socially and spiritually derived power is the product of one's belief system and therefore socially constructed.

Material agency theory summarized.

Material agency is thus viewed through three lenses, dynamically varying in intensity. Non-sentient exchange requires no sentient being in the collective, though this lack of a hard requirement should not be construed as an absolute exclusion. Utility is functionally-derived and may or may not require sentience, depending on the exact nature of the exchange. Finally Social/spiritual agency must have a sentient being in the assemblage, as sentient thought is necessary to the construction and/or perception of social forces and spirituality. We suggest these three aspects of materiality are present in

all objects and can serve to provide better understanding of material agency.

Material agency in post-humanist assemblage.

Latour (2005) contends that actors are defined by events comprised of their experiments. His collectives are analogous to assemblages (Boje, 2010b; Haraway, 1992, 2008; Latour, 2005) tying together human and nonhuman actors. This notion is consistent with Barad's (2007) account of Niels Bohr's inclusion of human actors and carefully selected apparatuses in his concept of phenomena, extending the idea beyond mere observed occurrences. Acceptance of the inseparability of apparatus, observer, and phenomenon supports our concept of three dynamic, nonlinear aspects applying individually or in combination, with varying intensities and mixtures to constitute the agency of any given object in contextual assemblage.

Applying the framework to a collection of story performances

We now progress from the diffraction of material agential components pertaining to a single object and turn to the application of this model to the more complex material aspects of a natural disaster as described by nonprofit executives. As an accident of fate, roughly two thirds of the data for Tonya's doctoral dissertation were obtained while the city in question was facing a natural disaster (Wakefield, 2012b). The Waldo Canyon fire burned over three hundred homes and forced the evacuation of roughly 32,000 people (Waldo Canyon Fire after action report suggests better training in the future, 2012; Waldo Canyon fire initial after action report, 2012). With so much at stake, not only fighting the fire within the city limits, but in the resultant donation of material goods via the local nonprofit sector, material matters featured in the story performances collected.

The study was an ontological storytelling inquiry examining the presence and relevance of fractal-like patterns manifested through storytelling in a third order cybernetic system. It answered the research question "How do fractal patterns inform our understanding of altruistic networks?" Eleven nonprofit executives were each interviewed twice, followed by a focus group in which five of them participated. The study produced eight themes, which were combined to develop new theory, termed fractal management theory. Fractal management theory "advocates the use of self-similar, scalable patterns observed in human interaction to identify underlying principles characterizing third order cybernetic systems' functioning in an effort to identify patterns whose antenarrative potential can be explored to support purposive choices amid turbulence" (Wakefield, 2012b, p. 261). Among the themes identified, materiality ranked fifth, supported by 77 story performances. While the original analysis of the data set was conducted at multiple levels, with a view toward scalability, we now offer a different approach to analysis of these story performances. Doing so does not invalidate the original approach, but instead offers a second examination of the same data in an effort to deepen our understanding. Figure 3 shows the kinds of material things described and their proportions.

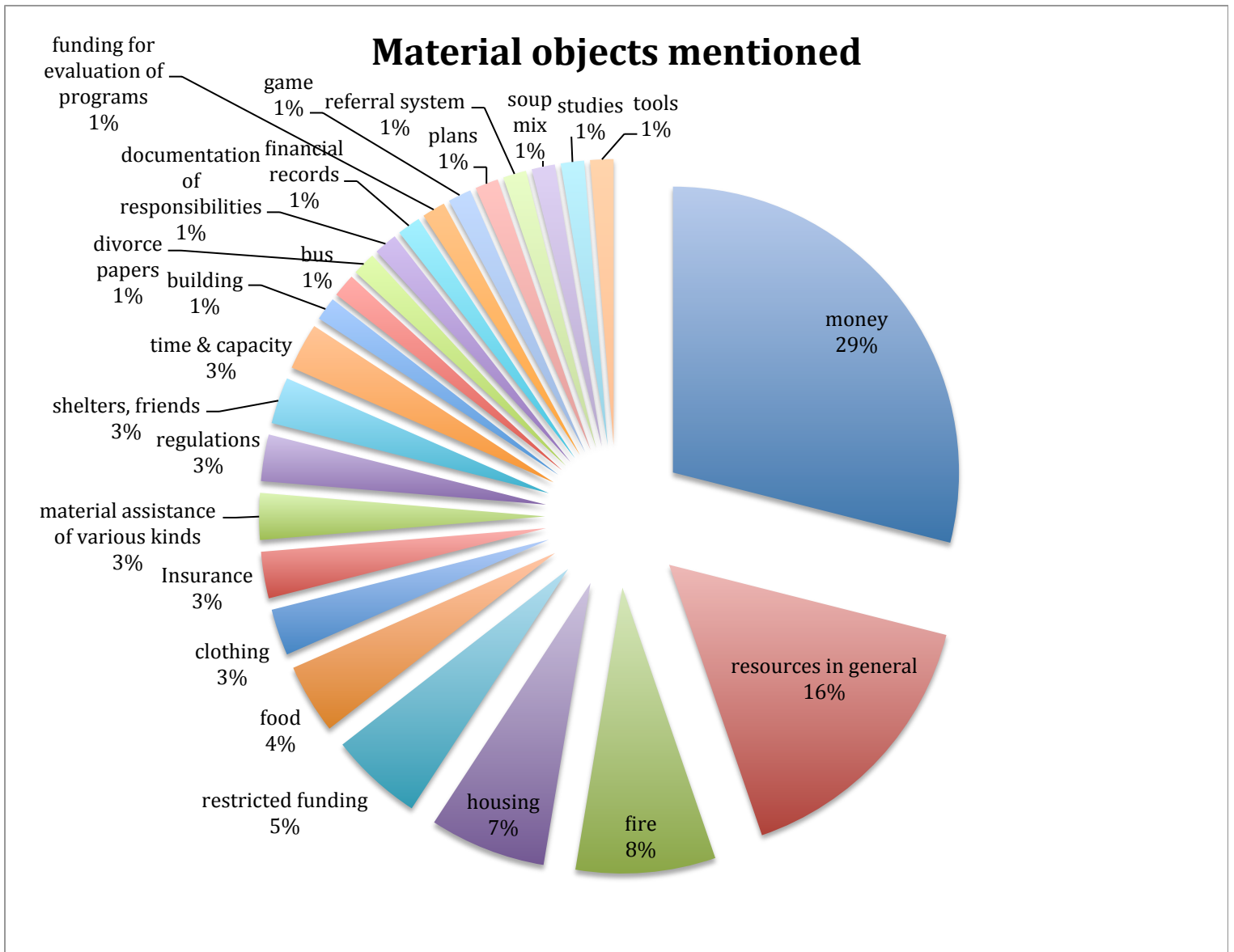


Figure 3. Material objects described. This chart shows the proportionality of material elements described in the story performances tied to material agency in the original study (Wakefield, 2012b).

Etic (outsider) themes.

For this analysis, we explore the story performances collected for other purposes by imposing our own etic themes described above. Boje (2001) explains the interplay between insider-derived (emic) and outsider-derived (etic) themes. In the collection of these stories, the researcher was somewhat of a boundary subject, in that she lived in the city affected by the fire, but was not a part of the social network studied. The original study reflected predominantly emic themes, with etic descriptions using the vocabulary of complexity thinking. Herein we examine the subset of that data specific to the theme of

material agency, using the above-described framework to support etic themes from the model.

In this analysis, we revisit the data set as outsiders, imposing three types of agency described above as etic themes, considering the nature of agency attributable to the material resources described. It is as if we have deliberately selected colored filters and placed them over the business ends of metaphorical flashlights, which we then shined on the stories at the same time. At the risk of appearing reductionist, we examine the data through each of the three lenses sequentially: non-sentient exchange, utility, and spiritual/social. Yet we do so only to give structure to the inquiry and its telling. The real understanding comes at the end, when all three aspects are considered diffractively and “read through” one another (Barad, 2007). Figure 4. Shows the frequency with which each aspect of agency noted above appears in the story performances.

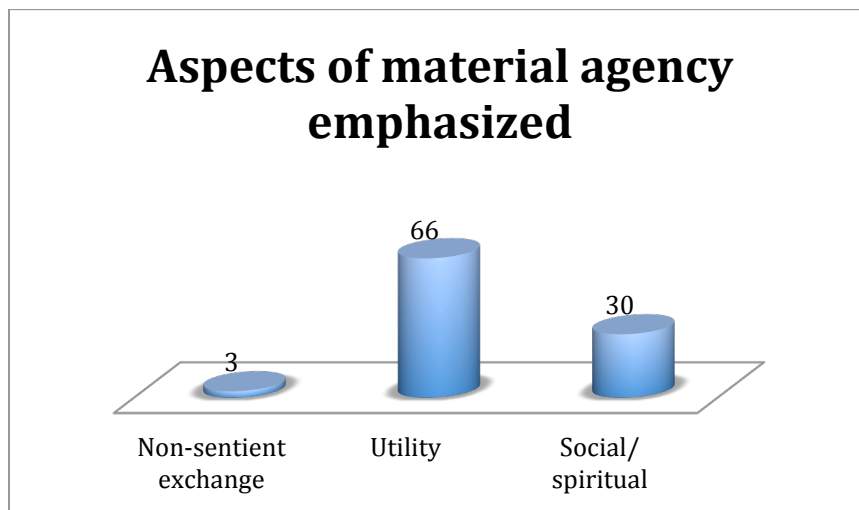


Figure 4. Relative strengths of material agency aspects based on the number of related story performances. It is useful to note that some story performances addressed all three aspects, while others addressed one or two.

Non-sentient exchange.

As could be expected, this kind of agency was not a common topic. Had the subjects been scientists or engineers, this area might have been discussed more frequently. As it was, among the story performances examined, only three merit consideration under this heading. Each mentions food. We include food herein because of its chemical composition, which has nutritional properties independent of any sentient being's recognition thereof.

Utility.

The bulk of materiality references from the interviews centered on utility derived agency. Money and resources in general featured heavily in the interviews, with a great deal of emphasis on housing and the effects of the fire. The utility of monetary and other material resources was the main topic of discussion, as the affected neighborhood was in what is generally considered a wealthy part of town.

Interviews conducted prior to the fire included materiality concerns tied to the

needs of the financially vulnerable clientele of human services nonprofits. The agency of more nutritional kinds of food in improving quality of life was expressed. More poignant were stories about housing and the difficulties experienced by the vulnerable in obtaining services. Inadequate bus service and the poor distribution of resources in society were noted. In each case, the agency of material goods was highlighted, with a poignant reflection that such agency is greater in the lives of the needy than in those of society at large.

Housing featured in nine story performances. The agency of a physical dwelling was noted as particularly important, since it makes so many other things possible. Having a physical address facilitates everything from applying for work to very basic things like hygiene and the ability to prepare meals. Physical structures also have agency for organizations, as was noted in discussion of one nonprofit's search for a new building. In each case, a physical structure in assemblage with a person or organization serves as a generative catalyst that broadens the field of possibilities. This service as a catalyst or foundation for possibilities became more apparent when the fire destroyed 342 homes in the city (Waldo Canyon Fire after action report suggests better training in the future, 2012). The loss of so many homes seemed to have everyone in town thinking about the significance of his own dwelling.

The utility-derived aspects of material agency also became especially apparent when the community was threatened by fire. 35 of 66 story performances demonstrating utility-derived material agency specifically referred to money or funding, whether related to the needs of fire victims and vulnerable populations or tied to nonprofit funding matters. There was a tremendous outpouring of support in the community for the fire victims, resulting in concern that the already vulnerable would be worse off as resources were directed toward those who, for the most part, had the means to recover independently (Wakefield, 2012b).

In each case, the utility-derived agency of money, housing, and resources in general was evident. Taken in assemblage with humans, these things multiply possibilities. While the point may seem elementary, it is offered as a reminder of this simple aspect of material agency, which is consistent with materialist notions of the agency of tools (Boje, 2012).

Social/spiritual.

Socially and spiritually derived material agency was less prevalent than utility, but more apparent than non-sentient exchange. The social implications of material resources were stressed and, consistent with the nature of questions asked, spiritually derived significance of material objects did not enter into the discussion.⁵ Interviews conducted before the fire reflected concern on the part of nonprofit executives for the disenfranchised, with their general need as its primary catalyst, and general limitations of capacity and time in the conduct of their work. During and in the wake of the fire, socially derived aspects of material agency were more apparent.

This emphasis was consistent with other findings in the research that reflected a heightened sense of awareness and interconnectedness (Wakefield, 2012b). For example, the use of multimedia to convey the message of "I am ok" to one woman's friends came

⁵ Exploration of material agency tied to religious significance is left as an area for further study.

in the form of describing shopping for a new wardrobe to replace what was burned. The resources that enabled her to do so, both money to shop and a device to access the Internet, served as enabling elements of her assemblage. Judgment of organizations based on funding profiles and related affiliations was also noted. In these cases, material conditions invoked a human reaction, whether an assessment that an organization was sound, or that its money came from sources that may or may not align with one's political leanings. The most common socially derived kinds of material agency were apparent in the human perceptions of personal obligation and empathy. Obligation was apparent in the form of tithing, while empathy was manifested in impulse giving, whether in response to an event or seasonal holidays. In all of these cases, an abundance of resources invoked an emotional response of gratitude and the desire to give to others.

Viewing the community assemblage holistically

Having examined these aggregate materiality-centered story performances through each lens, we now humbly attempt to combine their effects diffractively. Figure 5 offers a graphic depiction. If we consider each aspect as an axis and plot the number of story performances as an indicator of relative strength, the resulting depiction is a shallow wedge, reflecting emphasis on the practical matter of utility, some socially derived agency, but very little consideration of non-sentient exchange. While this depiction is simply a combination, not the more complex diffraction advocated by Barad (2007), it serves as a starting point. The next steps in a more thorough diffractive consideration of material agency require a means of assessing where these aspects might cancel one another out or build on one another. If such an assessment were undertaken, it might be visualized in accordance with physics models such as the diffractive patterns made by waves/particles of light in the famous double slit experiment. Such an exploration is left as an area for further study.

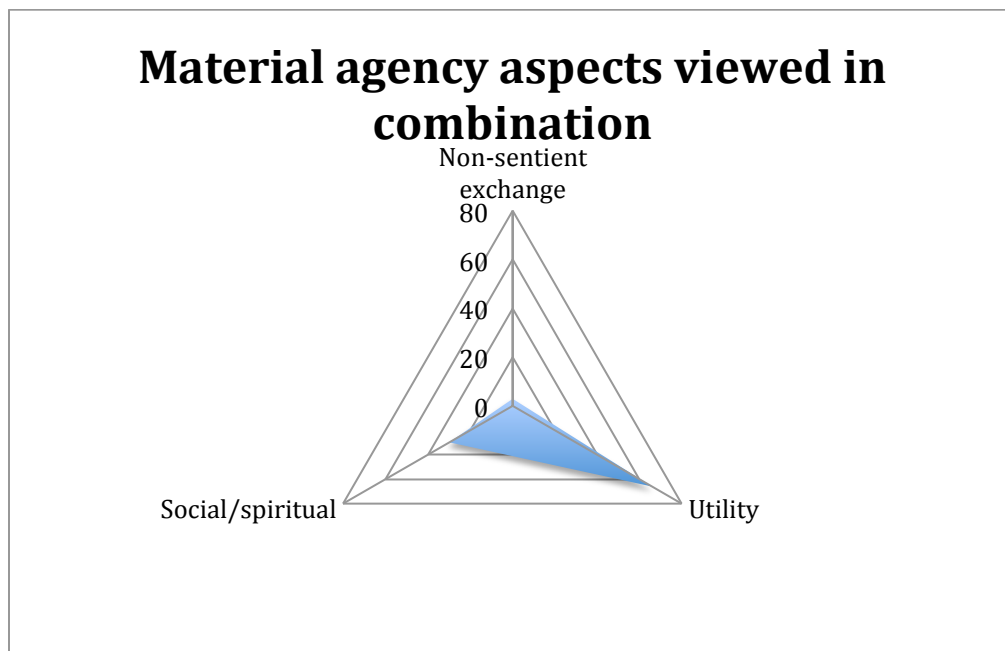


Figure 5. Threefold consideration of material agency aspects. This portrayal allows

one to consider the relative strengths of the kinds of agency exhibited and consider all three aspects holistically.

Conclusion

In this chapter we introduced a three-fold concept of material agency. We suggested that the ways in which Bennett's (2010) notion of "thing power" is manifested can be considered using a diffraction of an object's engagement in non-sentient exchange, demonstration of utility, and social/spiritual significance. We illustrated the approach through the agency of a single object acting within a hybrid collective, then applied the framework to reanalyze material-agency related data from a nonprofit study. It is our contention that this framework offers a useful theoretical tool for examining material agency in post-humanist assemblage.

This work represents a small but important step toward human acceptance of the growing efficacy of machines of increasing sophistication (Allen, 2011; Ericson, 1972; Kurzweil, 2005; Wiener, 1954). Given the strong pull of human exceptionalism, reinforced by most of Western society and bolstered by religious dogma, it is difficult for mankind to accept that mere machines can act independently and even demonstrate emergent collective behaviors eerily similar to those of living beings (Agah & Bekey, 1996; Holland, 1995; Kauffman, 1995; Klenk, Binnig, & Schmidt, 2000; Mataric, 1995; Rodriguez, Hilaire, Gruer, & Koukam, 2007). Reasoning that understanding lessens fear, We believe more post-humanist studies are needed to ease the human transition as we ascend from a dream of God-like potency and strive toward new modes of efficacy and bio-mediated modes of Being.

The importance of having such a framework is that it allows for a more responsible view of material resources in context. This approach might be used to examine more controversial topics, such as land use, water rights, or financial systems. Too often the social constructivist approach neglects the strength of material influence, while the more cynical view would discount all but the financial element. We suggest that humans, animals, and objects co-exist and co-create one another, as others like Latour (1999, 2005), Haraway (1992, 2008), Bennett (2010), and Barad (2007) have so eloquently suggested. Standing on the shoulders of giants, we humbly submit our framework for exploring material agency in assemblage.

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