

For a “scatolic” engagement with waste

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Abstract

This paper coins the term “scatolic” and applies it to organizations to suggest that rather than dissociating themselves from their waste they engage in scatolic associations with it. This scatolic engagement draws on Reno’s (2014) biosemiotic analogy of waste as scats and of scats as signs for enabling interspecies. It suggests that scatolic organizations grow a semiotic competence at reading waste, develop a sense of responsibility for materials, and work toward waste prevention at the source. Calling for organizations to become scatolic is a way to show how organizations can develop a greater responsibility for the materials they use and the waste they produce.

Keywords

Waste, Biosemiotics, Circular economy, Zero waste, Value, Material responsibility

Introduction: A scatolic framing of waste

The management of waste in organizations and the organization of waste management are predicated on an understanding of waste as dangerous matter and a corresponding ambition to make it disappear. Under such circumstances, social scientific waste scholarship had a short route to Mary Douglas's (2002 [1966]: 36) analysis in *Purity and Danger* of dirt as "matter out of place," an expression that she has borrowed from William James (1952 [1901-2]: 169). In Douglas's analysis, dirt implies the combination of a set of ordered relations and a contravention of that order:

Dirt then, is never a unique, isolated event. Where there is dirt there is system. Dirt is the by-product of a systematic ordering and classification of matter, in so far as ordering involves rejecting inappropriate elements. (2002 [1966]: 44)

The omnibus of all rejected elements of ordered systems, dirt is for her "a residual category, rejected from our normal scheme of classification" (p.45) that sheds light on the contingent character of cultural classifications.

As Reno (2014: 4) explains, waste studies have derived from Douglas's analysis of dirt an understanding of waste "which became a touchstone for the social constructivist alternative to common sense: though appearance may suggest otherwise, things are judged 'polluting' because of how they fit within encompassing systems of social classification." But this analysis misses a series of points, Reno (2014: 5) continues, in particular the thing-power of waste that Jane Bennett defines as "the curious ability of inanimate things to animate, to act, to produce effects dramatic and subtle" (2010: 6). One could add, as landfills (Reno, 2009), asbestos (Gregson et al., 2010), or industrial ruins (Edensor, 2005) exemplify, that discards have transformational qualities and a temporal agency with an ability to ground present and future potentialities in legacies of the past that cannot be reduced to a matter of spatial classification.

As an alternative to theorizing waste as "matter out of place," Reno (2014) proposes an understanding of waste based on a biosemiotic analogy of waste as scats and of scats as signs for interspecies communication—scats being animal feces in the parlance of animal trackers. While retaining from the Douglasian grid of analysis that waste is matter that communicates, and thus matter for interpretation, Reno's scatolic understanding transcends the anthropocentrism inherent to Douglas's cultural analysis, and opens the theory of waste to the material vitalism of waste.

In this paper, I draw on Reno's analogy between scats and waste to suggest a dynamic understanding of waste as an object and material open for intra and inter organizational readings. Developing on his analogy between scats and waste, I suggest that organizations become *scatolic* (rather than *scatological* to avoid misleading obscene connotations): meticulously engaged with the meanings of waste from procurements to post-consumption, through production, distribution, and use. This engagement is to encompass waste from extractive operations to landfills through industrial and commercial operations, inclusive of transport and packaging waste, energy spillages, garbage, and items turned obsolete. It is even to cover what Bauman (2004) calls human waste: outcasts produced by modernity in its systematic search for order. A scatolic approach shares a concern for organizational waste with lean production, six sigma quality, and total quality schools of management, and even the zero waste-circular economy, but without sharing the concern of these schools and movements for making waste disappear. A key tenet of a scatolic approach to waste is to consider waste as unavoidable and worthy of interest. Whereas total quality sees in waste a sign of failure, a scatolic understanding sees a sign of life. Likewise, whereas the Circular Economy analogy of a circle evokes endless perfection, the analogy of scats evokes disorienting messiness. A scatolic approach features waste as a lively matter open for interpretation, within organizations as well as across organizational species.

1. A biosemiotic analogy

Biosemiotics derives from the pioneering works of Charles S. Peirce, Jakob von Uexküll, and Thomas A. Sebeok (see Favareau (2010b) for a history of the field). Its purpose is to combine biology and semiotics into the study of signs in living systems (Barbieri, 2008), for example, exploring the emergence of semiosis in nature, the natural history of signs, and semiosis in plant and animal communication as well as in the immune and nervous systems (Emmeche, 1992).

Providing a semiotic foundation for biology, biosemiotics "investigates semiotic processes in the living realm, addressing meaning, signification, communication, and habit formation in living systems, and the physicochemical conditions for sign action and interpretation" (Queiroz et al., 2011: 91). Holding that life rests on semiosis, biosemiotics approaches living organisms at all levels of living systems as units that connect to other units and thus their environment through the production, action, and interpretation of signs.

In sharp contrast to modern biology—in particular, the doctrine of physicalism that everything in life, including signs and codes, is ultimately reducible to physical quantities (Barbieri, 2008) biosemiotics considers the exchange of *meaning* as the ground for life. "Biological information is not a substance" Hoffmeyer and Emmeche (1991) state in the opening headline of one of the field's founding papers to break with a key tenet of conventional biology. For Emmeche and Hoffmeyer (1991), life at all levels is characterized by the recursive and unending exchanges of message and information between coding surfaces, and this occurs without a "physical transfer of some mysterious 'meaning'-bearing matter-energy packets" nor the emission and absorption of self-conscious "knowledge" or ideas (Favareau, 2009: 631).

To pursue the broad aim of unfolding the role of signs for the "organization and interactions of living organisms" (Favareau, 2010b: 55), biosemiotics has grown into many sub-disciplines. From how genes interact with proteins (Barbieri, 2008) to social interactions among cats (Jaroš, 2016) or how men provoke dogs to interpret their dreams (Kohn, 2007), it has branched into brain studies, anthropology, botany, ethology, zoology, sustainability studies, and even artificial intelligence.

Inspired by interspecies biosemiotics, Reno (2014) suggests to renew our understanding of waste by framing waste as scats. Reasoning through an analogy, Reno borrows from the biosemiotics mindset to suggest that organizations approach waste in the same ways as animals approach other animals' scats. Leaving aside the analogical structure of his argumentation, Reno positions his framing of waste as scats in contradistinction to the tradition within social sciences and humanities research on waste to follow Mary Douglas's (2002 (1966)) analysis of dirt as systems of classification and considers waste as matter out of place. In the Douglasian tradition, waste is the outcome of cultural processes of spatial and temporal misplacements.

True to biosemiotics' key message that it is the exchange of *meaning*, not of substance, that is the ground for life, Reno retains from the Douglasian grid of analysis a communicative approach to waste. But rather than communicating something unwanted and repellant, Reno suggests that wastes are signs that bring together forms of life that are typically divided in time and space (2014: 20). Just as biosemiotics suggests seeing scats as a life-bearing communicative interface among animal species, Reno suggests interpreting waste productively as life-bearing communicative interfaces among organizational species:

When interpreted through animal scat, rather than dirt, both bodily waste and discarded artefacts are revealed to share more than symbolic relevance; they

actively resemble each other because of the similar interpretive fate they face when separated from the form of life – the living process – that gave rise to them. The transience of decomposing and deteriorating matter can be seen as loss, but also as the perpetuation of life. (Reno, 2014: 9)

Reno reminds of Bataille's (1988 [1949]) suggestion that a society should be characterized by the way it disposes of the surplus—for example, waste—that it creates rather than the wealth that it produces. He puts forward that "the objectual forms commonly referred to as 'waste' are, in fact, critical *expenditures* for the continuation of life in time and space" (2014: 9, emphasis in the original) within and across species. And inspired by multispecies approaches in biosemiotics (he refers, for example, to Favareau, 2010a; Kohn, 2007; Hoffmeyer, 1996), Reno suggests moving past the limitations of the Douglassian legacy of anthropocentric presuppositions and corresponding arbitrary cultural separations of waste from non-waste.

A scatolic understanding of waste opens the way for a shift from interrogating the nature of waste (e.g., Rienti and Pollard, 2012; Thompson, 1979) to interrogating waste performances (Corvellec, 2016a; Corvellec, 2016b). Rather than asking the question of what is waste, a scatolic understanding of waste invites to ask why this is considered as waste, how it has become waste, and what waste naming is. While a scatolic understanding of waste management restates the centrality of sensemaking (Weick, 1995), this understanding does not approach waste *only* as signification. A scatolic approach embraces both the signified and the signifier, as Saussure (1916) could have said, and approaches waste as both sense and matter: signifying matter that lets remnants of previous lives meet potential futures. By so doing, it opens new venues for understanding and managing waste.

2. Circular Economy and Zero Waste

A growing awareness that waste has become a serious threat to the health of billions of people, a growing force of destruction for both land and marine ecosystems, and a dissipation of material resources unequalled in history so that massive improvements in waste management are needed, in particular in developing countries (Wilson, 2015; The World Bank, 2013), a growing interest has emerged for developing a circular economy in replacement of a conventional linear economy where natural resources are converted into waste via production (Murray et al., 2017) with a zero waste-circular economy (Ellen MacArthur Foundation and McKinsey Center for Business and Environment, 2015; European Commission, 2014/398; Lacy and Rutqvist, 2015; World Economic Forum, 2016; Greenpeace, 2016).

The circular economy is an umbrella concept (Blomsma and Brennan, 2017) or narrative frame (McDowall et al., 2017) with many sources of inspiration: industrial metabolism, industrial ecology, environmental economics, ecological economics, socio-ecological economics, biomimetic (Murray et al., 2017); cradle-to-cradle, performance economy, biomimicry, industrial ecology, natural capitalism, blue economy, and regenerative design (Ellen MacArthur Foundation, 2015); and the classical 3Rs—reduce, reuse, and recycling (Bocken et al., 2017). A recent review article explains:

Viewed as a concept by some, a framework by others, the CE [circular economy] is an alternative to a traditional take-make-dispose linear economy. A CE aims to keep products, components, and materials at their highest utility and value at all times. The value is maintained or extracted through extension of product lifetimes by reuse, refurbishment, and remanufacturing as well as closing of resource cycles—through recycling and related strategies. (Bocken et al., 2017: 476)

The industrial sector features the circular economy as an effort to reinvent itself around the ideas that manufacturers take back their products after use, reintroduce them on the market, and have consumers become users (e.g., World Economic Forum, 2016). Correspondingly, a long list of management ideas and techniques have been relabeled circular and incorporated in the circular economy model, for instance eco-design, cascading use of material, industrial symbiosis, product-service systems, business models, extended producer responsibility, collaborative consumption, and social innovation (from a list by: European Environment Agency, 2016).

Inspired by the Cradle to Cradle design methodology (McDonough and Braungart, 2009), advocates of a zero waste-circular economy want to create waste-free technical loops that resemble biological loops. Proponents of the zero waste-circular economy mean that a circular economy would thereby increase the efficiency of resource use, decouple environmental pressure from economic growth, and achieve a better balance and harmony between economy, environment, and society (Ghisellini et al., 2016). It is also to mitigate the risks of future raw material shortage (Ueberschaar et al., 2017). Circular flows are to keep resources in use for as long as possible and limit final waste disposal (Lèbre et al., 2017), for example, by lengthening the life of the products or by looping them back in the system to be reused (den Hollander et al., 2017). The circular economy aims to keep the added value in products for as long as possible and ultimately to eliminate waste (European Commission, 2014/398). If there is waste, it has to be transformed into a resource (European Commission, 2014/398) and generate wealth (Lacy and Rutqvist, 2015). Zero waste is the objective (e.g., Connett, 2013).

While the zero waste-circular economy is enjoying a rapidly growing support, it is not exempt from being questioned. Empirical studies show that, in practice, circular economy experiences are more about recycling than cleaner technology or innovative business solutions based on taking back, reconditioning, and re-using products (Singh and Ordoñez, 2015; Ghisellini et al., 2016). Editorialists in *Waste Management & Research* (Velis and Vrancken, 2015; de Man and Friegé, 2016) argue that the circular economy is a feel-good story that overlooks the practical challenges of waste collection and management, for example, the problems of downcycling, waste ownership, or risks associated with hazardous waste. It is gently derided as evoking an illusory perpetual motion machine that ignores the lag between production and disposal as well as the need for energy input to ensure circularity (Cullen, 2017). The circular economy is also criticized for lacking the social and institutional dimensions to reduce the current material and energy throughput in the economy (Moreau et al., 2017). Whereas the circular economy presents itself as a moral tale about the need and possibilities for creating endless resources (Gregson et al., 2015), economic globalization produces such long and complex product chains that it is impossible for companies to build closed material loops (Bermejo, 2014). "The chimera of a global closed material system doesn't hold: flows do not keep going for ever, stuff wears out, fibres break, dust and wastes settle" (Alexander and Reno, 2012: 25). Some see the zero waste-circular economy as sub-tended by a rationale of capitalist accumulation and an instance of positivization of the formerly negative concept of sustainability that together participate in a de-politicization of growth capitalism where waste is dissociated from growth (Valenzuela and Böhm, 2017).

3. Becoming scatolic

A scatolic framing of waste (Reno, 2014) offers an alternative to the zero waste-circular economy. Although both share the ambition to model technical flows on biological ones, the two differ on key points. The circular economy claims that waste is a resource, but remains committed to a dissociative view of waste as an imperfection, a kind of failure that in an optimally efficient world should not exist—again, an instance of the view that waste is of zero or negative value. In contradistinction, a scatolic framing of waste builds on the vitalism and agency of matter (Bennett, 2010). It frames waste as an unavoidable consequence and condition of life, an opportunity that should be brought to light rather than made to disappear. Nor is scatolism bound by the limitations of the circle's symbolism. A circle symbolizes "totality, wholeness, original perfection, the Self, the infinite, eternity, timelessness, all cyclic movement, [and] God" (Protas et al., 2001 [1997]). It reminds of the zero in zero waste. And it evokes a modernist

variant (Hobson, 2016) of the myth of an eternal return (Eliade, 1989 [1949]): an incantation for a steady state social and material order. The scat analogy renders instead that the reality of waste is messy, haphazard, and disordered and far from a circle's geometric and metaphysic perfection. In the associative perspective of scatolism, as long as there is life, there will be waste. Being in the world is thus coming all the time in contact with the residuals of others' lives.

Taking the risk of being unduly speculative, even normative, I would therefore suggest that organizations become scatolic as an alternative to a zero waste-circular economy. Artists show the way. Walker Evans's photographs (Chéroux, 2017) of such mundane detritus as cigarette butts or flattened soda cans as well as of automobile graveyards and abandoned mansions have shown millions of magazine readers that looking at waste and decay is a rewarding way of understanding the world that they made and lived in. Likewise, the projects of mega waste dumps designed according to Gothic cathedrals and other religious buildings by German artist Winfried Baumann (Baumann and Brock, 2016) invite the viewer to meditate on the spiritual status of residual outcomes in consumer societies. Like waste archeologists (Rathje and Murphy, 2001), artists know how to harness the biography of waste to let it tell captivating stories about the entangled and symbiotic human-objects enmeshments in organizations (Humphries and Smith, 2014).

Scatolic organizations are to acknowledge and harness the material agency of debris, garbage, litter, refuse, remains, rubbish, trash, and the like. They are to recognize, as discussed in section 2, that waste producers cannot dissociate from their waste but remain associated to the materials that they have used or invited others to consume; and, aware that the value of waste derives from contingent and multiple valuation practices, they are to learn navigating the interactions that determine the value of waste, as discussed in section 3. Instead of aiming at zero waste and even eliminating the very concept of waste as cradle-to-cradle's McDonough (2003) suggests, scatolic organizations are to acknowledge the unavoidability of waste, consider waste a constitutive part of our societies, and learn to live with it as a component of themselves (cf., Lizet and Tiberghien, 2016).

Three traits of scatolic organizations can be singled out: a distinctive waste semiotic competence; a developed sense of responsibility for materials; a commitment to waste prevention. The first of these traits derives directly from the biosemiotics origin of the scat analogy and refers to an ability to read waste in its social and natural contexts. Scatolic organizations develop an attentiveness to the disabled and obscured yet surfacing thing-power

of residuals (Bennett, 2004) in order to read and question waste, just like animals read scats, looking for risk and opportunities. They let themselves be interpellated by waste, that is invited to interact with it as a means to get to know (Rennstam, 2012) waste better, a process reminiscent of how craftspeople interrogate materials and listen to their answer (Sennett, 2008). Turning waste into kinds of epistemic objects, that is "objects of inquiry and pursuit" (Ewenstein and Whyte, 2009: 9), scatolic organizations look for associative engagement with waste, asking such questions as "How shall we make sense of our waste and discarding behaviors and those of others?"; "What are waste and discarding behaviors the sign of and for whom?"; "How are these signs affecting production and consumption behaviors?"; or, more generally, "Why waste?" The scatolic rationale is to interrogate the changing meaning of waste across time, and engage *in practice* with this meaning to learn how to live with waste and reduce its negative impacts. In particular, scatolic organizations are aware that valuation processes are contingent in time (Thompson, 1979) and space (Gregson and Crewe, 2003). They aim at developing a competence, even expertise, at waste semiotics to invent new organizational waste practices, both for their own physical traces and those left by other organizations. Such a semiotic competence makes it possible for them to navigate the various regimes that condition the value of waste (Corvellec and Hultman, 2014). An ability to read waste is their stepping stone to understanding the value of waste, a value that can be symbolic or environmental as much as practical or economic, or, more likely, a compound of different kinds of values. Based on their semiotic expertise, scatolic organizations may even develop valuation processes and set in place new regimes of value to exploit innovative waste solutions.

Second, scatolic organizations take a particular responsibility for materials. Aware that waste is an illustration that "evolving objects and the processes of their development are co-produced" (Strandvad, 2011: 287), scatolic organizations refuse to perform an ethical cut between 'human subjects' and 'material objects' (Dale and Latham, 2015). To parallel Barad's (2007) ethics of mattering, waste is an Other (Valenzuela and Böhm, 2017; Dale and Latham, 2015) that engages by its mere presence the responsibility of whoever has produced it. Beyond a relationship to people and space (Lynch, 1990), wasting creates a long-term moral contract between Earth and its inhabitants (Serres, 1995). By leading a critical reflection and practice upon one's rights and duties toward Earthian resources and future populations, scatolic organizations develop affiliations (Suchman, 2005) that lay the groundwork for an ethics of waste (Hawkins, 2006). A scatolic organizational ethic calls for a comprehensive material responsibility for what the organization consumes or invites others to consume. Taking a responsibility for one's residuals is at the core of an associative approach to waste. For example, mines and landfills can be re-

enacted to "better promote resource-making practices" (Johansson and Metzger, 2016: 856). Offering to consume is inviting to waste, and scatolic organizations take seriously that such an invitation entails a responsibility. To promote the taking of such a responsibility, one could imagine instituting a social license for organizations to waste, modeled on the notions of producers' responsibility (e.g., Wiesmeth and Häckl, 2011) and of a social license to operate (Corvellec, 2007; Morrison, 2014). Such a social license to waste would limit the amount of material and energy that an organization could waste, and rule out activities that have too damaging waste outputs. Such a license would introduce a control of waste at the source, in particular if organizations know that missing one's social license to waste means seeing one's product and services being banned, as is currently becoming the case with the industries of plastic bags, nuclear energy, and even fossil fuels— materials and products that are getting banned because of the waste that they generate.

The idea of a social license to waste leads into the third characteristic of scatolic organizations: to adopt a waste preventing attitude. Whereas conventional businesses see good economic sense in wasting as long as they can get the customer to pay for it, scatolic organizations aim at reducing waste and its impact. For advocates of the circular economy, it is enough to build efficient circles to take one's material responsibility. But scatolic organizations are aware that material flows cannot be perfectly hermetic, that recycling entails energy use, and that most materials lose their affordance as they get old. Adhering to the recommendation of ecological economics to reduce material and energy throughputs (Daly and Farley, 2004), scatolic organizations shoulder their material responsibility by drawing on biomimicry (Pawlyn, 2011), voluntary simplicity (Alexander and Ussher, 2012), and frugality (Cherrier and Murray, 2002; Evans, 2011). They do not remain at developing more efficient processes that reduce spills or lessen the waste impact of individual products and services; they aim at reducing waste at the source, avoiding negative externalities (Ayres and Kneese, 1969) and rebound effects (Khazzoom, 1980). Do not waste is the scatolic equivalent to the do not hurt of organizational ethics. Scatolic organizations adhere to the strong sustainable entrepreneurship paradigm (Stål and Bonnedahl, 2016). They search for transformational strategies based on an ecocentric, not anthropocentric, understanding of sustainability (Borland et al., 2016) and align their entrepreneurial acts with the biosphere; they do not let their value creation depend on the destruction of virgin material or nonrenewable energy; they respect the interdependency of systems and species, and biophysical constraints over time and space; and they are open for alternatives to markets for the creation and distribution of value. This may sound politically naïve (as a perceptive reviewer put it) since wasting is at the core of the capitalist rationale, as

Annie Leonard (2010) shows with a disarming simplicity in her *Story of stuff*. In particular, thanks to the extended possibilities there exist for companies to externalize the cost of waste collection and treatment, wasting often makes good sense for companies (O'Brien, 2008). Moreover, recycling is a profitable multi-billion Euros industry (Minter, 2013) with a strong hold on waste governance. Yet, just like it makes some political and practical sense to argue that corporations should take on a social responsibility, it makes some sense to argue that organizations, in their role as waste producers, should take on a responsibility for addressing the waste issue at the source, regardless of the political and practical obstacles that stand in the way of such an argument.

Resisting the Leonian illusion (Calvino, 1974 [1972]) that waste can be put at a distance and aware that there is always a spatial continuity between where waste is produced and where it lays in wait, scatolic organizations acknowledge that waste belongs entirely to the organizational space and thus the realm of management. Tuned to the vibrancy of matter (Bennett, 2010), and the dynamics of the relations between objects (Scarborough et al., 2015) and materials, scatolic organizations aim at unleashing and exploiting the thing-power of waste for entrepreneurial purposes. It is not only to curb linearity and (re-)invent circularity, as advocates of the circular economy simplify it; it is using the semiotic dimension of waste to ground associative relationships to materials that create and develop new relations between organizations. Scatolism pertains to inter- as much as intra-organizational engagements. The organic continuity that biosemiotics spells out between internal processes and external contacts blurs the delineation between the inside and the outside of organizations. From a scatolic perspective, waste is the material vehicle of an extended web of organizational relationships (e.g., practical, symbolic, economic, legal, spatial...) where contingent modes of valuation create protocols of interactions that mesh trash with resources to lay ground for renewed practices of organizing.

4. Concluding remarks

Waste is a stage of the social life of objects and materials (Appadurai, 1986) that has received considerably less attention than production, distribution, and consumption. Yet, it is a stage with potentially longer and stronger social and environmental impacts than any other stage. By engaging with waste, scatolic organizations engage with the political rationale of no less than production and consumption. Contrary to the circular economy that tries to de-politicize waste, as Valenzuela and Böhm (2017) show, scatolism politicizes waste by questioning a key tenet of capitalism: the freedom that organizations enjoy to waste as long someone else is ready to pay

for dealing with that waste. Challenging that organizations are carelessly given a nearly unconditional right to waste in the name of economic production, a scatolic understanding of waste leads to imagining a required social license that demands a responsible engagement with waste, limiting and conditioning the possibilities for organizations to pass their waste to buyers, waste management organizations, and the environment.

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