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Dis/Assembling Value: Lessons from Waste Valuation Practices

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Abstract

In this text, we offer a vision of waste as integral and immanent to valuation practices and argue that engaging with waste materials can thereby significantly contribute to the field of valuation studies. We lay special emphasis on the intertwined practices and processes of assembling and disassembling value and waste. Creating value is a process of joining together: classifying, grouping, combining, making, re-forming. Yet it is also a process where persons, things, parts of bodies, or landscapes are disentangled, abandoned, dismissed, or corrupted. The notion of disassembly attracts attention not only to the center of the action of valuation but also to its peripheries—to things and materials which are cast aside, to spaces which accommodate that which has been disassembled, and the ambiguities and potentialities opened up by processes of disassembly. Thinking with waste also pushes us to think about how various regimes of value are connected and how they coexist and/or compete. As such, waste is not a coherent thing, but rather one that gets displaced and transformed in valuing practices which coexist in various ways.

Keywords: assemblage; disassembly; valuation; waste

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Introduction

Waste is usually understood to be worthless, spoiled, or foul. However, following the diverse trajectories and afterlives of waste significantly complicates this common sense notion of discarded matter.[1] Rather than emerging as the reverse side of value or as an economic externality ensuing only after such economic actions as production, consumption, and distribution, waste is enacted as a fundamental part of all of them. In this special issue, we look at the co-emergence of waste and value from concrete practices and materials. Besides disrupting the linearity of the value-to-waste transformation, this reframing simultaneously recasts the work of valuing. We offer a vision of *waste as integral and immanent to valuation practices*. It is *integral* in the sense that valuation would not be possible without waste: systems that create value are also systems that create waste. And it is *immanent* in the sense that the logic and functioning of value production are inherently tied to the logic and functioning of waste production.

We propose that engaging with matters of waste can make a significant contribution to the field of valuation studies in three broad and interconnected ways:

First, we suggest an approach to understanding value that is informed by a theoretical consideration of waste. We insist on embracing "value as a verb" (Kjellberg and Mallard 2013: 20), while questioning the objects, infrastructures, and knowledge systems that are made predicate to the activity of valuing (see also Dewey 1939). This analytic move reminds us that waste is not necessarily something with no value, nor is it something that has been destroyed or discarded for good. What making something waste does is to *transform*, *deform*, *reform*, and in turn *open up space* for the *emergence of differences* and their mobilization in different practices and livelihoods.[2]

Second, the valuation of waste is a thoroughly *material* process. The shift from a binary opposition of value/waste to multiple and messy practices of generating value in our entanglements with waste (and to the boundary-making practices in which the very value/waste distinction is enacted) involves attending to the heterogeneous materials of waste, and the different ways in which they come to matter. Dealings with waste are material activities through and through, and the valuing that happens in them is grounded in the transformations and transubstantiations of waste, landscapes, people, and more-than-humans that are involved. And, when it comes to the

[1] Though we deal with matters of material waste here—what might also be called "discards"—we acknowledge that there are other conceptions of waste, such as waste of time, of energy, of space, or of resources, all of which, too, are worthy of studying from a perspective that emphasizes valuation as a social practice.

[2] We owe Justine Laurent and Filippo Bertoni for this idea.

re-appropriation of waste, discarded objects and materials must be reworked, manipulated, and transformed in order to be incorporated into further regimes of value, and these transformation processes involve sorting and categorization with corresponding infrastructures and tools.

Third, a focus on waste sheds light on how multiple modes and regimes of valuation are connected. On the one hand, this supports previous observations that economic valuation processes are entangled with (and difficult to unfold from) cultural, social, moral/normative, and other evaluative practices (Lamont 2012; Heuts and Mol 2013). Transformations that produce value require specialized knowledge, which can be technical and political, but equally "naïve" or "folk". On the other hand, these multiple modes of valuation are not simply co-present along the neat chains or circuits through which goods or materials travel. Multiple modes of valuation imply multiple forms of transformation, which refer sometimes to competing imaginaries.

Of course, we are not the first ones to challenge the common understanding of waste as the zero point of value. Waste studies scholarship has already done a lot of work to show that waste is a positivity in its own right, and to reconsider the relationship between value and waste (see e.g., Hawkins and Muecke 2002; Gille 2007, 2010; Herod et al. 2013; Alexander and Sanchez 2018; for extensive reviews see: Moore 2012; Gregson and Crang 2015; Reno 2015).[3] Our aim is to build on this body of work by stressing more explicitly the intertwined practices and processes of *assembling* and *disassembling* value and waste. While waste studies have established how waste is not simply the "theoretical derivative of the concept of value" (Gille 2010: 1049), thinking in terms of "assemblages" (Deleuze and Guattari 1987; Latour 2005; DeLanda 2006; Çalışkan and Callon 2010) provides a fine-grained account of the ways in which waste is enacted together with value. Crucially, the notion of *disassembly* is as important as assembly in the approach we propose. It attracts attention not only to the center of the action of valuation but also to its peripheries—to things and materials which are cast aside, to spaces which accommodate that which has been disassembled, and the ambiguities and potentialities opened up by processes of disassembly.

In this special issue, detailed accounts of the entanglements of waste and value are made possible by engaging with rich empirical data. These accounts shed light on the transitional moments and states both between and within the categories of waste and value; the connections and tensions between various valuing regimes; and the work and effort it takes to sort, extract, and manipulate materials and things in messy ad hoc practices to draw value from them. In the following section we review dominant conceptions of the relation of value and waste. We

[3] See also www. discardstudies.com.

then elaborate the notion of dis/assembling to engage with matters of valuation—in which processes of valuing are always interlinked with processes of wasting.

Imaginaries of value and waste

Frameworks for understanding waste shift over time. So, too, do proposed solutions for eliminating waste or making productive use of discarded materials, and the epistemes and political imaginaries invoked along the way to understand the sorts of systems of which waste is a part (see for instance Simmons 2006).

The perspective of neoclassical economics has long been influential in shaping thinking about the relationship between value and waste. In a neoclassical framing, waste is generally seen as something that has no value. Waste is irrelevant to the calculations of *homo economicus*: information about waste is external to the mechanisms of supply and demand. And when the rational economic actor buys or sells things that for outsiders may seem waste-like, what is bought or sold is considered as "resources" rather than waste. Waste, therefore, is never part of market exchange at all. Another way to approach waste in a neoclassical framework is by way of costs. Here, waste tends to be assigned a negative value. Environmental issues such as pollution are discussed in these terms in the neoclassical paradigm: negative costs that are not appreciated in a contract are externalities, which lead to "market failure" (Callon 1998). Waste has also been conceptualized as inefficiency, which makes it a cost (potential value not produced). In neoclassical economics, then, a clear hierarchy is established between the foundational concept of value and the derivative concept of waste, as waste is considered to be created by existing value-producing social structures and systems of knowledge (Gille 2010: 1050).

For political economy approaches, too, waste appears as a by-product. Marx distinguished two forms of waste or "excretions" in the economy: first, the by-products of production ("the waste products of industry and agriculture" Marx 1992: 195); and second, the leftovers of consumption ("both the excrement produced by man's natural metabolism and the form in which useful articles survive after use has been made of them" Marx 1992: 195). The so-called "excretions of production" could be re-input into the production process, as when iron filings return to the production of iron as raw material. The "excretions of consumption" could be collected, reprocessed, and reused, as in the case of wool shoddy: used wool could be remanufactured to make "shoddy", which in turn was used to make clothing that was of poor quality. Marx recognized that in order for excretions of production to be viable as a source of value, several conditions had to be fulfilled:

> the massive presence of this refuse, a thing which results only when labour is carried out on a large scale; the improvement of machines, so that materials that were previously unusable in their given form are converted into a form suitable for new production; and finally, scientific progress – especially in chemistry, which discovers the useful properties of such waste products. (Marx 1992: 196)

Waste, then, was for Marx a by-product, either of production or consumption, with the potential to once again be made valuable by recycling it through further production processes. The issue of waste's potential for value can also be framed in terms of "waste-based commodity frontiers" (Schindler and Demaria 2019), making property relations and conflicts transparent.

Other approaches understand waste as a positivity and center their inquiry on *excess* as a starting point. This is in stark contrast to neoclassical economics as well as to a Marxist approach. Neoclassical economics is premised on scarcity, as one can make profit on something only provided that it remains scarce. The emphasis on scarcity, however, presents a restricted conception of the economy, as has been argued by Georges Bataille, the classical theorist of excess par excellence. In his theory of "general economy", Bataille (1984) suggests that the fundamental economic problem is not scarcity but excess, whose presence is inescapable (see also Stoekl 2007). According to him, there are two basic impulses of living organisms: appropriation and excretion. While the first results in the homogeneity of the appropriating subject and the appropriated object, the latter results in heterogeneity. Living organisms tend to receive more energy than what is necessary for maintaining life, and the excess energy that they cannot absorb or use for their growth must necessarily be used, lost, consumed, and expended. Within the framework of Bataille's general economy, waste, too, is framed as a form of excess and expenditure that is primary, rather than derivative of production and consumption.

Many of the greatest problems of our era, such as environmental concerns like mass pollution and the ubiquity of plastic trash in the marine environment, are problems of excess (Abbott 2014). Along similar lines, in his book *The Enigma of Capital and the Crises of Capitalism* (2010), anthropologist and geographer David Harvey suggests that what is crucial to the destructive dynamics of global capitalism is not so much scarcity or the lack of resources, but the problem of overaccumulation. According to Harvey, it is precisely the lack of mechanisms to deal with excess that renders global capitalism so prone to crises. To place emphasis on excess is also to see waste as unavoidable. Processes of production, consumption, and use can never be perfectly cyclical; wastage and leakage here are considered part of the normal operation of the economy. Waste is the "other" of

capitalism's dynamics, its often invisible side. No matter how hard we work to obliterate it by binning it, flushing it down the drain, dumping it, or otherwise sending it away, it refuses to vanish. It has the capacity to return, haunt us, and play a role—often unexpectedly, often with unequal consequences—in unfolding social life.

The founding text in establishing the fundamental link between valuation and waste is arguably Michael Thompson's *Rubbish Theory: The Creation and Destruction of Value*, first published in 1979 and recently reprinted (2017). Thompson was a student of Mary Douglas, and he draws on her classical work *Purity and Danger* (1966) that casts dirt, or waste matter, as the symbolically constructed result of boundary creation and maintenance within society. Thompson insists that consumption does not always designate the end of an object's life: often objects continue to exist even if we no longer have any use for them, and discarding may even mark the beginning of a new cycle (2017: 134). Thompson describes how transient goods (ones with finite lifespans over the course of which they decrease in value) transform into durable goods (ones with infinite lifespans and whose value increases over time) (2017: 25). He suggests that there is a "vast and disregarded realm—Rubbish—that, it turns out, provides the one-way route from Transient to Durable" (2017: 10).[4] The cornerstone of Thompson's theory is his observation that the category of rubbish is "covert" and serves as a place for formerly transient goods to dwell in limbo before being plucked out by those with the social power to do so, for a new career as durable. This covert category is the basis for his observation that seeming paradoxes—in this case, contradictory value designations—are simply different arrangements within the same overarching system.

However, Thompson's *Rubbish Theory* is strikingly paradoxical in that it does not actually examine rubbish per se. The "rubbish" in the theory is merely a category of things in the world with no value, which allows for high-status people to increase the value of formerly less valuable things. Thompson is essentially interested in the social control and movement of goods between cultural categories/regimes of value, specifically the move "upwards" in the value hierarchy from transient to durable status. While he acknowledges things as part of our social world—arguing that in order to understand value hierarchies and the movement up and down them, we need to understand how our actions "depend on there being things 'out there' for us to push around (and be pushed around by) […] We need a theory of people *and* stuff" (Thompson 2017: 10)—he attends insufficiently to the activeness of things. He portrays objects as passive and inert, just waiting to be endowed with meaning and value, rather than in

[4] The oft-cited threefold division of cultural categories (durable, transient, and rubbish) are actually five categories, including also production and consumption (Thompson 2017: 122).

themselves active and effective, able to "*have a say* in what they become" (Hawkins 2013: 56).

Thompson's (2017: 10) general observation that "stuff matters" has been expanded in a meaningful way by a variety of more recent approaches across the social sciences which stress the need for direct engagement with matter and materials. Some of these do not trace their lineage from Thompson or matters of waste in particular (e.g. Latour 1992, 2000, 2005; Barad 2003; Bennett 2010; Coole and Frost 2010; Ingold 2011, 2013), but others are situated within the field of waste studies itself, which turns the focus onto waste matter as an object of study (e.g. Hawkins 2006; Gregson and Crang 2010; Lepawsky and Mather 2011; Hird 2012; Gille 2013). With the notion of dis/assembling we aim to capture the heart of this debate while also taking it one step further.

Assembling and disassembling

Understanding waste as part of assemblages helps us understand *how* waste acts, or is made to act.[5] Thinking in terms of dis/assembly is important if we are to fully understand waste and value as co-constitutive. Creating value is a process of joining together: classifying, grouping, combining, making, re-forming. Yet it is also a process where persons, things, parts of bodies, or landscapes are disentangled, abandoned, dismissed, or corrupted. This perspective helps us see, first, that waste is ubiquitous, and not just at the end of a value chain, production process, market transaction, or life cycle of an object. Second, waste and value are both socio-materially produced. Third, and relatedly, processes of assembly and disassembly are always connected. For something to be assembled, other things must be disassembled. Conversely, when something is disassembled, the constituent parts must go somewhere, and can be taken up into other assemblages.

A crucial move within the field of waste studies in the direction of assembly and disassembly was provided by the book *Culture and Waste* (2002). In their introduction to the volume, editors Gay

[5] This is also where our approach might have relevance to a broader understanding of waste beyond the notion of discards. The focus on assemblages draws attention to the way that materials are configured and reconfigured in an attempt to produce something, or to achieve a goal, or to bring a particular vision of the world into being. With Taylorism, for instance, the aim was to eradicate wasted time; Toyotism, on the other hand, can be understood as an attempt to eradicate wasted space and expenses (through the elimination of inventory). Each of these organizational principles was achieved by the meticulous assembling of production systems capable of reducing a particular type of waste. The development of progressively less "wasteful" modes of production, then, can be shown to be connected to the production of different sorts of waste, which can then, in turn, be the focus of innovative reassembling of production in the future.

Hawkins and Stephen Muecke (2002: x) propose that "[w]aste isn't just the uselessness that sustains utility, or the place where only the symbolic is in play; it has a complex role in formations of value". In their book, which shares with Thompson (2017) the subtitle *The Creation and Destruction of Value*, they consider this question in the context of "social" and "cultural" "strata". In *The Ethics of Waste,* Hawkins stresses the affective capacities of waste's materiality, arguing that "[t]o reduce waste to an effect of human action and classification is to ignore the materiality of waste, its role in making us act; the ways in which waste is *both* a provocation to action and itself a result of that action" (2006: 4–5). Hawkins is interested in interrogating the ways that encounters with waste matter and infrastructures move people to act, enlist people into relations of governance, or think about their relationship with the world. Though she does not use the concept of assemblage specifically, she presents humans and waste materials as co-constitutive elements of social worlds.

This is the first dimension of assemblage thinking that is of use to us: assemblages bring to light the more-than-human aspect of the emergence of value and waste. The relevant agents are not only human ones. In contrast to the social constructivism of much of the literature on waste, the more-than-human perspective foregrounds the socio-material underpinnings of waste (e.g. Gregson and Crang 2010; Lepawsky and Mather 2011; Gabrys et al. 2013). This does not mean that humans somehow vanish from the scene or that their actions are irrelevant. Instead, the focus shifts so that humans appear as "inextricably entangled with the nonhuman, no longer at the center of the action" (Pickering 1995: 26; see also Whatmore 2002; Manning 2013; Pyyhtinen 2015). Thinking in terms of assemblages sensitizes us to *both* the material *and* the expressive roles (DeLanda 2006: 12) that waste can play. In *The Mushroom at the End of the World*, Tsing (2015) emphasizes that "wasted" environments—such as landscapes devastated by atomic bombs or plantations whose soil no longer supports crops—provide both matsutake mushrooms and, in turn, those who pick them, resources to live. At the same time, the mushrooms reciprocally provide nutrients to the trees they grow under. Matsutake have become a valuable commodity, and are entangled in affective relationships with those who pick them, as well as those who purchase them or receive them as gifts. Ruins, then, are not simply the result of erasure or destruction, but are subject to processes of disassembly and reassembly that make alternative orderings of the world possible (Edensor 2005). Practices and processes of valuing and wasting are part of heterogeneous and at times surprising constellations of human and non-human or more-than-human doings.

Key to the formation of assemblages is not only the process of bringing things together but pushing out entities as well. Thinking of markets as assemblages, for instance, means recognizing that

"[m]arketization is about establishing *and* severing linkages, it is about incorporating *and* expelling people, places, and things" (Berndt and Boeckler 2010: 566). "Detaching" components of one assemblage and putting them to work in another is at the heart of assemblage theory (see for instance Delanda (2006: 18); Serres (1989) and Cochoy and co-authors (2017) also explore the nature of detachment). Assemblages are characterized by "relations of exteriority" which imply that "a component part of an assemblage may be detached and plugged into a different assemblage in which its interactions are different" (DeLanda 2006: 10). This is the second dimension of assemblage thinking that we wish to highlight: emergent entities are enacted not as a result of their situatedness in specific "contexts" (Woolgar and Lezaun 2013: 323) but through processes of assembly and disassembly of component elements. The fundamental indeterminacy of waste materials already points to a multitude of possible value setups (Alexander and Sanchez 2018). This approach implies that valuation practices cannot simply be understood by identifying their social contexts but requires us to take into account the realities that they bring into being. In other words, the question cannot only be what realities make valuation possible, but what realities are made possible by the dis/assembling processes of value and waste creation.

We are particularly keen on emphasizing the productive side of destructive action: the concrete and material disassembly of valuable entities. In other words, we suggest engaging explicitly with the "how" of disassembly. Gregson and Crang stress that it is important to understand not only how objects come into being, but also how they move out of their object form: "becoming waste is a means to break the focus on the object, to work with a politics of stuff, and to move beyond the identification of becoming and materiality with the affirmative, to insist that becoming is also un-becoming, literally and adjectivally as well as corporeally" (Gregson and Crang 2010: 1030 f.). Becoming refers, then, to the "affirmative" processes through which materials first become an object; it also refers to the processes whereby an object becomes waste through the disassembly of its component parts. Gregson and co-authors (2010) provide a picture of how unbecoming processes work in their research on the dismantling of end-of-life ships. Though the ships are coming apart, in doing so an entire scavenging and resale industry comes into being for materials and furniture that have un-become parts of the ships. The coupling of becoming and unbecoming makes clear that any object is merely a temporary congealment of various materials, forces, and relations and is therefore bound to disintegrate sooner or later, at which point its elements can become part of other assemblages.

Contributions to this special issue

The papers gathered in this special issue articulate the relations between and coexistence of different registers of practices. As such, waste is not a coherent thing, but rather one that gets displaced and transformed in valuing practices which coexist in various ways, as in the case of competing markets for used books (Greeson, in this issue). To assemble valuable entities entails practices of disassembly. Yet depending on the task at hand and the particular entities previously assembled, the material processes and "disassemblies" required to stabilize valuable entities can be quite different. Disassembly requires tools and infrastructures, which can be as specialized as industrial recycling equipment (Laser, in this issue) or as informal as the gloves and bags used by dumpster divers (Lehtonen and Pyyhtinen, in this issue). By empirically examining the practices of handling waste, the contributions to this special issue all bring to light how the specific affordances, capacities, and recalcitrances of waste figure in wasting/valuing processes.[6]

Because of the contingency of practices established to deal with waste matter, and because of the scales they produce, the papers in this special issue cover a wide scope: regimes of valuation which are both corporate and non-corporate, official and informal, capitalist and anti-capitalist; the papers address multiple scales from very local settings to global flows. We present particular case studies that deal in an intimate manner with places and things that previously have been mostly discussed from a distance (e.g. formal recycling of electronic waste, the resale of books on electronic platforms). Detailed investigations of them bring us closer to understanding the "unprecedented things […] being done with and to matter, nature, life, production, and reproduction" (Coole and Frost 2010: 4). Our investigations of the flow and evaluation of materials shed light on new (and not-so-new) industries, new solutions (ad hoc and formalized), and cumulative flows; we describe ways of relating to and dealing with (waste) matter; we take up the question of what people can proactively do with and to the discarded things and materials that surround them. The papers in this special issue deal with the question of how systems and imaginaries hold together *despite* their patent shortcomings, and how systems are sustained even though they *fail* to achieve their main goals of efficiency, control, and freedom from the limitations of human bodies and subjectivities.

In his contribution, Laser shows how a recycling company needs to de-form e-waste materials in various ways to calculate with them. He describes how electronic waste is forcefully dropped, rearranged, put through massive and sensitive shredders and (last but not least) heated to 1200°C to be reconstituted. All of these processes of material

[6] We are thankful to Justine Laurent and Filippo Bertoni for this idea.

deformation and disassembly are processes that the company's accounting system requires to be able to differentiate between different valuable entities. While processing e-waste, valuable materials called "scrap" are enacted, in contrast to valueless "waste". Laser emphasizes that the company's accounting system depends on the deformation of materials into new forms in order to be able to calculate and plan efficiently for making future purchases and adjusting future contracts. The successful valuation of the materials passing through the company turns out to be a fragile achievement, and one needs a perspective that is sensitive to material practices to perceive this fragility.

Greeson proposes an "ecological" view of valuation to understand the processes whereby used books are made valuable in England, through places from where books donated to charity are collected, to spaces of sorting and sale as various types of products, including, in the end, as waste paper. In her analysis, the concept of "subtractive production" characterizes the productive labor that accompanies the exchange of used books. This type of disassembly is not simply extractive, with valuable elements being removed from a material stream in order to be sold. Calling it "subtractive" turns this view inside out, focusing attention not only on the processes of excavation (which are only a fraction of the value-creation processes that are taking place) or on the goods being valued, but equally on the processes of ridding which direct materials to other spaces where they can be again recombined and reclassified in an ecology of connected moments of valuation.

Voluntary dumpster diving involves the valuation of discarded food in processes which undo the wastefulness of waste. Lehtonen and Pyyhtinen emphasize the creativity of the practices: they are not only about knowing what can be eaten but also making items good to eat by picking them out of waste containers, disentangling them from the waste infrastructure, and making them part of another assemblage of, say, bags used for carrying them home, kitchen utensils, and cooking. To transform food waste into edible food entails one creating something new out of what is given, something that is not yet there in the discards. And the actants entangled in this process of dis/assembly are explicitly both human/cultural (i.e., those who decided that food should end up in a dumpster and those who rescue it) as well as organic/biological (processes of decay which are halted when the food materials are made part of a new assemblage that uses a freezer, for example).

Focus on the assembly and disassembly of value and waste shared by all these papers contributes to the field of valuation studies in the three broad ways described at the beginning of this introduction. First, reconsidering value and valuation in terms of waste forces us to question taken-for-granted paradigms, subjects, and objects of valuation practices. The notion of dis/assembly allows for a

consideration of economic entities and processes that goes beyond markets, value chains, or other entities usually understood as economic. It shines light on various often overlooked actors, performances, and infrastructures and their (dis)entanglements. Various forms of so-called waste matter have been shown to be not simply at the end of their linear life spans. Instead, waste can be *potentiality* for the creation of new forms of value at every level of formality, from large-scale waste management to small enterprises and even informal or illegal activities organized in small social groups.

Second, thinking about value and waste together makes it clear that heterogeneous materials are part of valuation processes. In the papers in this special issue, waste is ubiquitous, appearing in various forms alongside value in processes of material reconfiguration as entities are assembled and disassembled. Waste does not lie outside of systems of value but is inseparable from them. Future research on valuation practices can therefore no longer ignore excess materials as an intellectual wasteland.

Third and finally, thinking about waste means that we cannot confine ourselves to thinking about single modes or regimes of value. Thinking with waste pushes us to think about how various regimes of value are connected and how they coexist and/or compete. Considering concrete processes of dis/assembly provides insight into what makes value production possible and into the realities enacted by the valuation practices themselves. It also invites us to reflect on systems in which certain values are dismantled—or were never set up in the first place. A focus on waste in studies of valuation thus provides a thoroughly grounded view of the politics of value.

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