LIVING WITH UNRULY WASTE MATTER

On More-than-Human Relations

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Introduction

The world we live in is both a human and a non-human world, a world not only of ideas, meanings, and culture but also of plants, animals, microbes, artefacts, waste, infrastructures, oceans, and the climate, for instance. Yet, our immersion in the more-than-human world and our intimate everyday entanglements with our non-human others has largely remained absent in sociological accounts. Bruno Latour (1992) famously claimed some 30 years ago that the 'masses' have been largely missing from sociological analyses. With this, he meant that ever since the birth of the discipline, sociologists had almost exclusively turned their attention to humans at the price of excluding non-humans. This exclusion had much to do with the endeavour to establish sociology as an independent discipline. Foundational authors were eager to find an object of its own for sociology, a purely sociological domain, and this effort rested on a kind of purification.

Notwithstanding this urge for purification and exclusion, non-humans nevertheless refuse to disappear. They relentlessly demand to be considered when we study society and social relations. To quote Latour (1992: 153):

> They knock at the door of sociology, requesting a place in the accounts of society as stubbornly as the human masses did in the nineteenth century. What our ancestors, the founders of sociology, did a century ago to house the human masses in the fabric of social theory, we should do now to find a place in a new social theory for the nonhuman masses that beg us for understanding.

However, non-human masses were never completely consigned to oblivion. We can think of Émile Durkheim's analysis of totems in *Elementary Forms of Religious Life* (1973), Georg Simmel's writings on topics such as money, the ruin, the handle, the bridge and the door, senses, exhibition architecture, the letter, and the picture frame (Simmel, 1997), and Karl Marx's notion of the base as well as his attention to the waste or 'excretions' of production and consumption (see e.g. Marx, 1992). The more-than-human perspective is new because it gives non-humans a fairer share in the make-up of our world. Their existence is not reduced to whatever it is that humans choose to make of them. The classics still more or less regarded the human subject as a sovereign ego separate from the world of non-humans and gave primacy to language, meanings, and culture. Present scholarship, by contrast, takes seriously the effectivity of our non-human or not-quite-human others.

Accordingly, more-than-human sociology amounts to much more than simply awareness of the existence of non-humans and adding them into social analysis. In this chapter, I examine the radical break vis-à-vis the prevailing sociological thinking that the more-than- human perspective presents. First of all, it embodies a way of thinking about nonhuman matter differently. Secondly, the more-than-human perspective reconfigures our notions of relations and relationality. And thirdly, it invites us to rethink what it is to be human.[1] More-than-human sociology dethrones the constitutive human subject and attends to the ways in which the human is constituted through its relations with forces, flows, and forms outside it. Not-only-human elements and materials are always already implicated in the human, as an integral part of its make-up. The chapter explores these issues mostly by engaging with the subject of waste. As something which we constantly seek to exclude and which yet refuses to disappear despite all the efforts made to eliminate it, waste presents itself as a most suitable example of non-humans banging on the door of sociology.

The Life of (Waste) Matter

The predominant understanding of matter in modern Western culture, as Diana Coole (2010: 92) remarks, is to regard it as 'essentially passive stuff, set in motion by human agents who use it as means of survival, modify it as a vehicle of aesthetic expression, and impose subjective meanings upon it'. The so-called new materialist thinkers have recently challenged this perception of matter. They reject the idea of matter as passive stuff and inert, distinct from active and free human subjects. As Coole and Samantha Frost (2010: 8) suggest in their introduction to the book *New Materialisms*, 'an overriding characteristic of the new materialists [is] their insistence on describing active processes of materialization of which embodied humans are an integral part, rather than the monotonous repetitions of dead matter from which human subjects are apart'. Far from being passive and dead, objects and matter are in constant variation and have an ongoing historicity. Every object is a series of events.

When arguing against their passivity, in recent years, it has become commonplace to grant non-humans with 'agency'. Its generosity notwithstanding, this move nevertheless diverts thinking on a wrong path, since it remains captive of what anthropologist Tim Ingold (2013: 100) has called 'a logic of embodiment' or, alternatively, 'logic of inversion' (Ingold, 2011: 68). The notion of agency suggests that someone or something is capable of acting due to *possessing* an agency. Ingold (2013: 96) argues that it is utterly 'perverse' to causally attribute action to an 'agency', of which the action would be the effect. With all its talk about 'agency' and 'actants', not even actor-network-theory would seem to be entirely free from the logic of embodiment. Contrary to what it alleges and intends, the idea of agency as something distributed along network relations nonetheless tends to treat beings as self-enclosed and separate. Provided that a 'network' is conceived in terms of connections *between* elements, the concept

[1] I have made these three points in a different form and context in Pyyhtinen (2015).

logically entails that the interconnected entities are apart not only from each other but also from their relations (Larson, Petch and Zeitlyn, 2007: 216–217; Ingold, 2011: 70). It assumes a distance, an empty space in-between them, and thereby the network approach is bound to begin with a separation.

Ingold gives us workable means to escape or reverse the logic of embodiment. He proposes a way of considering action not in terms of the possession of agency, but in those of being 'possessed by' and 'immersed in' action (Ingold, 2013: 96–97).[2] Ingold is not alone in insisting this. For example, Karen Barad (2003: 826–827), too, proposes that agency 'is an enactment, not something that someone or something has'. Further, in his book *Reconnecting Culture, Technology and Nature*, STS scholar Mike Michael (2000) suggests that we should not think of action in terms of agents, whether human or non-humans, but we should move away from the grammar of agency altogether. As Michael (2000: 1) puts it himself: 'Instead of humans and non-humans we are beginning to think about flows, movements, arrangements, relations. It is through such dynamics that the human (and the nonhuman) emerges'. Indeed, instead of understanding relations as connections between fixed entities, it would be better to fathom them as lines of *along* which things come to be and change (see Pyyhtinen, 2021).

By refuting the notion of agency, we can also avoid the tiresome accusations of animism and the criticism that acknowledging the activity of non-humans would somehow be tantamount to saying that non-humans have intentional properties or consciousness. Attending to the concrete occasions in which non-humans, objects, and materials are active and produce effects provides us a way of reconsidering action and activity. Instead of attributing action causally to 'agency' (resulting from the faculties of the mind) of which it would be the effect, more-than-human sociology looks at action in terms of relations, assemblages, confederations, and flows. This is not to deprive human agents of intentionality or cognition, nor is it to deny the existence of several crucial differences between humans and non-humans. Humans do have certain specific features such as introspection and the capability to make one's own experiences the object of one's cognition, but cognition or intentionality should not be privileged when conceptualising action.[3] Intentional action is only one particular case of all the different kinds of action and activity. We would not ascribe intentionality to a heavy wind knocking down trees, to a bridge carrying trains over a river, or to the dose of alcohol going to one's head; yet, they are active and do have concrete effects. We need to challenge the very privilege accorded to intentionality, free will, mind, and the like when thinking of action and agentic effects.

Social scientific waste studies, a field in which I have been working increasingly the past few years, nicely exemplifies this shift in perspective from the passivity

[2] The formulation 'immersed in action' comes from Alfred North Whitehead (1938: 217).
[3] See Pyyhtinen (2022) as a case in point.

to the activity of matter. While waste scholars have always taken an interest in materiality (Moore, 2012), often they have tended to portray discarded objects as more or less passive and inert, just waiting to be endowed with meaning and handled by humans and their social constructions. The pioneering works in the field provided by Mary Douglas (2002 [1966]) and Michael Thompson (1979) embody this kind of social constructionist approach, as they examined waste as a product of classification (though Douglas, to be exact, writes about dirt, not waste). The authors emphasise that nothing is inherently waste, but things may move into and out of the category of waste. Douglas's and Thompson's contributions help us in an important manner to understand that waste is not just an occasional, marginal nuisance but an unavoidable and integral product of any order. There is no order without disorder and no cleanliness without dirt. The two are generated in the same gesture of separation.

However, the social constructionist approach to waste comes with certain limitations. Most severely, it tends to ignore the brute materiality of waste. Douglas's perspective represents, to quote philosopher Olli Lagerspetz (2018: 72, 77), an 'anthropological reductionism' according to which dirt or waste is primarily symbolic; it has no actuality or positivity of its own. Yet, waste cannot be reduced to socially constructed meanings, and it is not fully explained by the concept of disorder, either. There are several reasons for this.

Firstly, waste does not just embody disorder. Waste is not always and in every situation simply 'matter out of place', as Douglas's (1966: 35) famous formulation reads, since there is also a clearly defined, demarcated place *for* waste. This is actually something which Douglas too acknowledges (see Douglas 2002 [1966]: 198. In households and in public waste management, this place is the waste container, not the bed, kitchen table, bathroom floor, backyard, forest, or roadside. What Douglas – quite understandably – does not examine in detail, however, is containment as a sociomaterial practice of ordering, and what it is that containers do to their contents. The bin is a crucial spatial technology of making waste manageable: it tames the uncontrollable, threatening, and disturbing 'outside' that waste embodies by enclosing it. As is characteristic of containers more generally, the waste bin stops things from spilling, flowing, and expanding uncontrollably in space by holding the materials together, in place. A thing, object, or substance placed in the bin is also out of sight and out of mind. The container keeps the waste separate from us, hidden, in the afterlife of useless things that have lost their value. The orderly placement of waste in the container where it belongs does not undo its wasteness; rather, its binning further reinforces its classification as 'waste'.[4] Like dead bodies, garbage is isolated from the bustle and continuity of mundane life in its confined resting place. The bin simultaneously hides the rubbish and indicates its proper place: 'here lies'.

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[4] This idea thus comes with undertones of relationality, situatedness, and performativity. Being always implies a spatiotemporal location: what entities are is dependent on where, when, and in relation to which they are to be found.

The bin is also a repository of order, in so far as rubbish and waste are sorted. Discarded things are not just thrown away, abandoned into a mess, but mixed waste, biowaste, glass, metal, plastic, paper, cardboard, and hazardous waste are normatively placed in separate containers, in separate orders. There are detailed specifications and instructions to which tems and materials can and cannot be placed. For example, in the recycling bin reserved for paper newspapers and magazines, advertisements and brochures, coloured paper, letter paper, and recycled paper are welcomed, but not disposable containers, reproduction paper, copy paper wrappers, gift wrapping paper, wrapping paper, data protection paper, cardboard, or plastic. (It is also forbidden to put organic waste, metal, glass, medicines, or nuclear waste there, but this is not mentioned in the recycling instructions because the risk of confusion is so minimal.)

Secondly, waste has its own positivity. Waste is not reducible to meaning and it is not the kind of dead matter that it is usually assumed to be. Waste is self-expressive: it 'speaks' or 'writes' in terms of overspills, flows, expansions, rhythms, and interactions, and by remaining as a material trace of deterioration, decomposition, and effacement, as a ruin of what is no longer. Discarded materials live on in the afterlife of bins, recycling points, and incinerators; they have found their way to forests, oceans, and mountain peaks, and are ingested – in the form of micro- and nano-plastic – by sea birds, fish, and other organisms, including humans. So, even after having been discarded, matter is still teeming with life. Waste is not just a passive object of human modification, but active in itself: it does something and has an impact on our lives and on the environment (see also e.g. Hawkins, 2006; Gregson and Crang, 2010). By taking up space, stinking, accumulating, and overflowing, discarded materials force us to manage and organise them and place them somewhere where they would cause as little disturbance as possible. The power of a vibrant waste material can sometimes even be dangerous and harmful to health – just think of food spoilage, mould, rotting, food poisoning, or landfill waste mountains that threaten to release carbon dioxide, methane, and toxins into the soil, groundwater, and air.

It needs to be stressed that attending to the *materiality* of waste instead of reducing it to meanings and social categories does not mean studying it in terms of its mass, volume, or atomic or molecular constitution. It is to focus on what waste matter is *capable of*, that is, on its potentialities and the ways in which it is effective in relation to us as well as other materials. So, the more-than-human approach examines waste matter not in terms of what it is but what it *does*. Instead of trying to tell what it is by nature and define its primary qualities, it explores waste in non-essential terms: its properties are defined by its relations and are thus susceptible to change.

The emphasis on the activity of matter itself instead of assigning primary dynamism to human agents unsettles the 'bifurcation of nature' (Whitehead,

2015 [1920]: 21) into active living beings, on the one hand, and passive and inert inorganic bodies, on the other hand. The notion of 'material vitalism' put forth by Gilles Deleuze and Félix Guattari (1987: 411) nicely articulates an attempt at dissolving the life/matter dichotomy: instead of distinguishing living bodies from inorganic ones and life from the mechanism of matter, as the vitalism of Henri Bergson or the life-philosophy of Simmel still did, material vitalism attends to 'a life proper to matter, a vital state of matter as such'. It suggests a way of considering life not in terms of organisms but in terms of 'matter energy', 'matter flow', and 'matter in variation that enters assemblages and leaves them' (Deleuze and Guattari, 1987: 407; see also Bennett, 2010). It understands life as deterritorialised: instead of lurking in the interstices of living individual organisms, life 'exists everywhere' (Deleuze and Guattari, 1987: 411); it is 'immanent in the very process of [the] world's continual generation or coming into-being' (Ingold, 2011: 67).

To further stress the irreducibility of life to the organic, Deleuze and Guattari (1987: 411) propose the notion of '*Nonorganic Life*' and argue that it is metal that best reveals a life proper to matter. With its effectivity and agentic capabilities, waste, too, provides a fascinating example of such a life. What makes it all the more fascinating is that the vibrancy and dynamics of waste also open up a perspective on the effectivity of 'bad' matter, beyond a good and wanted agency of matter (see also Parikka, 2012). Besides circulating through society in ways that are expected to promote economic growth and create new business opportunities – today, the so-called circular economy invites us to realise the potential of 'waste-based commodity frontiers' (Schindler and Demaria, 2020: 52) – waste also flows and moves in unwanted and uncontrollable ways. Today, waste is constantly technologically and economically seized and ordered by acts of closure to be recovered and revalued through recycling and reuse along the chain of production and consumption. And yet, despite all the efforts to control it and make its flow circular, waste refuses to be tamed.

It is largely in its way of leaking and spilling over that waste escapes techniques that manage, govern, and exploit it. Waste is to a great extent vagabond, unruly, and deterritorialising matter that belongs to a fluid reality. It flows, expands, and spreads all over our living environment. For example, it has been estimated that there are more than five trillion pieces of plastic afloat on oceans, weighing over 250,000 tons (Eriksen et al., 2014). To subjugate waste under the imagery of a perfect circle or a closed circuit of flow thus amounts to ignoring its spillovers and the principle of loss operative in it. All waste cannot be reclaimed. There always remains something in it that does not circulate and cannot be recycled, reused, and exploited. It is only by taking seriously the 'aneconomic' side of waste that threatens and disrupts the completion of society and economy into closed loops and by accepting waste as such beyond its translatability into value that it is possible to understand how waste is integral to our everyday life and to the metabolism of capitalism.

Reconfiguring Relations: From Dyads to Triads

Given that the world of humans is inextricably entangled with the non-human, the more-than-human perspective also invites us to reconfigure the notion of *relation*. There are no human relations as such, in a humans-only vacuum, outside the world of matter and materials, but our actions and relationships are inseparably tied with a host of things and materials. When we humans are with each other, we are also with fossil fuels, minerals, microbes, technology, pollution, plastic, foodstuffs, dogs, houses, oceans, trees, the soil, rivers, and infrastructures – just to name a few of the entities that we live with. Thereby, to grasp the full range of our relations and our entanglement with the world, we need to incorporate various non-human or not-only-human things and materials into sociological inquiry.

Integrating non-humans into social theory invites us to consider social relations in triangular terms, that is, fathoming them as configurations of three. In sociology and social theory, relations are typically considered in dyadic terms, as relations between two. For example, in his major work *Soziologie* (1992 [1908]), Simmel regards the dyad, *Zweizahl*, as the numerically most rudimentary and basic sociological formation. In a somewhat similar manner, Gabriel Tarde (1899: 39) insists in his book *Social Laws* that 'the relation between [...] two persons is the one essential element in the social life'. The fundamental unit of social life is according to Tarde (1899: 39) 'a couple consisting of two persons, [...] one of whom exerts a mental influence upon the other'.

Simmel and Tarde are not alone in insisting on the dyad as the basic, most rudimentary social unit. In fact, twentieth-century social theory has by and large modelled intersubjectivity in reference to the Other, in terms of the dyadic relationship of Self and Other. Michael Theunissen (1984: 6) has argued that the notion of 'the social' can be 'extended to every type of relation to the Other, including the presocial'. Already Hegel (2012 [1807]) asserted the intersubjective constitution of self-consciousness in his theory of recognition. As he writes in a famous passage of *Phänomenologie des Geistes* (2012 [1807]: 141): 'Self-consciousness is in and for itself insofar as, and by virtue of the fact that it is for another which is in and for itself; that is, it exists only as something recognized'. For Hegel, alterity is thus inscribed into the constitution of self -consciousness and identity; self-consciousness presupposes a detour via otherness. In the place occupied by the Cartesian *cogito* and the solitary thinking subject that it implies, Hegel's theory of recognition puts the dyadic relationship of I and Other – the subject emerges through dyadic interpersonal encounter (here I will not go into the Hegelian Master-Slave dialectic).

Dyadic interactions do not, however, exhaust the social world in its entirety. Let us take the gift relationship as an example. While the gift would seem to involve a dyadic relation between the giver and the recipient, in truth, it cannot be

‘reduced to a one-on-one interaction’, but it ‘necessarily includes a third element, a thing from the world’, as Marcel Hénaff (2020: 170) argues (see also Pyyhtinen, 2014). Already the verb ‘to give’ is trivalent: it entails that some*one* gives some*thing* to someone *other*. Here, we are not dealing with the third-party human agent famously discussed, for example, by Simmel.[5] Actually, the third-party human agent, as Hénaff (2020: 170) argues, ‘tells us nothing about the third-party thing that bonds together the partners’. The gift object – which can be a material solidified object, but also a mere word or a gesture – is not a supplement added to the relationship between the partners, but it makes their relationship possible. The gift relationship is not a transfer of a good/thing from one party to another, but a relationship *mediated* by something external to the two partners (Hénaff, 2020). This mediating third element brings about what Charles S. Peirce (1958) calls the ‘triad’, a relationship among three logical subjects.

The argument that Hénaff develops in relation to the mediating role of the gift can be extended to apply to all kinds of relationships among humans. There is a thing of the world implicated and involved in *every* relationship between two human subjects. The human subject is not the only conceivable third party there is, but there exist many more Thirds than just our fellow humans. To disregard the existence and role of impersonal Thirds (such as non-humans, language, and institutions) unnecessarily narrows down the conceptual field of the figure of the Third. The activities of third persons cover only a few of the several possible operations and figures of the Third. Therefore, the notion of the personal third party is not very helpful in analysing the third-party thing that binds the self and other together.

However, to fully acknowledge the effectivity of the non-human thirds involved in social relations, it is important to transcend Hénaff’s more or less anthropocentric perspective. While Hénaff acknowledges that the things from the world play a role in our relationships, he ultimately reduces them to mere symbols, giving primacy to human agency and privileging language, meanings, and culture. This is already betrayed by his vocabulary: the concepts third-party *agent* and third-party *thing* are prone to render objects passive, distinct from active and free human agents. When objects and materials are considered as mere symbols, it becomes impossible to see their powers and effectivity to the full extent. The Third introduces alterity to relations. It is placed outside the dialectic or indissoluble dyad of ego and alter (see Esposito, 2012: 105–106); it is

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[5] Even though he insisted on the primacy of the dyad, Simmel was also perhaps the first to emphasise the sociological significance of third persons for social relations. The difference between the formations involving two members and those involving three is according to him not only quantitative, but also qualitative. Formations of three differ from dyads in terms of dynamics, stability, and by their degree of objectivity. What is more, Simmel argues that any further expansion to the formations of four, then, one hundred, on hundred thousand, and so on does not have the same transformative effect as the addition of the Third (Simmel, 1992 [1908]: 117–118).

something *in excess* to it. No other phenomenon probably exemplifies this excessiveness more concretely than waste. Since the emergence of mass production and mass consumption, the relationship of Western societies to waste has been based on a logic of expulsion: discarding, disposal, and exclusion. 'Waste' has figured as a generic term for a substance that has lost its value and is therefore discarded.[6] Yet, we live with waste in a much more fundamental sense than public waste management and the most enthusiastic visions of a circular economy would have us believe. No matter how hard we work to obliterate trash by binning it, flushing it down the drain, burying it in the ground, or burning it, it refuses to disappear. For example, in 2016, the cremation of the more than 1.5m tonnes of municipal waste that were burnt in Finland's incineration plants generated almost 400,000 tonnes of ash, which is more than any other type of waste generated (Eskonen, 2018).

But waste does not disappear through recycling either. Not all surplus can be converted into a useful resource. In fact, the belief in the efficiency of recycling seems to provide the absolution for our ever-accelerating consumption. The paradox of recycling is that, despite increased recycling and careful sorting, the amount of municipal waste generated actually continues to increase. A World Bank report published in September 2018 estimated that annual waste will increase to 3.4 billion tonnes by 2050, up from around 2 billion tonnes in 2016, or roughly 70% (Kaza, Yao, Bhada-Tata and Van Woerden, 2018).

We are therefore inextricably entangled with waste – as a Third that both mediates and disturbs our relations and actions – in complex patterns of economic, ecological, political, and corporeal interdependency. Human togetherness always implies being also together with (the exclusion of) waste, and we also share a joint future with it. A waste-free world is nothing more than a technocratic fantasy. We cannot free ourselves from waste once and for all, nor can we take complete control of it. Waste, in its unmanageable form, threatens the self-awareness of the present and the renunciation of the past. The exclusion of waste is therefore also an attempt to guarantee the independence of the present from the past that overshadows it. Waste is like a spectre (cf. Derrida, 2006; Doeland, 2020): something left behind that should therefore belong to the past, but which refuses to disappear into nothingness and instead haunts us, affecting and disturbing our being in the present. It embodies otherness, something alien and repugnant to us; yet, it is inextricably 'ours', both as our creation and as a problem that falls under our responsibility. By its presence, waste prevents us from detaching ourselves from otherness.

[6] While landfilling, which was in Finland where I live the prevailing method of managing municipal waste from the 1950s to the early 2000s, sought to relocate and remove waste out of sight to the outskirts of communities, and waste incineration seeks to dispose of the surplus material by burning it to ashes, the circular economy ideology presents a total ban on the very idea of excess.

Waste also calls into question our desire by being something other than how we would wish things to be. If consumer goods are fantasy objects of the good life and of an idealised future, which contain the promise of happiness and wholeness, waste amounts to matter that is stripped of that dimension of fantasy. Waste, in its wasteness, is unproductive excess, drained of its potential, surplus matter that no longer serves any purpose. To live with waste, therefore, requires hospitality towards it, acceptance of useless and worthless matter as an inevitable fact and feature of our environment. Living with waste ultimately comes down to accepting meaninglessness or worthlessness as part of life, perhaps also to opening up to a sense that transcends the human. A life shared with waste is a life that is not in complete control of itself, a life to which otherness and strangeness are constantly entangled (see also Pyyhtinen, 2020). We are formed as individual subjects and as a community in and through multiple exposures to and encounters with Thirds.

The Non-Human as Always Implicated in the Human

Besides inviting us to think about matter differently and acknowledge how things and materials participate in, mediate, and disturb human togetherness, the more-than-human perspective also changes our understanding of what it is to be human. Human beings do not exist apart from objects, materials, and material flows, but the latter can even be understood as the other side of the powers of humans, without which our actions would not be possible. The non-human is always implicated in the human. This idea collapses or breaks down that boundary between the human organism and its environment. Interestingly, John Dewey already problematised this boundary in *Art as Experience* (1980: 59), when he wrote that the

> Epidermis is only in the most superficial way an indication of where an organism ends and its environment begins. There are things inside the body that are foreign to it, and there are things outside of it that belong to it de jure if not de facto; that must be taken possession of if life is to continue.

The non-human other is always already part of the human self. There is no human as such, pure, simple, and bare, detached from its relations and dependencies, as if in a natural state, but the human only exists in relations.

We can think of viruses as one example of the trace of the non-human within us. Although we typically think and speak of viruses as if they were entirely external invaders which enter our body only on the occasion of infection, many viruses belong to our constitution and are an integral part of human life (Shildrick, 2022). Scientists believe that about 8% of the human genome is made up of endogenous retroviruses (ERVs) (Gandi and Tramontano, 2018), and retrotransposons unanchored genetic chains, make up an even greater share, probably around 40% (Shildrick, 2022: 92).

Yet, those not-quite-human entities that are located outside the human body may be equally constitutive of it. For a blind person, one's ability to go for a stroll

is highly dependent on the stick. The stick is something external to and distinct from his body, and yet, in its very extra-somaticity and supplementary nature, already belongs to their mental system and bodily capability in the act of walking (see Bateson, 2000 [1972]: 465). For the blind, the stick comprises what philosopher Bernard Stiegler (1998) has called an 'original prostheses' which he uses to think the relationship of the human with technology. For Stiegler (1998: 141), the human is a creation or effect of one's technical prostheses. He stresses that not only do humans invent tools, but also tools invent the human. By using the tool, I not only learn something from the tool and from myself but I also become more skilled at using it; I become a skilled user. With the notion of technology as an original prosthesis of the human, Stiegler thus suggests that technology gives rise to their users by redefining their capabilities.

Finally, to take up the example of waste again, we can also think about waste as constitutive of the human. The category of waste is an integral part of the human condition, taken that all human activity is bound to generate excess. Despite all efforts to get rid of it, we are not separate from waste. There is no human without waste, but the two co-emerge; the appearance of the human is the appearance of waste, and waste enables particular sorts of humans to emerge. Besides asking what humans can do to waste, it is therefore also relevant to ask what waste does to us; examine the kind of relations, agencies, and spatiotemporal scales it assumes, prompts, enacts, and sustains of risks, responsibilities, and possibilities it presents; think about the futures society commits itself to by its discarding and waste management practices (and about the alternative material and political futures they may foreclose); and envision the sorts of humans that we both individually and collectively become with waste.

Conclusion

In this chapter, I have tried to elucidate how the more-than-human perspective in sociology does not simply mean that we acknowledge the entanglement of humans with non-human others and that we grant 'agency' to those non-humans. It is also suggestive of a new way to understand non-human matter, relationality, and ultimately what it is to be human.

First of all, above I suggested that the more-than-human perspective goes against the tradition of perceiving non-human matter as passive and inert, distinct from active and free human agents. It regards non-human beings and materials as active in themselves and capable of exerting effects. This does not amount to forgetting or ignoring humans and their actions. On the contrary, as Andrew Pickering (1995: 26) puts it, 'the human actors are still there but now inextricably entangled with the nonhuman, no longer at the centre of the action alone'. More-than-human studies thus decentre action and the idea of an autonomous, constitutive human subject. All action takes place in a relational field and overlaps, conjoins, interferes, and interacts with other endeavours (Bennett, 2010: 101).

Secondly, acknowledging our entanglement with a non-human world changes our understanding of social relations. There are no social relations as such, devoid of matter, but all our relations are entangled with and mediated by heterogeneous non-human materials and things that also participate in making the relations what they are. A lot more stuff goes into producing a collectivity than just agents and structure, or even assumedly self-enclosed and distinct humans and non-humans, for both humans and non-humans are assemblages composed of various materials, relations, and flows. Every relation between two humans, as was suggested, always includes a third element: a thing from the world. Relations therefore need to be considered as triangular configurations, that is, assemblages of (at least) three elements. The point in foregrounding the Third is not that in addition to there being dyadic relations, there also exist relations between three. The Third is not only the sign of increased complexity; it is there in every relation. There is a Third to every relationship between two, either included in it or excluded from it. 'As soon as we are two, we are already three or four' (Serres, 2007: 57).

Thirdly, and finally, more-than-human sociology also suggests that we are not Incorporeal minds lurking in the depths of our subjectivity and only afterwards and sporadically coming into contact with external reality, but we gain our capacities and skills through engaging with the world and learning how to become affected, mobilised, and put into motion by it (Latour, 2004). We have no inherent agency. Instead of humans standing as the sole creators of things, the materials and objects with which we are entangled significantly shape who we are and what we are capable of. When we move from one scale to another, we do not move from immateriality to materiality or the other way around. Never and at no point do we exit the world of materials, but we always already 'swim in an ocean of materials' (Ingold, 2011: 24). As humans, we live in a world of active non-human beings and materials, and with our life and actions we participate in its ongoing formation. We are constituted in the processes that constitute the world, or, as Pickering (1995: 26) put it, 'The world makes us in one and the same process in which we make the world'.

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