Whose Value Lies in the Urban Mine?
Reconfiguring Permissions, Work, and the Benefits of Waste in South Africa

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How waste should flow and who should pay for and benefit from these flows have never been easy questions. Recent efforts to recognize and capture value from (some) waste has led to new flows and new conflicts. In this article, we explore ongoing ideas and initiatives about reworking the wastescape in three South African cities. Various actors seek to capture more waste, make the wastescape more legible, and shift the costs of work. Despite ongoing rhetoric that frames waste as a new resource, interviewees note that much easily accessed waste is already claimed, and there are underemphasized costs associated with increasing the volume of collected waste. In this context, we consider efforts to change the wastescape as ways of reconfiguring existing flows and reworking ongoing arrangements of the state, industry, reclaimers, and workers. This includes changing who is permitted to access waste and create value. Across our interviewees, we find many contrasting ideas about what more desirable infrastructure might entail. We suggest that contestations over waste are not just about permission to create value but are underwritten by different visions of what infrastructure is and ought to be, who ought to know and govern it, and in whose interest waste flows. **Key Words:** infrastructure, South Africa, urban political ecology, value, waste.

Waste reuse and recycling often take place out of sight but contribute to livelihoods and economies globally. State and private-sector discourses not only celebrate the environmental benefits of recycling: They increasingly suggest that waste is an untapped resource waiting to be excavated (European Commission 2011; PAGE 2017; GreenCape 2020). Whether understood as the “urban mine” or through more quotidian reflections on the importance of municipal recycling systems, waste discourses draw on and contribute to ideas of a green or circular economy (MacBride 2011; Knapp 2016; Corwin 2020; Schindler and Demaria 2020).

Undoubtedly, it is true that many discarded materials have use value. It is equally uncontroversial that creating and claiming this value takes a lot of work (Herod et al. 2014; McGrath-Champ et al. 2015; Dinler 2016; Fredericks 2018). The conditions under which providing waste services or participating in the recycling industry is profitable, and for whom, are less clear (MacBride 2011). Questions of who ought to benefit from waste flows and how permission to access such benefits ought to be created and enforced are even more contested.

Such inquiries and uncertainties are about the configuration of a particular wastescape but are underpinned by a growing plurality of ideas about what infrastructure is and ought to be. The modern infrastructural ideal for waste entailed regular waste collection and flows of waste out of the city (cf. Graham and Marvin 2001). This service was never prevalent in the Global South, however, and has famously splintered in the last half-century (Graham and Marvin 2001). It has yet to be replaced by a clear alternative. As such, there are ongoing and emergent questions about how (waste) infrastructure should be configured.

In practice, waste infrastructures are configured in many ways. In some cases, unpaid cleaning and sorting are done in households, trucks do much of the mechanical work of collection, and further separation is done in recycling facilities that deploy belts, sensors, and other technologies that minimize paid labor. In other cases, waste reclaimers sort, collect,
negotiate, and return materials to productive and consumptive circuits (see Zapata Campos and Zapata 2014; Gregson et al. 2016; Samson 2017; Schenck et al. 2019). In both, value is created through flows of waste. Different "modes of valorization" (Schindler and Demaria 2020) create and distribute this value differently. In other words, who pays and is paid for the work and whether there is profit to be made from waste is not given but depends on dynamics of ownership, technological sophistication, and state regulation or involvement (Gidwani 2015; Corwin 2018). Who is allowed to participate in the creation of such value is equally often unclear and contested.

In this article, we consider the creation and distribution of value from waste in South Africa where, despite much laudatory rhetoric, recycling is not an easy industry in which to make a profit. Many actors are currently attempting to rework existing waste flows and existing approaches to managing waste, suggesting ongoing dissatisfaction with the existing wastescape (Oelofse and Godfrey 2008; Godfrey and Oelofse 2017). We examine ideas and interventions (including both private-sector experiments and state-backed schemes) that seek to shift patterns of access, ownership, rules, and responsibilities. Yet we also, importantly, recognize skepticism from within the waste sector of the laudatory rhetoric: Although there is clearly more waste to capture and recycle, there are underemphasized costs that will likely make it difficult for new actors to make profits without reworking existing arrangements.

In this context, this article makes two primary contributions. The first is to emphasize the dynamics of configurations, and particularly the role of permissions in the politics of who gets to claim what materials from the wastescape. We use the term permissions to refer to ongoing, socially negotiated capacities to access materials. Waste initiatives rework permissions, dispossessing some while benefiting others and enabling certain types of labor more than others. These permissions are neither universal nor universally agreed on but dynamic, agonistic, partial, and contested. Claims are made on many different grounds, and only some permissions are recognized by various actors. Our second contribution is to emphasize the implications of this on ideas of waste infrastructure. We find notable diversity and uncertainty over what kind of waste configuration is imagined by various actors. All of our interviewees emphasize separation at source and recycling infrastructures but differed in their ideas of who ought to do what in the wastescape. The ideas and initiatives we describe here therefore do not clearly identify and advocate for a singular alternative. Instead, they seek to legitimate and consolidate different configurations of governance, ownership, and work in the wastescape, different arrangements that also (re)shape the ability of various actors to access and create value from waste.

Importantly, in this article, we do not advocate for a particular configuration as more just or sustainable. This is not to sideline the question of what good configurations might entail: It is a crucial question for political ecological scholarship. Instead, we position our work within a collective moment of uncertainty about infrastructure in and beyond South Africa, in and beyond waste studies. We believe it is too early to know what is possible but that greater attention to various permissions to access value in different configurations can enable clearer insight into the dynamics, and merits, of different flows of waste.

**Reconfiguring the Wastescape, Redistributing Value**

Attention to infrastructure has marked geography and the social sciences in the last two decades. Beginning with Star’s (1999) call to study that which is “frequently mundane to the point of boredom” (377), the social sciences have undergone an “infrastructural turn” in recent years. Although infrastructure largely refers to the materials that underpin contemporary life—what Larkin (2013) called the “objects that create the grounds on which other objects operate” (329)—more recent work continues to expand the definition of infrastructure beyond the pipes, wires, and bridges that have marked much of the literature to emphasize the lively, social, quotidian, and governed qualities (e.g., Von Schnitzler 2016; Latham and Layton 2019; Hall 2020; Barua 2021; Enright and Ward 2021). We thus use the term infrastructure to mean the combination of material objects (like bins, trolleys, and trucks), spaces, people, and social relations that enable waste flows.

Much contemporary infrastructural scholarship has traced the transition from what Graham and Marvin (2001) called the modern infrastructural
ideal, oriented around a vision of unified, uniform, universal infrastructure across nation-states and particularly cities, to a more “splintered,” heterogeneous field of infrastructural provisioning. Many critical scholars have expressed dismay at the move away from a modern imaginary in which the state is responsible for and supports the provisioning of services to all of its citizens (Graham and Marvin 2001; McDonald and Ruiters 2005; although see Jaglin 2008; Lawhon, Nakyagaba, and Karpouzoglou forthcoming).

Work that explores critical infrastructure studies in southern cities, however, often urges deeper engagements with already-existing infrastructures. This scholarship has pointed toward the ongoing existence of different modes of access to services (Furlong and Kooy 2017; Smiley 2020; De Coss-Corzo 2021). It has also pushed back against the idea of infrastructure as a system or, for waste studies, the idea that there is always a single dominant waste regime (Jaglin 2014, 2015; Lawhon et al. 2018; for waste, see Gille 2010; Moore 2012; Sseviiri et al. 2020). Here, we instead use the term configuration to emphasize that infrastructures do not always comprise established practices, patterns, and rules; they can have many different arrangements of the components (Lawhon et al. 2018). This is particularly true in the Global South, where infrastructural configurations are often dynamic and contested. In this context, the question of what good infrastructure is and ought to be is increasingly unclear (Lawhon et al. 2018; Sseviiri et al. 2020; Nakyagaba et al. 2021; Lawhon, Nakyagaba, and Karpouzoglou forthcoming).

Understanding what waste infrastructure can be is particularly fraught because the wastescape entails two interrelated flows: waste for disposal (a service) and for recycling (an industry; see Scheinberg 2012; Velis et al. 2012). In this broader context, researchers have called attention not only to who bears the burdens of waste (Pellow 2004; Baabereyir, Jewitt, and O’Hara 2012) but how materials move back into circuits of production and consumption and who gains from such processes (Myers 2005; Langenhoven and Dyssel 2007; Moore 2012; Samson 2015; Demaria and Schindler 2016; Cornea, Veron, and Zimmer 2017; De Rosa 2018; Schenck et al. 2019; Schindler and Demaria 2020; Barnes et al. 2021). Thus, although all infrastructures have economies and often complex flows, waste flows comprise particularly unusual and significant mixes of value creation, distribution, claiming, and processing for reentry into productive circuits.

Ongoing discussions of waste have highlighted the potential wealth to be created through the green economy. Yet, as we emphasize in what follows, increasing waste capture and recycling does not simply or necessarily produce profit. Value is created during the recycling process, as collected materials are sold into productive circuits. Economic inputs, however, vary substantially based on whether, for example, reclaimers or waged workers with trucks collect waste. Across the north and south, value is created from waste through a plethora of different configurations. Schindler and Demaria (2020) described these as modes of valorization that take place within wider sociotechnical, political–economic contexts:

Each mode of valorization requires changes in how materials and energy are appropriated, transformed and managed. This constitutes what we call a socio-metabolic reconfiguration, and in this context, actors rearrange their position in relation to competitors and flows of waste. This often results in ecological distribution conflicts over value creation, enhancement and distribution. Therefore, what is at stake in these socio-metabolic conflicts is the establishment of a mode of valorization that transforms garbage into gold. (57)

Creating value from waste, then, is reliant on the efforts at sorting, collecting, and reinserting waste into productive circuits (assembly; Dinler 2016).

There are many different real and possible configurations of actors, responsibilities, and technologies, each capable of creating value and distributing the costs and benefits of waste. Further, multiple modes of valorization can coexist and compete in any wastescape. This is particularly true in places where modern infrastructures capture a small portion of discarded material. Some modes depend more on standardized, waged labor, including higher salaried managerial labor. The ratio of manual to machine work also varies, with certain modes depending primarily on technologies such as trucks and conveyor belts. In much of the world, the labor that creates value from waste is undercompensated and functions as a form of subsidization for the ultimate extraction of surplus value (Dinler 2016). As Gidwani and Reddy (2011) observed, “The bodies of e-waste workers have, quite literally, subsidized the disposal...
of Bangalore’s IT waste since the sector’s inception” (1651). The same is true of South Africa’s waste (see Miraftab 2004; Samson 2015; Godfrey and Oelofse 2017; Schenck et al. 2019). Different modes entail different risks and costs, raising questions about the overall financial viability of particular modes of waste management (Gidwani and Reddy 2011; Lawhon 2012; Corwin 2018, 2020; Doherty 2019; Viljoen, Blaauw, and Schenck 2019; Tuçaltan 2020).

Crucially, the ability to create value from waste also requires permission to access waste (Makina 2020; Sseviiri et al. 2020). Waste is often seen as excess and unwanted material rather than something to be sought after. Yet as attention to the (potential) value of waste grows, so, too, have contestations over access to some waste. The process of claiming and accessing waste, like other resources, involves more and less stable rules that are differently accepted and contested, legitimated and transgressed, by various actors (see Ribot and Peluso 2009; Lawhon, Pierce, and Makina 2018; for waste, see Makina 2020; Sseviiri et al. 2020). By permissions we mean not only legally granted permission from the state for contracts to manage waste but also ongoing social negotiations to access materials. These are distinct from rights or consolidated consent, often claimed by social movements or provided by the state. Further, as Lawhon, Pierce, and Makina (2018) argued and we demonstrate in what follows, “Rather than a single, unitary logic, there may well be competing, conflictual logics being deployed. Claims of entitlement and permission are grounded in diverse and sometimes conflicting epistemologies of privilege and permission” (125).

Changes to the wastescapes have, of course, been studied before. Many have examined efforts to formalize the waste sector, including in South Africa (Bjerkli 2015; Gutberlet et al. 2016; Dias and Fernández 2020; see also Simatele, Dlamini, and Kubanza 2017; Rateau and Tovar 2019). These literatures often problematize initiatives that take waste away from some and make the flow of waste more regular and legible to outside actors. Others have pointed to the limited success of such initiatives, including that they often in practice exclude those who previously worked with waste (see O’Hare 2019; Samson 2020; Sekhwela and Samson 2020). These studies have made important contributions by calling into question who ought to benefit from waste. Yet, as we work to show here, there are many additional ways of changing the wastescapes and a diversity of claims and permissions that we believe muddy straightforward narratives of justice.

In what follows, we examine existing ideas, practices, and interventions in the South African wastescapes as a lens into changing waste configurations, modes of valorization, and permission to create value from waste. We position our study in a wider moment of collective, ongoing uncertainty over what infrastructure ought to be. In and beyond our case study, there are different arrangements of technologies and users, owners and regulators, and payments and profits. Different modes of valorization enable different outcomes and raise questions about who ought to be permitted to create value from waste. Grounding this argument, we suggest that although the recycling industry might be able to pay for labor and generate profits, whether it can and who will get what benefits from it depend on how waste infrastructure is configured. How waste infrastructure is configured includes not just the material nuts and bolts of infrastructure but also the socially negotiated permissions to access and create value from waste.

**Methods**

The data for this was article were collected as part of a wider project that examined prevailing trends in South African waste management and their implications for livelihoods generated from waste. In the course of ongoing fieldwork, assumptions surrounding value, valorization, and distribution emerged as an integral premise. The first and second authors conducted more than seventy-five interviews between February 2017 and August 2018 in Cape Town, Johannesburg, and Ekurhuleni metropolitan municipalities with government officials from municipal, provincial, and national spheres; waste management and recycling business managers; entrepreneurs working with recycling and waste; recycling and green economy sector representatives; and buyback center operators.

During this time, they also undertook site visits to buyback centers, waste transfer stations, material recovery facilities, landfills, and recycling businesses and collaborated with South African waste scholars through workshops and ad hoc knowledge exchange. The authors also completed an extensive review of
governmental policies, legislation, and associated documents related to waste management and recycling, alongside media coverage and sector-specific reports.

Our analysis of these data followed an iterative process, and the structure of the themes we discuss here emerged after our interviews. For this article, we focused on how different actors thought the wastescape should be, evidenced in words and practices. The data that follow represent the range of answers found across our data. We point, where possible, to answers that were commonly found by certain types of actors but are mindful that our data provide a partial lens. It is likely there are additional possible configurations of waste, claims to access and create value from waste, and the reasons why particular permissions are made in and beyond South Africa.

**Key Dynamics in the South African Wastescape**

The logistics of the recycling economy are straightforward in the abstract: collect, sort, and process materials. This apparent linearity belies the granularity and specificity in how different materials are ultimately rendered into new products, including how costs are saved by some and, at times, passed on to others. In practice, the mechanics of value creation from waste are much more complex, and the ability to profit is not simply a function of accessing more materials. In fact, many in South Africa suggest the most profitable materials are already extracted from the wastescape before state-authorized collection, complicating efforts to create more value from waste (Godfrey and Oelofse 2017).

From the start, separating waste into two streams (disposal and recycling) is inordinately complex. Materials need to be collected from homes, businesses, bins, and landfills. These materials are sometimes sorted, sometimes clean, and sometimes not. The ability to profit in the recycling sector is dependent, in part, on the quality of the output, which is related to how well materials are sorted and cleaned. Once collected, materials then need to be transported to buyback centers or material recovery facilities. From there, as one recycler based in Cape Town noted in 2018:

> The big things you need to make smaller. Then you must granulate it, which is a grinder, then you must wash it, which is a wash plant, then you must dry it, which is a drier, then you must heat it up and get rid of the last moisture, because a dryer can make it dry but there is still trapped moisture and trapped moisture is the enemy to these things. And then you dry the thing out and then you put it through an extruder, and you pelletize it and you bag it and you seal it, you put it on a truck and you deliver it.

Recycled products often lack the consistency of their virgin counterparts, meaning that recycled material is often better suited for larger products with less exacting requirements, like gutters and pipes, rather than objects that require greater precision. The price of materials is therefore also shaped by comparisons with virgin materials and fluctuates with global commodity prices. To compete with other material providers, the recyclers we interviewed routinely noted that they must make up for reductions in material purity and imperfections through cost savings. They described multiple strategies that enable the small margins obtained by most actors throughout the wastescape. These range from the discovery of items with high resale potential by collectors as they gather more ordinary materials (Makina 2020) to the cost savings associated with technologies like sorting belts (which speed up the process and reduce the cost of labor but also leave much waste unclaimed). Ultimately, prices are a function of the quality of the materials that enter the recycling process and quality is enabled by knowledge and relationships. As is true in much of the recycling economy globally, and in South Africa in particular, profits are underpinned by the work of reclaimers and their skills in sorting and collecting, as well as the ability of those who pay them to gauge an appropriate price for what has been collected (Blaauw, Pretorius, and Schenck 2019; Viljoen, Blaauw, and Schenck 2019; Barnes et al. 2021).

**Calls to Rework the South African Wastescape**

Throughout South Africa, there is significant interest among governmental and private-sector actors in remaking existing waste flows. Various actors are pursuing the expansion of recycling services to respond to environmental and economic pressures, including high unemployment and longstanding economic and environmental injustices (see Oelofse and Godfrey 2008; Department of Environmental Affairs 2011; GreenCape 2020; Samson 2020). Ongoing initiatives, instigated and
supported by actors across the private and public sector, seek to reconfigure what are already dynamic relationships to create and claim more value from the wastescape. These initiatives include the development of municipality-led separation at source programs, alongside interventions led by the private sector to access more recyclables (Lawhon, Millington, and Stokes 2022). Interventions into the waste sector are often, but not always, supported by the state, whose role in society and the economy, including the wastescape, is in considerable flux. Whether the state ought to enable recycling is not particularly contested: The actors we interviewed all agreed it should. How the state should intervene, and who should benefit from such interventions, is contested, though.

Many active in the materials economy note that there is still considerable untapped material trapped in homes and (ultimately) landfills (Godfrey and Oelofse 2017). As labor-intensive infrastructures, services, and economies, the waste disposal and recycling sectors are viewed by state actors as low-hanging fruit for socio-economic development and are often identified as part of a wider discourse about the green economy as an engine of job creation (Melamu 2020; Department of Forestry, Fisheries and the Environment n.d.). Yet despite much enthusiasm around the possibilities of waste as an anchor of economic development in the green economy, the state’s public narrative of ample untapped economic potential in the waste sector sits awkwardly with many established recyclers. Many of those who have long worked in the waste sector whom we interviewed believed the state is exaggerating the economic potential of waste. Established industry players scoffed at the job estimates that the state suggests can be linked to the trade in recyclables, even as they celebrate the industry’s capacity to generate jobs. An engineer in Cape Town, interviewed in 2017, noted, “The recycling industry is pretty cutthroat and it’s driven by market prices.” These prices are shaped by global political economic pricing pressures far outside the industry’s control. Although there is undoubtedly much uncollected waste, those we interviewed in the industry report that the lowest hanging fruit already reenters the recycling economy.

Of course, there are interests in making such claims: Existing participants in the recycling industry do not want new entrants into the sector and thus to share materials with new actors. They also have reason to emphasize the difficulties of the industry and the ways in which certain types of regulation might threaten what is presently a viable economic sector. This point was frequently raised in our interviews, particularly those with representatives of recycling industry organizations. Concerns were raised, for example, over the upcoming rollout of Extended Producer Responsibility schemes at the national level in South Africa (see also PETCO 2020).

Although recognizing that there are vested interests in pushing back against the state’s narrative, we do take this wider set of claims to be reasonably accurate: If one assumes a fairly knowledgeable waste sector, it is reasonable enough to imagine that if more materials were easily and profitably available, they would already be captured. There thus does not seem to be such a significant excess of available materials that can be easily and profitably captured. This is, fundamentally, because the existing materials that go unclaimed would take considerable work to move from the flow of waste for disposal into the flow of waste for recycling. In this context, we examine the following ideas and interventions as efforts to rearrange various actors’ permissions to access and create value. Doing so includes calls for the adjudication of multiple simultaneous claims based on different explanations of who should benefit from waste and why.

**Ideas and Initiatives to Reconfigure the South African Wastescape**

Much of South African development continues to be underpinned by what might be broadly considered modernist aspirations, yet our interviews and ongoing experiments suggest there is equally a growing awareness, often expressed tacitly, of the implausibility of modernist visions. We read many of the following initiatives, including efforts to draw on community labor and integrate so-called informal collections into municipal separation at source programs (see Samson 2020; Lawhon, Millington, and Stokes 2022), as indicative of a willingness to accept and experiment with heterogeneity. What this means for waste infrastructure in practice is both unclear and the subject of a patchwork of initiatives, highlighting the lack of consensus on where the problem with waste lies and how to redress it.

Importantly, as we show in what follows, there are several different strategies for making claims at play. Those already active in the industry emphasize...
that recycling is not a new industry, and it emerged in South Africa largely as a private-sector economy with little initial state investment. Established actors from both the formal and informal sectors emphasize the importance of this experience and knowledge as grounds for the claims to continue accessing waste. At the same time, there are calls to make waste work more legible and to redistribute its benefits to new, previously marginalized actors. Although some suggest growing the waste sector, in practice there are concerns that making space for new actors is implausible and that instead new actors would appropriate materials and profits from established actors. Together, these multiple claims and efforts to rework waste flows point to divergent possibilities for the wastescape. What follows is intended to be indicative of this diversity rather than a comprehensive list of possibilities.

**What Should the State Do? Some Say Promote Separation and Enforce De Jure Ownership, Access, and Permission**

Municipal bylaws in South Africa typically declare that the state or its subsidiaries own waste set out for collection (City of Johannesburg Metropolitan Municipality 2013; City of Cape Town 2016). Until recently, such laws have rarely been systematically enforced, and waste reclaimers regularly remove materials. Cities are experimenting with household separation at source programs, often starting with pilot programs in high-income areas with large volumes of waste and outsourcing collection to private companies. These efforts include Cape Town’s Think Twice scheme and the now city-wide Separation®Source in Johannesburg. In lower income areas, private companies have experimented with mobile buyback centers that seek to enroll households to bring in materials for direct payments, such as Packa-Ching. In both cases, the financial viability of initiatives reportedly requires the state to enforce existing de jure rights and exclude reclaimers who previously worked in such areas (albeit illegally). These initiatives do not rework de jure legal rights but change ongoing permissions and access and thus redefine who is able to create value from waste.

Although earlier we noted that many of our interviewees from the private sector preferred a limited role for the state in regulating the waste industry, many also suggested that the state ought to play a role in enabling private-sector collection of waste materials. Larger recyclers and wholesale buyers (increasingly linked to national-scale and in some cases international-scale waste management companies) repeated the idea that municipalities should develop separation at source programs so that the private sector would not need to take on the cost of collection (or pay for collection). In a 2017 interview, a representative of the packaging sector gave voice to these dynamics, noting that he understood that roughly 35 to 40 percent of recyclable paper material was largely locked away in households. There, it would presumably go primarily to landfills given the lack of separation at source programs and the cost of separation at the landfill or nearby material recovery facilities. In considering the need for more recyclables, he explained that waste collection infrastructures tended to be located in more financially secure upmarket areas, because low-income areas typically purchased fewer materials and materials of lesser quality to a recycler. Ultimately, the interviewee noted, the preferred system was for separation at source to be developed by the municipality: “The one thing we’d found is that household collections are usually costly, and if you don’t have the buy-in from the city, you don’t have a partner, then it’s actually very jacked up.”

This interview, with a private-sector representative who explained recycling through the economic logics of the packaging industry, speaks to the fiscal and governmental challenges of developing separation at source programs, with costs that largely exceed the purported fiscal benefits that come from tapping into recyclables. Recycling is, as this interviewee noted, a “very challenging market.” More generally, this interviewee pointed to the desire of the recycling industry to access more materials but suggested it was constrained by the difficulties of developing infrastructures for the collection of recyclables in uneven, unequal cities when environmental services are predicated on profitability.

Importantly, what the private sector wants from the state is not only for it to create programs to instigate household separation at source. In places where separation at source and mobile buyback centers were implemented, materials were not an untapped resource waiting for investment. Instead, they were and are a contested resource, with many interested parties. In effect, separation at source makes it even easier for reclaimers to access materials from bins. In the case of a global recycling conglomerate
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that has run recycling programs in Cape Town as part of the city’s separation at source program, collection of municipal recyclables in an upmarket area was operating at a loss in 2017. When asked why, the first author was told that although there were many aspects, the most notable was the evident “theft” of recyclables by informal collectors and other nonformal actors (we return to different ways of understanding this claim later). The resale price of the remaining materials was not enough to offset the labor and transportation cost of collecting them. For these new interventions to be successful, the state must not only develop separation at source; it must override de facto permissions that let reclaimers access waste and enforce de jure rules that deny reclaimers access to discarded materials.

The loss of livelihoods for waste reclaimers was justified by some policymakers we interviewed as inevitable. A municipal government representative in Johannesburg noted that the intention of these programs is not to destroy livelihoods but “by default that will happen: if you are not part of the system and you’re working the earmarked area, your livelihood will be affected.” From this quote and our wider interviews and reading of secondary materials, we suggest it is not only a fiat-based logic at play here in which the state justifies its actions because of the existence of rules. The justification for the exclusion of reclaimers draws on wider notions of modernity, including colonial modern understandings of “waste as underutilized resource” as justification for its claims (see Gidwani and Reddy 2011; Samson 2020). In other words, the state justifies consolidating and acting on its claim to waste because a new system will be more efficient, generate more value from waste, and therefore contribute to widely accepted socioeconomic goals. Remaking the wastescape is, for many, framed as an ethical imperative due to the working conditions for many reclaimers and the belief that there are legitimate, and not legitimate, ways of undertaking waste work (we address this point further later).

What Should the State Do? Some Say Promote Socioeconomic Justice

Although a clear role of the state was widely supported across our interviews, what this means in practice remains contested. Earlier, private-sector actors wanted the state to promote separation at source programs to increase the recycling of materials, mindful that the profitability of such initiatives also required enforcing legal rights to waste. Yet, which companies are permitted to access such waste, both for separation at source and more generally across the wastescape, is a substantial point of contention. Waste is described by some state officials as a potential source of revenue for the state, not private industry, or a source of profit for the state to redistribute within the private sector. In other words, some officials believe the state should not support existing businesses but instead catalyze or direct opportunities to new businesses. In discussing the possibilities of benefitting from the sale of recyclables, a national-level waste management strategy from 2012 makes clear several options:

There is a significant market for recyclables in South Africa; however it is currently dominated by the private sector. Municipalities can tap into the recycling market as a potential income revenue stream. Municipalities can choose their role, either directly by investing in reclamation infrastructure and selling sorted material to recyclers, or by facilitating SMMEs and industry in an indirect approach. Municipalities may be incentivised to provide the raw waste free of charge, as an implicit subsidy to encourage recycling, as well as to reduce transport and disposal costs.

(Department of Environmental Affairs 2012, 12)

Importantly, the motivation for supporting new waste businesses should not be understood simply as the privatization of state services. Many policies and officials within the state see its role not only as promoting economic growth: Efforts to intervene in the economy are underpinned by a belief that the state ought to promote socioeconomic justice. In this context, the state works to help establish and provide support for Broad-Based Black Economic Empowerment, a policy that allegedly redresses long-standing socioeconomic injustices (for examples on waste, see Theron and Visser 2011; Muswema 2012; Higgs and Hill 2019).

Yet as we noted earlier, there are concerns within the existing waste sector that creating new businesses without further, extensive state support will not create more profits but instead shift value within the waste configuration. New businesses might instead move waste out of the informal sector as well as away from more established businesses. This vision, in which socioeconomic justice happens through a formal industry legible to the state, is in keeping with a view that there are legitimate and
illegitimate ways of undertaking waste work. Emblematic of this view was an interview in 2017, in which a provincial government representative gestured at a photo of informal reclaimers on a landfill site as a demonstration of what needed to be changed. There are certainly occupational health and safety reasons for this sort of pronouncement, but the persistence of seemingly informal labor practices within a system undergoing a kind of formalization would seem to exceed these purely calculative logics, pointing us to the ongoing presence of modernist imaginaries that identify informality as inherently problematic.

In sum, over the last two decades there has been growing governmental interest in and discussion around the potential of recycling for ecological and economic reasons. State discourses are largely founded on the idea that the existing waste economy has insufficiently capitalized on the substantial economic potential of the waste sector, that the state can and should to play a role to promote and guide this emerging industry, and that these interventions should be part of a wider agenda of socioeconomic justice. Yet if waste’s low-hanging fruit has already been captured, then these new businesses will either divert resources in ways that undercut existing permissions or be left in the unenviable position of collecting the high-hanging, difficult, and costly to collect materials. Thus, although state imagines itself as playing a facilitating role, what this means in practice and who will benefit from its interventions are unclear and differ across the wastescape, with huge implications.

Counterclaims to Ownership, Access, and Permission

Although the legal rules of ownership over waste are established, they are far from agreed on and upheld in practice. As has been widely documented in and beyond South Africa, waste reclaimers frequently transgress rules and make alternative claims to discarded items (Simatèle, Dlamini, and Kubanza 2017; Makina 2020). Conflicts over materials occur regularly and competition over recyclables is present throughout the industry in South Africa (a point that further calls into question the notion that there is an abundance of easily available untapped material). Despite reference to theft in some of our interviews, many reclaimers do not see the transgression of legal rights to waste as theft (Samson 2015; Makina 2020). Reclaimers claim ownership of valuable materials through labor and expertise and articulate their role as environmental actors performing an essential municipal service at no cost to residents or the state. This is a claim largely without legal standing but does have deep moral resonance for many. For many reclaimers (and those advocating with them), waste materials are understood as a kind of commons, one that they have rightful access to due to their role as collectors but also, in many cases, due to their history of instigating the recycling industry in the first place (Oelofse and Strydom 2010; Samson 2015, 2020). Collectors, as described earlier, have often been the first to recognize the possibilities for creating value from waste, both at the landfill and through the incorporation of new materials (in particular, plastics) into earlier scrap metal collection routes.

One example is the African Reclaimers Organization, a reclaimers advocacy group created in 2018. In a 2019 letter, they argued that their diversion of waste from landfills actually saves the city money (cf. Dias 2016). In the letter, they responded to the ongoing expansion of separation at source programs in Johannesburg, which has led to the loss of livelihoods for many reclaimers (see Postman 2018; Mafata 2021). In the letter, they demanded, “Stop your plans to contract companies to take away our only means of survival. Suspend plans to close landfills without discussing alternative forms of livelihoods for those who save the city millions of rands by mining recyclables in landfills.” In a circulated letter, the African Reclaimers Organization called attention to the critical role of reclaimers:

After two years of negotiations and effort to organise ourselves, you have failed to make any provision for us in the City’s budget. Yet the informal sector saves the City millions of Rands in landfill space and the fact that we reduce the amount you spend on your fleets by reducing the amount of waste picked from households. In effect, WE are the ones who subsidise you, whilst ensuring that Johannesburg has recycling rates comparable to European cities. (Letter to MMC De Jager, 27 March 2019)

In response to these changes, reclaimers staged protests demanding inclusion in the process and complaining about lost revenue due to the development of separation at source (Samson 2020; Sekhwela and Samson 2020). In response to such concerns and
corresponding demands, one City of Johannesburg government official interviewed in 2017 suggested that integration efforts would benefit most reclaimers but foreign nationals with irregular immigration status or South African citizens unable to demonstrate their status might not wish for state intervention because they would be ineligible for such benefits and recognition.

In this context, there are ongoing questions over who has permission to materials and how diverse claims should be adjudicated across the wastescape. Established waste businesses and reclaimers are clear that their ongoing practices give them expertise and believe that this should give them precedence to accessing waste. Both are wary of state-based interventions that might undermine their long-standing practices and livelihood strategies. Yet these claims by both reclaimers and the established recycling industry conflict with the many state efforts to create and support new businesses in response to longstanding socioeconomic injustices.

These existing claims also sit awkwardly with a state that has also long declared—through its rights as a state and in line with global precedent—that it is the rightful legal owner of waste and now declares it has a role in promoting waste economies because waste is an underutilized resource. Knowledge and practice here are peripheralized, but this is not simply a neoliberal pro-industry intervention. Instead, the state’s argument is based on an insistence that the recycling sector must be opened to marginalized groups and an insistence on the need for intervention to improve efficiencies. These multiple justifications continue to sit awkwardly in tension, challenging any easy analysis and adjudication of claims to waste.

What Kinds of Work Should Make Waste Flow? How Should Such Work Be Valued?

The waste sector is labor-intensive, incorporating heterogeneous forms of work, including unionized municipal workers, outsourced contract workers, workfare public works participants, enterprises and cooperative members, independent reclaimers, and a range of types of mechanical work. It is clear that this labor intensity is seen by many as a good thing; as we describe in detail elsewhere, moral anxieties about “good” work underpin much ongoing change (Lawhon, Millington, and Stokes 2018). Although all of our respondents described concerns (including with existing labor relations, compensation strategies, and the appropriate role of mechanization), the plurality of interventions demonstrates that there is no consensus as to a better arrangement. Here we again describe ideas and initiatives that rework existing patterns, including efforts to legalize ongoing practices of payment for reclaimed items, shifting work to unpaid labor, and the displacement of human labor with mechanical work.

First, though, we point to the near absence of narratives founded on a commitment to full-time, permanent, waged, unionized employment. This position remains widely present in South Africa (Barchiesi 2011; Lawhon, Millington, and Stokes 2018) and was asserted by a representative of a municipal workers’ union who advocated for a specific imaginary of good formal work in a way that resonates with much ongoing critical labor scholarship—good work is stable, waged, with set hours and responsibilities:

[T]hose people who are picking up papers, they are exploited by these big recycling companies. They make nothing out of that thing. The government and other people call it, is you work for yourself. You don’t work for yourself. You work for someone who is capital and who [is] heartless. Who wants to make money out of your labor? We want those people who are doing these things to be permanently employed by the municipality. Because this is municipal work. Those people who are doing this thing you’ll see them when you walk around. They must be employed by the municipality.

Waste professionals also expressed interest in developing these sorts of jobs, and some facilities were able to point to considerable numbers of permanent, long-term employees. Yet many waste business owners remarked that they were only able to employ workers on a part-time or temporary basis and argued that the low value of recyclables made the development of desirable work difficult. Many waste professionals told us that the existing recycling industry, in the current economic context, has struggled to pay and provide benefits to more than a handful of full-time waged workers, in part because of the uncertainty of waste work and its interrelationship with global flows.

Take, for instance, the waste business responsible for dry collection in an upmarket area of Cape...
Town. After struggling to collect sufficient materials to pay for the costs of collection, the company ultimately chose to employ fewer formal workers and instead draw from the experience of a charity organization that works with unemployed people (see also Samson et al. 2020). Whereas collection had at first involved a truck, a driver, and two assistants—all company employees—it shifted to an employee-driven truck with collectors (“runners”) affiliated with a Christian philanthropy organization that would then fan out to collect recyclables. In describing this, an interviewee noted, “At the moment, recyclables is a huge fight. The perception of what the value is, is like this [arms stretched out] but the actual value is this [hands close together].” This initiative therefore had the perverse effect of both reducing the volume of materials available to preexisting labor circuits and being unable to provide for the adequate volume to cover the costs of collection.

Taking on existing reclaimers as employees also entails other risks. In describing ongoing efforts at developing separation at source initiatives, a representative of the paper sector noted that formalization of reclaimers can be complicated for private-sector entities:

Do we want [reclaimers] to be formalized? From a paper perspective … we don’t want you as a street collector to wear anything with my name on it and my phone number, because if you go and bash your trolley into somebody’s car on the street you’re collecting paper but you’re not really affiliated to [company name] at all. So there’s a lot of them in industry, you’ll find when you speak to people we’re cautious about branding the street collector with our name, etcetera.

As has been shown elsewhere (Luthra 2021), there are also efforts to induce and capitalize on unpaid household labor. Although most studies have shown how household domestic labor is enrolled in waste separation, there are notable spatial and class-based dynamics where such practices make sense (in South Africa, much of the cleaning and separation work in middle- and upper-income households might well be passed on to the domestic help). For the recycling companies, the ideal model of separation at source is largely a win–win: It bypasses the buyback centers and informal collectors and leads to higher volumes of potential recyclables. Unlike reclaimers, who can profit through combinations of luck, skill, and need, larger scale collectors need to offset the costs of transport, one of the primary costs associated with waste and recycling. Waste companies collecting large volumes need to be able to offset the costs of their collection through the resale of recyclables themselves, but this is difficult when employing trucks and waged workers, including high-salaried managerial labor.

This concern is matched by interviews with those involved in the sector. In describing the mechanics of recycling in a 2017 interview, for instance, an operator of a material recovery facility noted:

Recycling and dry collections is all about volume, and your transport kills you. It’s costing you a thousand rand to take a bakkie and a trailer on a 50-kilometer radius. If you don’t bring in 1.5 tons in a load, then you’re not making money. Because it costs you 890 rand a ton to process that stuff [labor, repairs and maintenance, electricity, as well as your disposal cost because you’ve got tailings].

Other interviewees discussed the trade-offs between rates of material recovery and the cost of labor when using conveyor belts.

As a result, separation at source programs have mostly been deployed in high-income residential areas or in areas with low transportation costs due to proximity to recovery facilities (although Johannesburg has recently adopted a metro-wide system). Here, however, reclaimers are well established and invested in maintaining access, and companies rely on the state to police and enforce existing bylaws to ensure that “their” materials are not diverted. Crucially here, machine work for collection is financially viable when supported by unpaid domestic labor and state policing to ensure material capture and often only in areas of high consumption and thus high generation of waste.

Given the difficulties of creating full-time waged jobs and using vehicles for collection, some have advocated for retaining the practice of payment for materials but shifting who does this work. Take, for instance, Packa-Ching, a mobile buyback center designed to encourage collection. Initially located in the township of Langa, Cape Town, the project has spread throughout the country and claims to have collected 3,375,271 kilograms of waste from landfill while paying communities 2,771,235 rand (approximately US$194,000) as of July 2021 (Packa-Ching 2020a). A mobile buyback center that travels to different sites, the Packa-Ching project seeks to encourage household recycling and accumulate
recyclable materials by paying people for their recyclables (which are then collected by a waste management company and ultimately sold). Noting that “95% of South Africa’s population does not recycle” and “informal statistics quote an unemployment rate of over 28%,” Packa-Ching’s focus on recycling in low-income communities will “increase access to a largely untouched stream of recyclable packaging and create opportunities for positive growth and change in these areas” (Packa-Ching 2019). When asked in an interview about potential competition with informal collectors already active in the area, the organizer of the project noted that although this was a concern, the low rates of personal collection meant that this was ultimately a minor concern. The result, in their analysis, would be that an informal collector might need to work a little harder if the neighborhood recycling rate went from 5 percent to 25 percent, for instance. Here, again, is an intervention based on a vision of the untapped potential of waste, rather than a contested material with differential value.

Importantly, unlike for the separation at source household collection projects, this initiative would not require state intervention, because there is no unmonitored moment in which reclaimers can divert the materials. It also puts money into the hands of low-income communities, albeit relatively small sums based on household volumes compensated at current market prices. The claims and counterclaims here are again difficult to adjudicate, but such initiatives reconfigure the waste flows, including who gets to create value from waste. The question of scaling up is an open one, but the project’s apparent growth would suggest space for considerable expansion going forward (Packa-Ching 2020a).

In sum, the recycling practices and interventions discussed earlier suggest that it is difficult to produce sufficient value if relying primarily on waged labor for waste collection in the existing global political economy. Ongoing initiatives by the state (often working with the private sector) have sought to induce or compensate for labor through precarious arrangements, including relying on unpaid household labor or payments based on volumes and quality of materials. Efforts to create a more legible system of waste labor therefore are neither captured clearly in the sense of working for the state or in the formal sector (both of which might be legal, contracted, and taxed). Instead, throughout the existing waste industry, we see that profitability and good employment for some are premised on acceptance of the need for some labor to be poorly compensated. This sits awkwardly with state discourses suggesting the potential for job creation in the waste industry amid broader socioeconomic development and decent work imperatives, because even initiatives supported by the state do not produce the stable, waged work of the modernist imaginary.

Conclusion

Many in South Africa are dissatisfied with the existing wastescape. This is evident in the plethora of initiatives seeking to reconfigure waste flows in different ways, with different priorities and toward different ends. There are undoubtedly more materials that could be captured and better services that could be provided, and waste could enable improved livelihoods for many workers. Whether all of these different goals can be met remains to be seen. In this context, what a better waste configuration should look like is unclear and far from agreed on by the diversity of actors involved across the wastescape.

In this article, we have examined ideas and initiatives that seek to increase the volume of materials that enter the recycling stream and redistribute the gains that come from creating value from waste. We find multiple claims, and counterclaims, as to who should be able to access and create value from waste. Specifically, both established industry and reclaimers make claims based on their preexisting knowledge and practices. Yet the state is also seeking to reconfigure the waste sector to grant permission to new entrants in the name of socioeconomic justice and those they deem legible, legitimate actors. The reworking of permissions, whether formally or informally adjudicated, benefits some while dispossessing others of their livelihoods. In doing so, they change existing labor dynamics and existing relationships. Permissions are not universal or clear-cut. Instead, they are partial and contested, with only some being recognized by a variety of actors across the wastescape.

Underlying these conflicts, we suggest, are not just different interests: These are more than conflicts between reclaimers, private companies, and the state in South Africa. They are premised on different ideas on who ought to benefit from waste, as well as the rightful grounds on which to claim permission to the value of waste. They also point toward a wider
collective uncertainty over what good infrastructure is and who should make such decisions. Our intention here is not to provide certainty, despite the importance of addressing such concerns. We believe it is too early and there are too many ongoing uncertainties to foreclose possibilities. Instead, we hope that greater attention to conflicting ideas, claims, permissions, and practices across multiple sites and infrastructures can contribute to deeper understanding of what more and less just configurations entail.

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