



Sheffield Hallam University, 5-9-23

Rhythms of recycling in apartments: how can the waste burden can be more justly distributed?

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with Bhavna Middha

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1. Background and Approach: Waste in MUDs

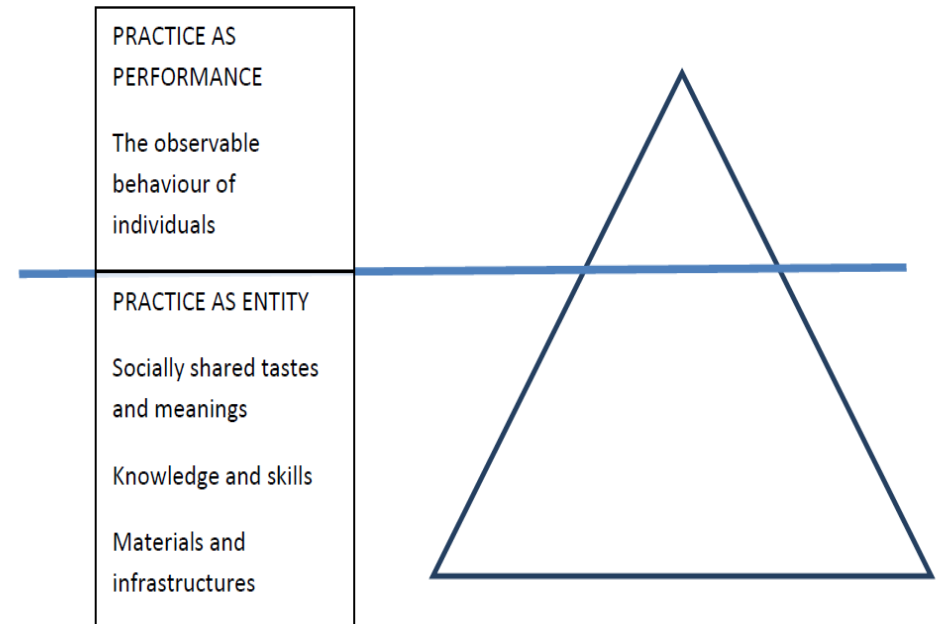
- Increasing high rise, mid rise and Multi Unit Development living – but still somehow regarded as contingent/minority/transient to Owner-occupier Detached
- Cities that have high proportion of apartments have relatively lower recycling rates (SITA UK 2010) but not much data exists to qualify recycling and contamination rates – mainly because many apartments have no kerbside and therefore have private contract arrangements, and no central data is collected by the municipality (or it is unreliable)
- Policy environment dominated by ‘end-of-pipe’ diversion logics - The burden of managing waste falls on local/municipal governments (Jones 2020)
- Reliance on assumptions of social change - behaviour change strategies and technological interventions in waste.



Research context

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- Plastic bag levy policies have been found to have a differential effect across socio-economic status – suggesting unequal effects of waste reduction measures across housing types, class, and tenure types
- Dearth of qualitative and comprehensive data and analysis that contextualises waste in terms of apartments – organising waste, cities, buildings and people
- Building on our high rise plastic work (Horne, Dorignon, Middha, 2022 High-rise plastic: Socio-material entanglements in apartments <https://doi.org/10.1111/geoj.12457>)
- Aim – to reveal how apartments disrupt the domestic waste regime, and how relational/ temporal approaches can help explain uneven impacts, pointing the way to alternative approaches



Research approach

- **Dynamics and rhythms** present challenges for purposive attempts to intervene in social practices (household and practitioner) and governance regimes
- **In apartments**, verticality, density, transient and shared space and infrastructures present particular challenges
- The spatio-temporal dimensions of more than material, more than human and more than waste relationships require attention in the governance of apartment waste
- **Social practices** (household and practitioner) are the unit of analysis for governance regimes rather than individual behaviours or technologies



Conceptual framework

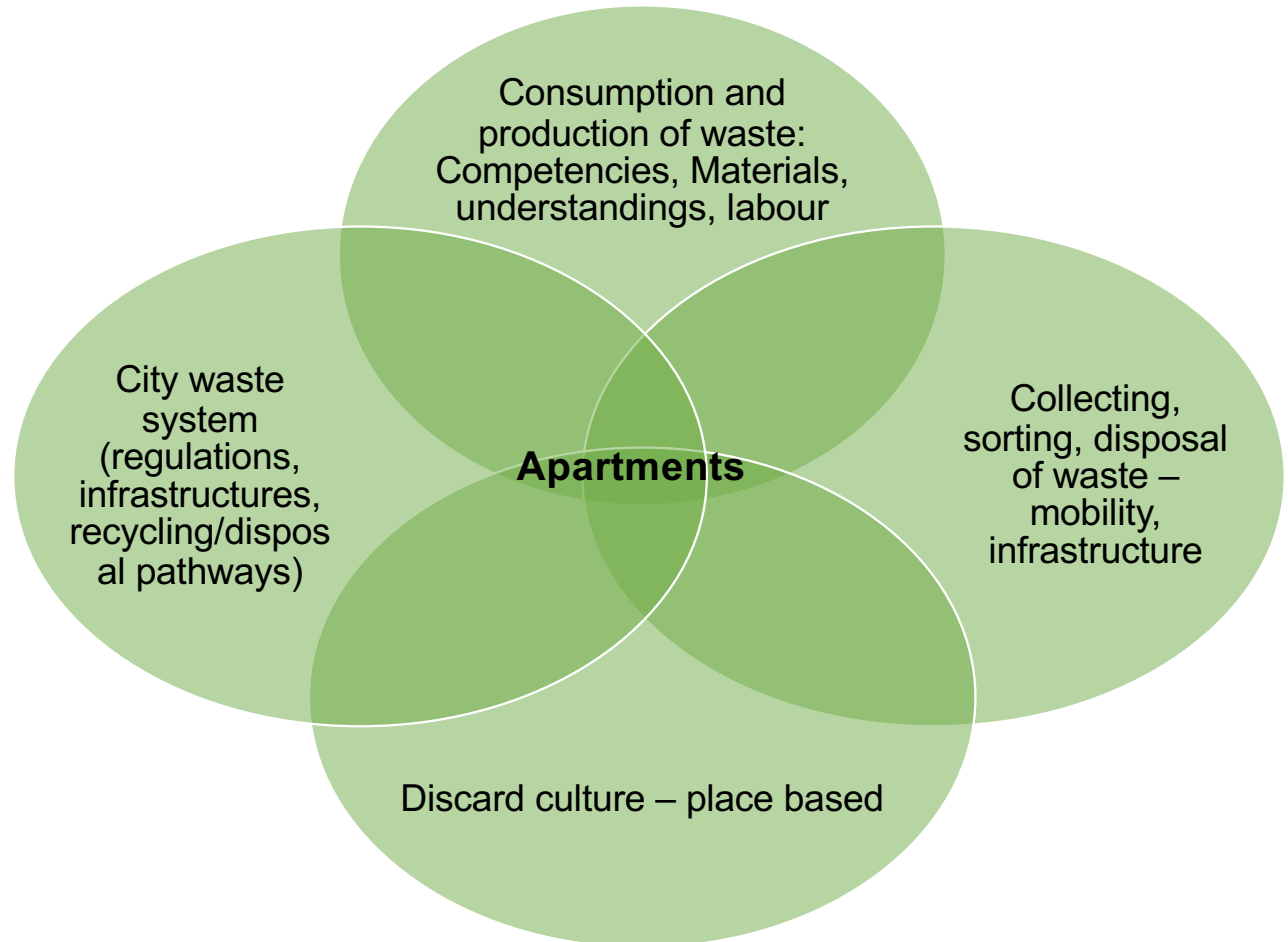
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- Rhythms and practices – (*Practice theory and rhythm analysis*)
 - Practices are rhythmic and rhythms can help capture practice links, connections (dense, scattered or temporal, etc.)
 - *Time [and space] is implicated in social action* - and how practices become institutionalised (Blue, 2019)
- Institutions and governance regimes
 - “...organisations of practices, combinations and configurations [that] ...range in ‘scale’ from the regular enactment of activities that reproduce hospitals, universities, and entire education systems; financial institutions and economies; and Christmas dinner, the Monday morning commute, and the timing of domestic labour practices” (Blue, 2019)
 - *the 'breaking' and 'shifting' of structures take place in everyday crises of routines, in constellations of interpretative inter-determinacy and of the inadequacy of knowledge with which the agent, carrying out a practice, is confronted in the face of a 'situation'.*” (Reckwitz, 2002)

Apartment waste as an institution

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- Consumption/socio-material/consumption work (Shove, Pantzar & Hand 2012, Hobson Park 2021)
- Discard studies (Liboiron & Lepawsky 2022)
- Mobilities (Hui and Walker 2017)
- Zero waste and Circular economy (Corvellec, Stowell & Johansson 2022)
- Rhythms & Institutions (Blue 2019)
- Ethnographic work (Pink 2016)



Apartment waste institutions and governance regimes

- Recycling as a social practice is neither static nor settled - it varies from place-to place - across regulatory jurisdictions, communities, and cultures (DeSilver 2016)
- Rhythms of recycling encounter apparently standardised infrastructures – as judged by similarly shaped and coloured bins, days of collection, and expectations of what goes where and when
- YET: No two homes have the same arrangements, and there are significant shifts in expectations of households to become partners in changing waste practices
- Institution of apartment waste spans diverse housing and households and arrhythmic crises prompt governance failings

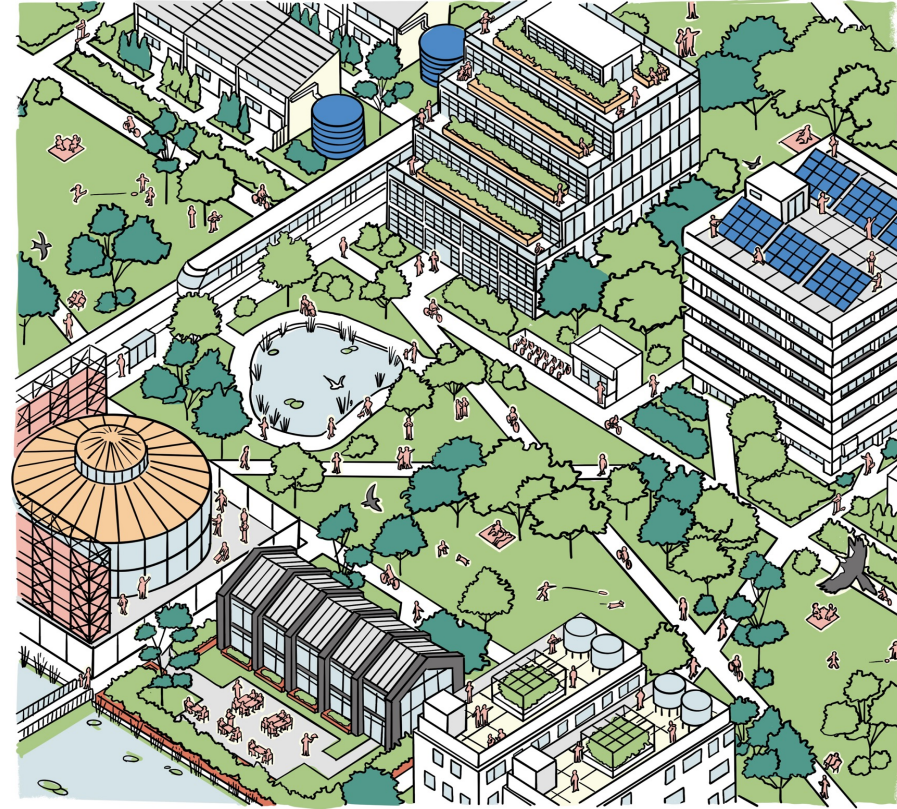
Analytical framework

Specifically, we identify time-space bounded rhythms of apartment domestic waste and focus in on the following variables:

- 1) which materials get separated
- 2) where/when/how the separation happens
- 3) who is involved in the process
- 4) how it is regulated, and
- 5) what waste management ontology it is a part of?

This may answer

- 1) How social and material infrastructures shape each other
- 2) How practices become entrenched as everyday rhythms and become institutionalised and how they may not (how arrhythmia is set up)
- 3) Which rhythms create inequalities and which practices/bundles/complexes of practices need to be encouraged/shaped positively and should be intervened in.



Reproduced from Horne et al AHURI Inquiry on Circular Economy housing

2. Empirical work/Findings

- HOME Project - 60 semi-structured interviews per city followed by home tours in post-millennium high-rise apartments across London, Barcelona, Perth and Melbourne.
- Semi-structured interviews included questions on waste, recycling and storage management in the home and building maintenance.
- The cohort's median age reflected the younger age profile of apartment dwellers. 42% (30) were renting privately and 21% (15) through the social housing sector, 40% (28) were owner-occupiers. Fifty-two percent (37) lived in a two-bedroom apartment
- London and Melbourne have been chosen as sample cities to illustrate waste rhythms.



Municipal Waste in London

- Waste managed by 32 boroughs (local authorities): Energy-from-waste (incineration) (43%) and recycling/composting (42%) (Gregson & Forman 2021).
- Capture rates for households (33%) is average in terms of wider UK and European standards and is below the 2020 target of 50% (Gregson & Forman 2021).
- At present, in London, recycling rates from flats are as low as 10% (Resource London 2020).
- Currently 1/3 rd. of housing in the capital is flats, with 46% of London's households living in flats by 2030 (Resource London 2020).
- Six bin recycling system planned 2023: glass, cans, paper and card, plastic bottles and mixed rigid plastics, garden waste, food waste (Resource London 2020).

Municipal Waste in Melbourne

- Domestic waste managed by 31 metropolitan local councils in Melbourne.
- 3 bin system - landfill, co-mingled recycling bins (2000s) and garden waste bins (2010s)
- 32.7 per cent of Victoria's waste is recycled, rest goes to landfill (Agarwal et al. 2020)
- 23 percent of metropolitan councils in Victoria (including Melbourne) do not know their contamination rates (Agarwal et al. 2020).
- Significant growth in multi-unit developments (MUDs), mainly in the CBD (92%) and inner Melbourne, with almost 12% of dwellings now apartments in Victoria (Sustainability Victoria 2022)
- Victoria has recently created a new 4 bin system (ongoing) and introducing CDS.

Which waste and how it gets sorted and collected is spatio-temporally shaped.

Responding to the apartment, building and city infrastructures, space and rhythms of sorting get reproduced. For L16, glass needed a special space as it needed to be stored for proper disposal off site

Yeah, definitely, they're [recycling and trash bins] not big. They're very tiny, and actually I think you need to be a bit creative so we ended up using them just to store the glass, because it's the one thing we can't recycle on site....And then we have those plastic bags that are provided by the Borough- For paper and plastic-And then we had to store in a separate cupboard so there wouldn't be enough space in the allocated recycling area under the sink, there wouldn't be enough space for that.

Rhythms of London

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Arrhythmia is shaped by the mismatch of **how much waste is generated, and of which kind**. In LH5's building pests and overflowing waste become a maintenance issue.

And I think the rubbish area in the building the bins are not big enough, because they're always overflowing within a couple of days. And they had a rat problem before. They don't have it anymore, but it's just a question of time until it come back, there's 112 apartments, so it's a lot [because they only collect the rubbish once a week] (LH5)

LH5 proceeded to think about the kind of rubbish and how it was produced, linking it to seasons, and people's movements

Yeah, I mean it's just obviously it's all the packaging, isn't it? Especially over Christmas and people buying things. And these people, you know it's not as much as before, but people are moving out, so they put their rubbish like old furniture in there, so I think that needs to be regulated a bit more.

Arrhythmia is set up when understandings /practices are challenged.

Some participants found that apartment living led to crises of material accumulation practices. LH6 confessed to buying a storage unit as the family needs grew.

This year, I can't believe it... We rented a storage unit. It's amazing how many people in this apartment have done that. We [said] for years, we would never do that because don't own things you don't use kind of thing...Now we found that we needed to cause it's just not enough, especially now that we have children; you have prams, and where do you put that stuff?

In domestic waste practice, arrhythmia occurred when materials, their production, their storage, their overflow and their disposal were challenged through apartment living, infrastructure and urban rhythms.

Rhythms of sorting and collecting of waste intersect with time spaces of everyday living

For M38 the emphasis is on keeping up with a daily disposal of waste that seems to be working well with plastic bags

I haven't resolved because I can be a bit anal... what to do about a rubbish bin. At the moment, I've just got a Coles paper bag and I just... put my rubbish in that and it's sitting actually in the hallway....I just have a canvas bag that I put my recycle stuff in but because at some point each day I do leave the apartment basically, I just carry it down so it's more of a case of just keeping up with it daily rather than where do I put it?

Rhythms are supported by doing places – where “by the front door “ or the hallway becomes a waste collection ‘doing place’

We just use bins in our kitchen and the bathroom, and then if it's full we'll just tie up the plastic bag and just put it near the door so that we remember to take it with us when we go out to the car park. And recycling, we just put it near the door as well. So if it's just bottles we just carry it like this.



Rhythms of sorting and collecting of waste intersect with time spaces of everyday living

Some pace their waste disposal, and have embodied ways of establishing rhythms, number of bags, mountains of recyclables and an annoyance at the collection being a few 'doing times'

*I keep them there until I have a think **mountain of recyclables** and then go take them. But for the waste, I just collect the bags and throw them ... I'd say once a week or twice if I cook. Recycling...maybe two months, once two months because I take everything. Sometimes I have to go up and down again. Yeah, so I just keep them there stacked **until I can't take it anymore.** (M52)*

These 'doing times' and 'doing places' are how arrhythmia may set up because they are 'borrowed time spaces' and connect to everyday rhythms of moving between the apartment, building and city.

Intersections with “apartment living” and “waste infrastructure/regime”

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Travelling to disposal and back as an everyday rhythm that is challenged

M38 has found creative ways of including waste disposal in her routine. When asked if she comes back up with her canvas bag after putting the recycling in the downstairs bin, she replied,

I either fold it down and put it in my letter box or yeah, I come back up.

Others like M41 complain about going too far to throw the waste.

And then, because we don't have a chute that goes down, we have to go literally down to the level ground floor because there's the general waste area, but there's also there the recycling big bins, so I separate the recycling from the non-recycling, but that's how I do it.

For some households in well serviced apartments waste was “easy” and thus the rhythms were shaped by varied apartment infrastructure, understandings and routines.

[Disposing waste and recycling is] Fantastic because they have full time cleaners working here. And so at the end of each corridor is a little chute for general waste and for recyclables there's boxes they keep there, plastic containers, and we just tip them in, and they get rid of it...on each live-floor, in the garages, there's also charity garbage bins, recyclable bins, and general waste bins, but the great big ones. (M60)

While for others like M31, who has a disability, the recycling could lie in the apartment for months, although they did claim to eventually recycle.

I do do that [recycling]. Most people my age don't, but I do. Yes. [I store it] Just under my sink, it's all open under my sink. Sometimes it can be there three or four months. I take my walker with bags full of ... and then I empty the bags, I pop open the bag.. (M31)

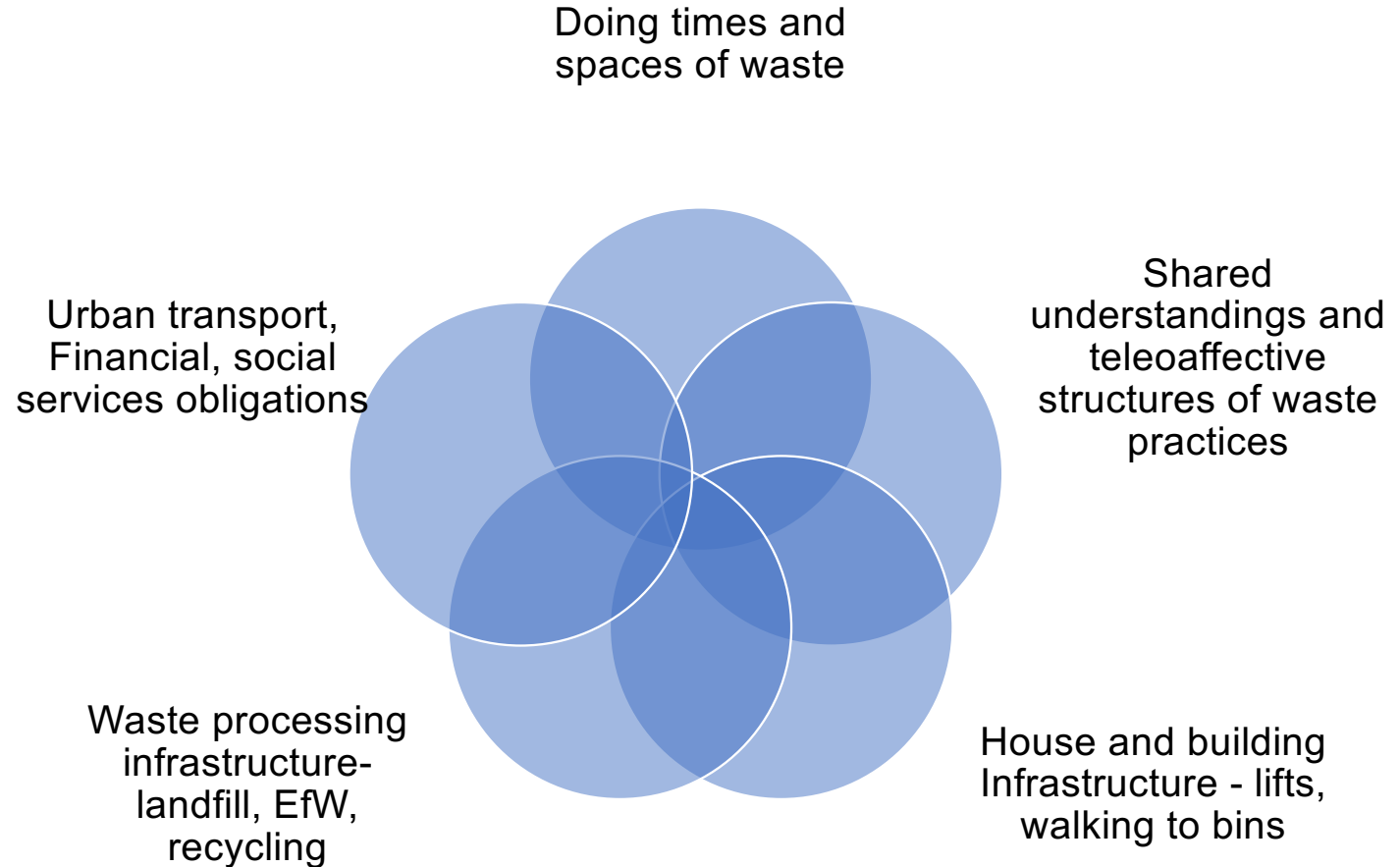
This opened up a discussion about how apartment infrastructure other than just waste focussed infrastructure shaped how apartment waste was managed unequally.

And we've had both lifts break down at the same time, so ... people like me and other people in wheelchairs and things ... I use a walker or walking sticks, but other people in wheelchairs ... We can't go anywhere; we can't go to our appointments. And they've been broken for weeks.(M31)

3. Interim conclusions

Polyrythmia of apartment waste

- More than human:
waste as agentic,
somatic, affective
- More than waste:
unevenness
- More than material:
Relational



Institutionalisation and exclusion

The expectation of more participation in recycling is related to how apartment living is approached in cities, infrastructures, provision.

Competing rhythms, arrhythmia

Competing rhythms as arrhythmia are set up when dominant affective structures, such as getting annoyed or unsightly collections of recycling organise the rhythms of recycling

People who cannot access the recycling infrastructure, are carriers of arrhythmia as well

The arrhythmic events, sites and organisation of practices provide us the building blocks for understanding and intervening in the institutionalisation process



Next Steps

- Spatio-temporal logics as manifested through rhythms expose uneven infrastructures
- Waste is agentic and apartments are excluded – outside the boundaries of normalised waste systems
- Recycling is a social and community based spatio-temporal practice, linked to rhythms of accomplishing the everyday, through more than material, more than human/waste relationships of unevenness and exclusion
- 'Ways in' to sustainable and inclusive waste regimes start from acknowledgement of rhythms, interlinked practices, agencies, affordances and exclusion.



Thankyou

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