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Waste tours

Narratives, infrastructures and gazes in interplay

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Abstract

Waste management makes life in cities possible. Paradoxically, well-functioning waste infrastructures can contribute to obscure the link between production, consumption and nature. One way to render waste infrastructures, and their environmental consequences, visible is through guided tours. School children around the world visit waste infrastructures through guided tours. Informed by an ethnographic study of several waste tours in Sweden, this paper explores how waste and waste infrastructure is gazed upon and represented during guided tours, and how plots/scripts (narratives), sceneries (infrastructure), guides and visitors (gaze) interact and coalesce to reproduce these representations. The paper contributes to the emerging body of literature on discard and waste studies by introducing the concepts of «the waste gaze» and suggesting the need for a new «consuming less» narrative, beyond narratives of «wasting less».

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1. Introduction

Waste management is part of the critical infrastructure that greatly improves living conditions in cities. When such infrastructure performs well, it tends to be taken for granted and is invisible (Leigh-Star, 1999), acting beneath the surface of urban life (Kaika and Swyngedouw, 2000), and is only rendered visible when it breaks down (Graham and Thrift, 2007). In Goffman's terms waste infrastructure facilities are part of the back region of the city: those places that are hidden from the sight of the residents living in the 'front' city, yet which perform a critical role for sustainable urban development. Paradoxically, this invisibility and the attendant taken-for-grantedness eclipse societal significance of waste infrastructure while challenging users, planners and scholars to see beyond the work that it does (Star, 1999). Waste management infrastructures provide services that can contribute to basic standards of living, economic growth and environmental protection. Yet, they can also cause serious environmental footprints. Making infrastructures invisible and inaccessible obscures the link between production, consumption and nature. As a consequence, citizens/consumers, for whom the infrastructures are hidden or out of reach, find it difficult to relate their consumption habits with their growing environmental footprint (Zapata Campos, 2013).

In the context of well-functioning cities, the challenge is how efficient infrastructures even with a record of sustainability (Corvellec et al., 2013) can ironically contribute to hide the consequences of the consumption and discard society. This dilemma has puzzled public authorities that have experimented in recent years with different measures to foreground the back-staged waste infrastructures and reconnect citizens with the environmental impact of their consumption behaviour. The sides of waste trucks are painted with images of the waste that they transport daily through European cities, symbolically opening up their hidden and inaccessible contents (Corvellec et al., 2016). Waste collection invoices are also

used to show the exact quantity of each type of waste produced by the household and its corresponding cost. Meanwhile, in Gothenburg, environmental campaigns have used a photomontage of the city's Ullevi football stadium filled with rubbish in an attempt to illustrate the volume of waste produced in the city.

Another exceptional way to enter the city's back regions, and thus make waste visible, is through guided tours. For many decades, school children around the world do study visits – waste tours – to waste infrastructure facilities as part of a process of socialization of new citizens in the correct use of the public infrastructure and the recreation of a local identity of pride and modernity (MacCannell, 1979). In Europe, where new waste prevention programmes challenge municipalities to shift their role towards waste prevention practices, guided tours provide the opportunity to critically discuss the environmental footprint of our over consumption practices. Methodologically, waste infrastructures can be made visible by conducting ethnographic studies in situational settings (Marcuse, 1995; Chelcea and Pulay, 2015), based on a «waste-infrastructure-as-practice» approach that insists on the interaction of people, narratives, spaces and materiality. Infrastructure is also linked with and generates communities of practice (Star, 1999) such as tour guides. While critical studies on waste management have often focused on the holistic dimension of the system (e.g. Kaika 2005; Coutard and Guy, 2007), the narratives and practices enacted interactively with the infrastructure and these communities of practice (the guide) in more localized parts of the waste infrastructure, and the way they localize meaning seem to be understudied (Chelcea and Pulay, 2015).

Informed by an ethnographic study of guided tours to waste infrastructures, this paper explores how waste and waste infrastructure is gazed upon and represented on such occasions. How do plots/scripts (narratives), sceneries (infrastructure), guides and visitors (gaze) interact and coalesce to reproduce particular representations? By applying Erving Goffman's concepts of «back and front regions», Dean MacCannell's «fronted backstage» and John Urry's «tourist gaze», this paper aims to contribute to the emerging body of literature on discard and waste studies by introducing the concept of the «waste gaze» that offers both a methodological and theoretical entry point for an inquiry into waste in society. Methodologically, it provides an approach to frame, zoom in and render visible waste and waste infrastructures. Theoretically, it contributes to our understanding about how, during the experience of waste, the waste gaze is mobilized in close relation with waste narratives and waste infrastructures. Ultimately, at a societal level, the waste gaze shows its potential to render our environmental footprint visible by challenging us first to place to the forefront and then to confront our everyday consumption and wasting practices.

The next section introduces the theoretical framework, which is followed by the methods used to collect and analyse the data, and then by a short description of three study visits, and tours to waste infrastructures. The paper continues by

examining how these waste tours arrange a combination of front and staged back regions, in order to direct the gaze of visitors during the tour and to tell stories that draw from a repertoire of societal waste narratives

2. Theoretical Framework

Waste sites, such as landfills, sewage plants, and incinerators, constitute the dark and unknown city that very few of us can see. In Goffman's (1959) terms, waste infrastructures are part of the back region of the city: those places that are hidden from the sight of the residents living in the «front» city, yet which perform a critical role for its performance. Goffman (1959, 486) defines «front-stage» as the space and time where actions are visible to the audience, and which functions in a general and fixed fashion, such as the dining room in a restaurant where waiters perform a role in front of the customers. People engage in «backstage» behaviours when no audience is present, and can therefore relax and step out of character without fear of disrupting the performance such as when, a waiter in a restaurant is likely to perform one way in front of customers but might be much more casual in the kitchen. In other words, while the front is the meeting place of hosts and guests, customers and staff; the back is the place where insiders retire between performances to relax and to prepare. Yet, it is fundamental for the sake of the spectacle that is represented at the front-stage that actors have a backstage to prepare for their representations, in the same way that cities need critical infrastructure to perform the economic and social activities at the surface. Such backstage regions always have a system of opening and closing that isolates them from outsiders and makes them penetrable only by those who are working there. One way, however, to enter the city back regions by outsiders is through guided «waste tours».

As MacCannell observed already in 1973:

A common reason for taking guided tours of social establishments is that the tour organizes access to areas of the establishment that are ordinarily closed to outsiders. School children's tours of firehouses, banks, newspapers, and dairies, for example, are called 'educational' because the inner operations of these important places are shown and explained in the course of the tour (MacCannell, 1973, p.595).

The institutionalization of these guided tours of reality might result, as MacCannell shows, in the creation of a specific type of stage, which is not the front-stage nor the backstage, but staged front regions: spaces that simulate the backstage that the visitors aim to experience without interfering with the daily operations of the organization, such as a visitor centre or a room in an industrial facility.

Particularly in the case of waste tours, these staged front regions not only have a history as long as the modern city itself, but they also exist all over the world.

From wealthy Scandinavian cities to the city dumps of the global South (Zapata Campos and Zapata, 2012; Zapata, 2013), scholars, politicians, professionals, ordinary citizens and school children visit waste infrastructures through standardized and authorized waste tours. The search for legitimacy has traditionally underpinned the rationale for organising these guided tours (Zapata and Zapata Campos, 2015). Yet, depending on who the host is, there are also alternative tours that can raise more critical voices and narratives in the places that are visited (Hallin and Dobers 2012).

The power of these guided tours in contributing to the production of representations and societal narratives is therefore considerable. In this regard Urry argues that mundane activities, like recycling in our case, «appear special when conducted against a striking visual backcloth» (Urry, 1992, p. 172), such as during a guided tour. The tourist gaze is defined as the set of expectations that visitors create about the places they visit as they search for authentic experiences (Urry, 1990). However, the production of the tourist gaze is not only the responsibility of the visitor and the setting. In the case of guided tours, it is organized by professional guides who determine where the visitor's gaze is directed and how it is conformed.

3. Methodology

The data used in this paper are observations and interviews conducted during and after guided tours or study visits to waste infrastructures where school children are the audience. We participated as observers in eight tours of waste infrastructures in six different cities, during 2015 and 2016. The cities are geographically located in southern and central Sweden, where about 90 percent of the Swedish population lives, and their populations range from 45,000 to approximately 500,000 inhabitants. Nearly all the cities in question have chosen to organise the treatment of waste (e.g. storage, segregation, incineration, composting, production of biogas, material recovery and recycling, disposal at landfills) through municipal waste management companies that can be owned by one or more municipalities¹. Therefore, surrounding municipalities can also send their school children to visit the sites we have observed. On most visits, the visitors were school children aged between 9 and 10 years, but in the case of a waste incineration plant the minimum age for visitors was 15 years, hence the visitors here were from secondary schools. We also participated in a guided tour for PhD students and three tours targeted at adults (see Table 1 for an overview).

Usually during such a study visit, a school class (or group of visitors) arrives with their teacher, and is welcomed by an information officer in a classroom-like

¹ For further information (in English), see the website of the Swedish waste management association: <http://www.avfallsverige.se/in-english/>.

space. The officer tells them about the site, its purpose and what is being done there. This is followed by a lesson-like introduction, during which the officer informs the children about waste and how it is handled in the city where they live. The group is then showed the site for between thirty minutes and an hour, during which the officer-cum-guide tells the children what to look at, provides explanations,

TAB. 1. *Waste tours overview*

City*	Audience	Infrastructure	Guide	Duration
Large city A	Secondary School	Waste-to-energy-plant	Information officer, public company	3 hours, class – visit – class
Large city A	PhD students	Waste-to-energy-plant	Information officer, public company	3 hours, class – visit – class
Large city A	City officers	Biogas and re-use facilities	Waste management department officer	4 hours, safari
Commuting city, West Sweden	10-11 year olds	Sorting station	Information officer, public company	3 hours, class – visit – class
Commuting city, Mid Sweden A	10 year olds	Combined waste transfer station, sorting station and waste storage station	Information consultant, private company contracted by public company	3 hours, class – visit – class
Commuting city, Midsweden B	9-10 year old	Waste infrastructure model exhibition	Exhibition officer, waste management department	2,5 hours, class – visit – class
Commuting city, Midsweden C	Secondary school	Sorting station, waste storage station and bio-gas facility	Information officer, public company	3 hours, class – visit – class
Commuting city, South Sweden	City officers	Sorting station, waste deposit	Waste department officer, public company	2 hours, visit and information combined

and answers questions. Afterwards they return to the classroom where they are provided with more information and a final summary, and are thanked for their visit. During these study visits we focused on the narrative accounts, the roles of the guide, the audience, and the infrastructure itself.

After the end of the visit and when the children had left, we would sit down with the information officer (and sometimes other officers) for an interview. These interviews covered a range of issues: the history of each educational tour, its purpose, what is recounted and shown and by whom, organizational logistics, and

general problems with the initiative and possible solutions. The interviews lasted between 45 and 60 minutes, in most cases were conducted in the same location as the tours, and were transcribed for analysis. During the study visits themselves we also took photographs, produced audiovisual material, and recorded notes in a field diary.

Interview transcripts, official documents, minutes of meetings, visual observations, photographs and field notes were used in a complementary and non-hierarchical manner. Inspired by grounded theory (Strauss and Corbin 1990), we started to analyse our field material in relation to the following two questions: What is recounted and shown during the tour? How does the audience react and interact with the infrastructure? As we coded the collected data, we identified patterns of categories that matched well with the theoretical concepts of «back and front regions»(Goffman), «fronted backstage» (MacCannell) and «tourist gaze» (Urry). We thus decided to use these concepts to further analyse and discuss our data

4. Guided school waste tours

In the European Union's waste hierarchy model (European Commission 2008) waste prevention is deemed to be the most desirable action, followed by reuse, recycling, incineration with energy recovery, and, least desirable, landfill. In order to present our empirical material we have chosen to describe three waste tours, each representing three infrastructures operating at different levels of the waste hierarchy. The order of the presentations responds to the waste hierarchy: hence we first discuss a tour to a waste-to-energy plant; second, to a sorting and storage station; and, third, to a waste sorting station.

4.1 Tour 1: a waste-to-energy plant

This tour begins at the reception where all visitors – a secondary school class and ourselves – are checked in. We then take the lift up to the top of the huge building. The top floor has a room that reminds us of a lobby, where refreshments are served. After some small-talk we are shown into a classroom where we are given a PowerPoint presentation, which shows us how the waste management system works, and especially how waste gets to the incineration plant and transformed into energy. The presentation is technical with lots of figures and facts about how much waste is handled, what happens to the dioxins, how much of the city's energy comes from the plant, and so on.

«All things are waste, or will become waste», declares the guide. «And when they become waste, this is where they are handled – if they are not recycled or reused. The only way things avoid turning into waste is if they are not produced. Even things that are recycled will in the end turn up at the incineration plant,

because there is also an endpoint to recyclability – material eventually deteriorates. Fine paper can be turned into newspaper, that can become toilet paper, but at some point, it cannot be used as paper again. It is the same with plastics. That's why it is important to have high-quality incineration.» The guide concludes rhetorically: «And as we have to burn it, why not take advantage of the heat?»

After the presentation, helmets, vests and earphones are handed out. The tour continues, through corridors, up and down stairs, passing ovens and boilers. All the while the guide talks in our ears, answering questions and commenting on what we see, like how the waste needs to be mixed in the bunker in order to achieve the most efficient incineration, how much water contained in the turbines as well as entertaining facts such as when 600 tonnes of ice-cream were burnt in the incinerator during the previous year. «Ice cream is fat you know, and fat burns».

During the tour, we pass people working at the plant, but they do not participate in the tour. They are not asked questions: they are part of the plant. At the end of the tour we return upstairs, and hand back our vests, helmets and earphones. After some small talk, we take the lift back to the reception where we check out.

4.2 Tour 2: a combined waste transfer, sorting and storage station

It is a brisk and windy Tuesday morning in central Sweden. It is around zero degrees, but the sun is slowly raising the temperature. Out of a bus run thirty nine-year-olds, laughing and chattering excitedly as they approach the building and their awaiting guide (in this case a person from a consultant firm that provides the service on behalf of the city). Soon they detect the smell: some stop; others raise their hands to their faces and others still start to scream and laugh even more – «THE SMELL!». Behind the building is a transfer station where the waste collected by the city's bin lorries is sorted and stored before it is transported to the incinerator, or treated in other ways and – because there are several hundred tonnes of waste – it smells. The children are welcomed indoors by their guide.

Once in the building, the guide informs the children that they are visiting a workplace, where there are people, big vehicles and other machinery at work. She explains that they must follow the rules and always pay attention to what she or other adults say. It is not a playground. They are then told to form lines and follow her into the classroom.

In the classroom, the children are divided around eight tables. The guide starts by asking them: «Are you good at sorting waste?» to which the children answer in unison: «Yes!». «Do you sort waste at home?», which is followed by a little less enthusiastic «Yes». «Now we're going to learn to sort even better!» exclaims the guide. On each table is a tray with different kinds of waste and sheets of paper with different symbols (glass, paper, plastic packaging, metal packaging, hazardous waste, etc.). The task is to sort the waste to the right symbol. The children

carry out the task in a very serious manner, discussing among themselves as they go along.

After they have sorted all the waste at the tables, the guide collects the trays and checks them to see if they have separated the waste correctly. Most of it has been put in the right places, but in the few cases where this has not occurred, she asks if someone knows where the items should have been placed. Everybody then discusses the potential mistakes made when assorting waste. A plastic toy, for instance, should not be classified as plastic because it is not packaging. The children ask why this matters, and then learn that the Swedish system for separating waste is organised by the private company FTI (Förpacknings- och Tidningsinsamlingen – Packaging and Newspaper Collection), which collects packaging and/or newspapers across the country (see <http://www.ftiab.se/1492.html> for further information). In practical terms, this means that Swedish households do not sort their waste by material, but by function (even though hazardous waste has to be separated). The children accept this order of things, and start to discuss how they sort their waste at home.



The classroom session ends with the guide telling the children how waste is handled and what happens to it after it is thrown in the bin at home. She explains the waste chain, from the moment domestic waste bags are picked up by bin

lorries, taken to sorting stations, and then transported to waste transfer stations and later on to biogas facilities, incineration or recycling plants.

Dressed in neon safety vests, the children enter the control tower, where they are able to see the lorries being weighed as they enter the area, as the guide explains «so that we know how much waste enters [the premises]». From the tower, they can also see the huge amount of waste transformed into bales: «we store it in bales so that we can burn it when we need the heat especially during the winter». The tour then continues outdoors where, during a short walk, the children see and smell the waste at close range.

The sorting station consists of two lines of a dozen containers between which cars are able drive. Each container has a sign for its specific type of waste: wood, metal, glass, plastics, cardboard, electronics, and so on. The children first stop at the e-waste container, look into it to see what is discarded and scream in disbelief. «That's a play station, why would anyone throw away a play station!»,

«And look at that cell phone! I could use that, can I have it?». In her reply, the guide sets out the issues at stake:

There are 25 million cell phones on shelves and in drawers in homes and offices across Sweden, which should be brought here for them to be recycled and their parts used in new phones, so that we don't have to extract more materials from the planet. That goes for everything that is brought here. Tyres can become artificial turf for running tracks or playgrounds, metal can be turned into new things, and plastic bottles can be transformed into fleece sweaters. Anything that cannot be recycled can be incinerated to generate heat for homes.



4.3 Tour 3: a sorting station

The guide meets the school class outdoors and informs the children about the rules: he will go first, the teacher will be at the back, and if this is not followed, the tour will be stopped. «This is a dangerous place». In the classroom, the guide commences with a PowerPoint presentation, and first shows some pictures of a waste dump.

Guide: We do not have dumps anymore: we sort our waste so that it can be recycled. Do you know how much waste each Swede generates in a year?

Children: No.

Guide: 480 kilos! That's way too much! We have to throw less. Even if we sort what we discard, we still have to throw less.

Then a photograph turns up on the screen of the guide sitting on a toilet. There is laughter and embarrassment. «That's me producing biogas. That's good, isn't it? Do you know what else turns in to biogas? The food that you don't eat. About 25% of all food that is bought is thrown away – yes, that's true». The guide then asks the children to define luxury. They think about it briefly and then one child replies: «to buy stuff!» «To buy new stuff!», another fills in. «So second-hand is not OK?», the guide asks. «No!» «Not even a second-hand luxury car?» At this point the children stop to reflect a bit and, after some chat, they decide that second-hand clothes are actually quite OK, just like a car. «That's how we have to think», the guide concludes, «we have to buy less and use more of what we have».

So the guide continues, providing examples from ordinary life that are connected with the production of waste, the waste hierarchy and what happens to waste after it is thrown away. He also points to the many cases of changed behaviour, such as how «older people smell their milk before slinging it, making sure it's off, rather than just looking at the best-before date». The guide teaches the children how to separate waste. To a question about how to sort non-packaging plastics, he replies: «sort by material, if it is plastic, sort it as if it were plastic to be recycled, even if it is not packaging». He later explains, «plastic should not be burned if it can be recycled: that's common sense. We have to teach children to be good environmentalists and to act in a sustainable way. This law will be changed, it has to be, I teach them to sort by material, never mind the law» (interview with T.).

The class ends with the children being given some fruit– «throw the banana peel here» – and then they walk outside to see the sorting station. They walk up to the containers and look into them and are awed by the number of functioning things that are thrown away. The people that have come to throw away their things are approached by the guide, who asks them what they have brought and why. Back in the classroom the children are given some information material. The guide

tells them the reason why we throw out so much is because we buy so much. «We are good at sorting in this city, and have won prizes for it, but we still throw out too much. That has to change: you can do it!»

5. Discussion

Guided tours to waste infrastructures imply arranging the setting through a combination of front regions, transitional regions and staged back regions, directing the gaze of visitors in different moments, and telling stories that draw on a repertoire of societal waste narratives, as we discuss below.

5.1. Front and staged back regions

The starting point of the visits is the front-stage. In Goffman's terms the front is the meeting place of hosts and guests. In the guided tours presented here, the reception is the place where outsiders wait for the information officer to pick them up or where guides wait for the guests to arrive. The guide confirms that the outsiders – the visitors – are allowed to enter after being registered in a book where they will sign out when they leave the facilities.

After this point, the tours go through a touristic front region, a specific facility designed to receive visitors to prepare them for the inner incursion into the infrastructure. These front regions are set up to appear like the waste management back region with photos, models, posters, publications and brochures about the waste facilities and their technologies alongside more general issues of sustainability and the environment. As part of this front region, all guided tours continue into a classroom where the visitors are introduced to the history of waste management, current technologies and practices, and instructions on how to use the infrastructures properly. These front-stages are also equipped with security equipment such as helmets, fluorescent visitor vests, earmuffs and, in some cases, microphones in order to speak to each other during the tour amidst all the surrounding noise.

Waste infrastructures are large and require transportation both to keep the visit within a reasonable time schedule and to guarantee the safety of visitors in the face of potential environmental harms. Once the visitors are equipped with the necessary accessories and informed about the place and the rules of the visit, they access the staged back regions of the waste infrastructures either by following the guide through intricate and labyrinthine staircases and corridors, on tour buses or trains, or, in the case of the incinerator plant, in the lift «only for staff use».

Besides the security issues, the rituals that are celebrated in the transitional region – such as using internal elevators only normally used by the staff, being transported in a vehicle with which workers usually access the landfill, or wearing the staff's equipment – constitute markers (MacCannell, 1973) of the authenticity of the place, which signal that the visitor is «really entering» a place where

outsiders are not allowed to go, because this is not a representation or a museum but a real industrial facility. By so doing, they provide the visitors with a feeling of closeness and intimacy to the place, and thus contribute to the experience of the place and the excitement that this might entail.

Regardless of whether visitors believe they are close both to waste and to the backstage of the waste management infrastructure, there is always an object or a sign that marks visitors in contradistinction to insiders: for instance the wearing of a vest with the words 'visitor' at the incineration facilities, or visiting the facilities in a tour bus just like sightseeing tourists. Such markers evoke more the sense of being in a tourist front region, or before a touristic representation of place, rather than entering a back region.

What is being displayed to the visitors is not the institutional backstage, as Goffman defined the term. Rather, it is a staged back region, as defined by MacCannell: a place where outsiders are permitted to view the details of the inner operation of the waste infrastructure. These are places, architectural arrangements or even mechanical solutions – balconies, rooms, bus windows, tourist trains – that are designed to generate feelings of intimacy «to gaze» at the facility (Urry, 1992; Urry and Larsen, 2011). For example, the guided tour in a waste-to-energy plant includes a special room in the form of a glass balcony designed to facilitate the observation of the cranes picking up waste. Windows and glass rooms are standardized solutions that allow visitors to «gaze» upon spectacles performed in the staged back region of the waste infrastructure.

The guided tours also move up and down staircases, along corridors and around boilers and other sections of the infrastructure where visitors access the «real» back regions. However, this experience, even if perceived as authentic by many, is superficial since only those working at the place are part of the back region. The visit creates a false feeling of belonging. What visitors experience here is a social representation of the waste infrastructure as a stage.

Back regions where insiders work and relax beyond the gaze of outsiders, such as in crane rooms or inside the waste vehicle, are inaccessible to visitors. In other words, regardless of how close visitors get to waste, they cannot experience waste in the same way (in a cognitive, cultural, temporal or physical sense) as those who are insiders in these infrastructures. What the visitors take part in is a transitory consumption of the place and its waste. With his camera and personal experience, the crane driver at the incinerator can select which types of combustible waste such as plastics are better to combine with others. In the recycling separation plants, the operators are able to distinguish between the piles of waste and salvageable recyclables, something that the visitors are unable to do.

5.2. The waste gaze

Despite the fact that architectural arrangements play a significant role in shaping the visitors' gaze, the social performance staged by tour guides and internal workers is also fundamental. During our observations, the tour guides performed different roles as mediators between guests and hosts (Cohen, 1985; Urry, 1990). They acted as guards, took care to ensure both the safety of the visitors and the protection of the infrastructure. They acted as pathfinders in these intricate places: they were well versed in moving smoothly from the front to the back region and vice versa. And if they did not have this competence, they had the help of local pathfinders: local workers and contacts in the factory or landfill who were in a better position to lead the way. The guides also performed as cultural brokers between the world of the waste infrastructure and the world of ordinary citizens because they translated the waste technology, practices and the socio-environmental impacts of waste management into popular knowledge that was understandable to visitors. The way this role was performed by each guide varied from one tour to another, and several roles were also simultaneously performed during the same tour. While some guides assumed the character of environmental heroes, presenting biographical details as part of the script; others adopted the role of the scientific guide informed by statistics and data. On some occasions the same guide would even embrace the role of a priest when moralizing about what a good citizen should or should not do.

Above all, tour guides contributed to directing the gaze of the visitor towards several parts of the infrastructure while hiding or ignoring others (Urry, 1992). For example, in the case of the tour in the waste-to-energy plant, attention focused on the economic success of these infrastructures that, according to the guide, did not import waste to Sweden, but rather exported clean energy abroad:

Visitor: Do we import any waste?

Officer: We import... No, I don't like the word import. We export waste-to-energy services to Norway [the visitors laugh]. [...] They are happy that we can help them so they pay us to incinerate 140,000 tons of waste every year.

The disadvantage of having to organize 'little shows of honesty', in MacCannell's words, is compensated by gains both in legitimacy and economic income. Waste tours are, like any other tour, at the service of the politics and corporate discourses behind them (Hallin and Dobers, 2012). The tours are hosted by waste management organizations to legitimize the organization's waste technology and management practices as well as to prevent criticisms against an activity that is particularly environmentally sensitive. This explains why politicians visit these places, as a sign of victory and progress. More than the stage of the «society of spectacle» (Debord, 1988), waste infrastructures are akin to Foucault's panoptic

tower (Foucault, 1979) where the power of the institutionalized waste gaze is to discipline and normalize citizens into the dominant waste regime and waste narrative. Guided tours to infrastructures contribute to create notions of citizenship, progress and even strengthen notions of nationalism and statehood (MacCannell, 1973). Waste tours are also instrumental, in the sense that they aim to instruct users about the correct usage of the infrastructure to maximize its functioning and minimize costs. As the information officer explained to us in interview: «it is important that the kids leave the visit with a waste minimizing attitude. That's where the future lies. I want to inspire them to become responsible citizens. [...] the waste hierarchy will come to them naturally» (interview with K.).

Nevertheless, and despite the politicization and instrumentalization of these tours, guides seem to be loosely coupled to their organizations. Usually working 'solo', they have relative independence to create their own scripts and are loosely controlled by the organizations that employ them.

It is a bit weird that it is the waste company that informs the public. They have a double agenda that is paradoxical. Sure, they want to say that we can't take in more waste, and we do say this. We have to say it louder, but that is something difficult for a company to say. There's no budget provision for minimization. (Interview, K.).

As environmental informers, they are often driven by strong environmental beliefs, which on occasions can lead them to tell stories, some based on personal experiences, which go beyond what would be acceptable within their organizations. They also offer examples of how acts of environmental agency can help save the planet and encourage their visitors to understand that it is our consumption patterns that result in waste production:

Do you bring waste home? I don't, I only buy good stuff, but I still have waste at home. How come? Well, everything wears out. Stuff breaks, food goes off. We all acquire waste, so we have to buy less (Interview with P.).

This freedom results in the production of scripts that potentially challenge, in different ways, the waste management activities (incineration, recycling, etc.) performed by the same organisations that host and sponsor the tours. The first two guided tours followed more closely the official 'script' of the city's waste management system. If the city promotes incineration, like in the first case, or recycling as in the second case, that is the main story they tell. However, during the third tour other subversive and moralizing stories about excess and over-consumption were told in parallel to the main plot. To a certain extent, individuals who operate on the margins of environmental management organizations, as in the cases discussed here, can turn into institutional entrepreneurs (Skoglund and

Böhm, 2016) whereby they are able to have a final say regarding the information provided on the tour. Due to the peripheral position of the guide and the fact that the waste management organization does not control the content of the tour, «nobody really knows or cares about what I say here» (interview K.).

5.3 Waste narratives

While the three tours are organized in similar ways, what is being told, as already noted, differs in each case. In the first tour, the waste-to-energy plant is the dominant frame, which essentially means that as long as waste is thrown in the bin everything will be fine: it will be collected and if it is sorted incorrectly, this will not be the end of the world because in any case it will eventually be incinerated and will generate green energy. In the second tour, the focus is on the recycling of materials and how to sort waste in the correct way. Proper sorting should be the goal of all good citizens. In the third tour, the city has ambitions to become the best sorting city in Sweden and to develop a sustainable waste handling system and is thus looking more closely at new methods of waste prevention. Despite the focus on sorting correctly, stories about over-consumption are more present than in the two previous tours and some of these even challenge recycling and incineration practices.

Corvellec and Hultman (2012) have convincingly shown how current Swedish waste governance is powered by two main narratives of «less land-filling» and «wasting less»: the first one has been the dominant narrative for decades, while the second has recently gained momentum with new waste prevention programmes and other societal narratives such as zero waste and cradle to cradle economies. Recycling and incineration technologies are part of the

«landfilling less» narrative and are also connected to the even older «waste as a resource» discourse (older because people have always found a way to extract value from waste (O'Brien, 2008; Sjöstrand, 2014; Strasser, 1999)). Without denying the economic value of waste or needing to a priori reduce landfilling to a question of environmental hazards, the new «wasting less» narrative becomes a multi-entry narrative that connects the social critique of unsustainable consumption with the economic rationality of using resources effectively (Corvellec and Hultman, 2012). While the first and second tour draw more clearly on the repertoire of a «landfilling less» narrative (and its two variants

«landfilling less through more recycling» and «landfilling less through more incineration»), the third tour brings more elements from the «wasting less» narrative. This is not to say that there are not traces of the «wasting less» narrative in the first two tours, but they are far less prominent than in the third case.

Nevertheless, the «landfilling less» and «wasting less» narratives appear to be accumulative rather than disruptive in relation to the way the tours are organized and presented. The new notion of «wasting less» appears to build on the previous

traces of the «landfilling less» argument. For example, one of the guides acknowledges that in order to enter in depth into the issues of waste prevention, it is necessary first to present the background of waste management and the shift in rationale from waste as a problem to waste as a resource. As in other environmental management areas, economy and environment are fused together to such an extent that users can hardly distinguish what comes first

– the economy or the environment (Corvellec *et al.*, 2017; Hultman and Corvellec, 2012). The same guide first introduced waste from an economic perspective, revealing how efficient waste management saves material and economic resources. It was only after this that he started to problematize his presentation by referring to the need to reduce the amount of waste we produce.

Corvellec and Hultman (2012) show that talk of «wasting less» has started to challenge and to replace the «landfilling less» imperative, and that this switch has had a number of consequences for organizations such as waste management companies, because «wasting less» introduces a new socio-materiality of waste, which implies, in turn, a new everyday relationship with our waste. As noted, the «wasting less» narrative was more evident in the third tour in which the guide sought to make the environmental footprint of the visitors' consumption practices visible by connecting the youngsters' social attachment to certain objects of consumption (such as mobile telephones) with the question of waste, and thus tried to make them reflect about the contradictions of the waste management regime in which they live.

Besides taking on board the ways in which narratives can change socio-materialities of waste, we also considered the significance of the location and the type of infrastructure front-staged in influencing the story that is told. Location has an important role in determining the meaningfulness of the encounter with the matter at hand, and thus affects the learning process (Cohen, 1985). Put more simply, if you tell a story in a massive waste incineration plant, you have to talk about waste incineration. Additionally, visitors also experience the particular infrastructure they visit. Containers, incineration bunkers and bins all generate fascination and curiosity among the visitors who are attracted to look inside in order to glimpse contents that are usually invisible. In other words, it is not only the guide that directs the visitors' gaze, but also the infrastructure itself. The children in the second and third tours saw the containers, looked into them and observed what was thrown away, made comments and asked questions about how to sort correctly and why certain objects had been discarded. The secondary school students on the visit to the incineration plant saw the oven, the boilers and wanted to know more information, for instance about how much energy was generated. The infrastructure and its assorted objects influence the thoughts of the visitors, inducing them to reflect and to ask questions about the disposal and handling of waste (Bennett, 2010).

The power of the infrastructure in directing the visitor's gaze poses a dilemma: if waste infrastructure invites us to ask questions about the handling of waste and therefore inadvertently consolidates the rationale of waste management as a technical problem (Hird *et al.*, 2014), to what extent can guided tours to waste management facilities connect visitors with a «wasting less» narrative? For some guides, this contradiction did not pass unmentioned. In fact, one of them noted during interview that if the tours were supposed to prioritize waste prevention, then a shopping mall rather than a waste infrastructure would have a more appropriate setting (see also Ek, 2015). Such a setting, for sure, would make the relationship between production, consumption and waste more visible. Herein lies the predicament for tour guides but also responsible politicians: those who dare expose themselves to the waste gaze must confront the tensions between economic and environmental interests.

6. Conclusions

Guided tours create liminal spaces between the front-stage and the backstage of waste management organizations, between society and its infrastructure. By doing so they can illuminate what is dark and what very few can see: the back regions of our cities and societies, and their implications for sustainable development. The «waste gaze» has therefore the power to transform mundane waste and mundane governance (Wolgar and Neyland, 2013) into an extraordinary matter of political action (Urry, 1990). Waste infrastructures have the potential to function as places where visitors can learn about the environmental footprint of our consumption and discard society when confronted with the mountains of waste on display, but only if the visitors' gaze is directed towards it (Zapata Campos, 2013).

Our contention is that the representations performed during these tours, alongside the experience of the materiality of waste and its infrastructures, have the capability to affect and transform visitors. As Urry (1992) argues in relation to the tourist gaze, it is the unusualness of gazing at mundane objects and activities like waste and waste management that places them within a different frame. When waste infrastructures are visited, visitors are exposed to different signifiers: from representations of progress and the domination of technology over nature to icons of our consumption and discard society. Which signifiers get moved to the forefront depends on how these infrastructures are framed by the guided tours. Fully authentic sites are unavailable to external visitors. However, in this paper we have shown that varying degrees of accessibility to back regions and the range of tours, guides, scripts and sceneries reproduce different representations of the notion of environmental sustainability.

In this paper, we have also demonstrated how waste management organizations function as storytellers (Corvellec and Hultman, 2012). The tours, however, comprise an overlapping multiplicity of stories and sometimes a cacophony of

voices that can run against the waste management business model that is hosting the tour. Waste management organizations draw their stories from broad societal repertoires – the «landfilling less» and «wasting less» narratives – and these are brought to bear in varying degrees depending on a range of factors, such as the scenery (the physical infrastructure) or the entrepreneurship and freedom of the guides as story tellers. Through their micro-level stories, these organizations contribute both to strengthen the dominant «landfilling less» narrative and to feed the emergent «wasting less» counter narrative. Waste narratives are therefore dynamic (Corvellec and Hultman, 2012) and we add, fluid. As part of liquid modernity (Bauman, 2000), people and narratives can shift from one social position to another in a fluid manner, which allows storytellers as guides to exploit the ambivalence of a multiplicity of roles and to flow through sometimes contradictory roles as consumers, citizens, environmentalists or representatives of waste management organizations. Yet, the stories and the societal narratives that they draw from and help to reproduce are also constrained by fixities such as physical infrastructures, materialities that are more difficult to change, and which therefore shape what can be told and not be told. Totalizing narratives about waste management organisations can overlook the complexities of waste narratives and waste infrastructure (Chelcea and Pulay, 2015). By adopting instead an ethnographic approach and using the lens of the

«waste gaze», this paper has been able to render visible the diverting voices, local narratives, meanings and sceneries that become part of the waste infrastructure.

Waste is an unstable and ambiguous category (Hawkins, 2006; Hawkins *et al.*, 2015), and thus both fluid and tremendously fixed, and replete with a materiality that is impossible to deny. In order to make the connection between our material consumption practices and their environmental footprint visible, it is necessary that we confront more closely our waste and its material presence (Lynch, 1990). The risk of well-functioning waste infrastructures that have cleaned up their back regions, such as those visited during the waste tours, is that they evoke the misleading notion that it is fine to consume earth's resources since energy and materials are efficiently recovered from waste. If we are only able to see the ordered piles of cleanly sorted recyclable materials, like in these guided waste tours, if our gaze is diverted from the container where new TV sets or edible food are discarded, we will continue to live in the utopia of unlimited growth and consumption: a utopia that can only lead to a dystopian world full of waste (Lynch, 1990). Instead, we need to access more heterotopias (Foucault, 1986), in other words real, physical places that are seen to represent a utopia, for example through tours of waste management facilities. Such heterotopic experiences can encourage visitors to intimately engage with their waste (Zapata Campos, 2013), in the hope that feelings of abjection towards waste (i.e. the contradictory feeling of attraction and

repulsion) can prompt social action and change (Zapata Campos and Zapata, 2012).

Being confronted with our waste might not be enough however. The challenge for municipalities is to shift the focus from waste management to waste prevention. One way is through waste tours, but these themselves would need to be changed. We need to envision tours that offer alternatives to the consume- and-discard society and that can drive the creation of new pathways towards a wasteless society. Some such tours already exist: for example, alternative tours run by dumpster divers, object exchange networks or collective repair movements, often prompted by municipalities and civil society organizations. Some tours are even moving their venues to the sanctuaries of consumption such as supermarkets and shopping malls. What these incipient tours have in common is the configuration of an alternative «waste gaze» that draws fully (and not just moderately) on the «wasting less» or, as we have argued «consuming less» narrative. We should probably also start to call them «consuming less tours» because waste prevention is much less about waste than about interrogating processes and practices of consumption, and because they prompt tour participants to ask themselves the question: is it worth the waste?

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