20 Women and Waste Recycling in the State of São Paulo, Brazil

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Women, waste, infrastructure and place

Nature–society relations are analyzed through the study of women, who used to collect recyclable materials from waste dumps or the streets and have now organized themselves into formal collectives, known today as cooperatives. At such sites, recyclable materials, the equipment and associated infrastructure are a fundamental part of the reconstitution of the world of these women (Whatmore 2002; Lorimer 2012).

In this chapter, I consider the interaction between the self and the world, not as separate but as a continuum (Labanyi 2010) and examine the social conditions of the women waste pickers (Howitt et al. 2016). From this standpoint "waste has agency to act upon society" (Van Bemmel and Parizeau 2020, 208). Also, as Janice Monk and Susan Hanson wrote in '*On not excluding half of the Human in Human Geography'* (1982), I did not want to exclude from my own geographical research people whose livelihood depends on something that society rejects. With a focus on women, the chapter also contributes to deepening knowledge on gender geographies in the Global South.

Waste management is commonly associated with environmental problems and is usually carried out by poor and colored people (Gregson and Crang 2010). The buildings, the objects, and the environment where they perform their work are generally classified as "dangerous/hazardous" because of the nature of the materials and the potential for contamination (Thomas-Hope 1998). Yet they contain a liberating potential for the women who work at these sites. Such women become responsible for these places and objects, and at the same time feel they can challenge their role in society through formal recognition of their profession, achievement of social rights, growing income, and the strengthening of class solidarity and self-esteem. These feelings are the result of unique and situated contexts that have been altered and reformulated (Valentine 1997). Waste thus becomes a resource, but the most important aspect discussed in this chapter is not "what waste is" but "what waste does".

This study reflects on the implications of hybrid relationships between human and non-human objects/materials (Demeritt 2002; Braun 2005; Hinchliffe and Whatmore 2006). The notion of 'atmosphere' as a feeling that

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emanates from the dynamics between humans and the non-human (Labanyi 2010; Vannini and Vannini 2020; Tan 2021) is central to this study.

Methodology

This chapter is drawn from a study of Cooperlix (Presidente Prudente Recyclable Products Workers Cooperative), a cooperative of about 90 people who collect recyclable waste (metals, paper, plastic, glass) from Presidente Prudente municipality in São Paulo state (for details on this cooperative, see Queirós, Leal and Fuzzi 2020). Women waste pickers (collectors of recyclable materials) survived for years without any social protection, until they made the decision to formally organize themselves. Today, they are able to obtain equipment and infrastructure to recover the value of the materials collected and improve their working conditions at specific sites. Qualitative methodologies were used to capture the experiences of these women waste pickers in the west of the state of São Paulo (SP), Brazil, in 2018 and 2019.

Initially, a meeting was held to get to know the workers, their working conditions and the waste management practices. Later other meetings took place to understand the role of women in the cooperative, factors that influenced their personal and working trajectories, the interpersonal relations within the treatment facility and the connections with the site and the materials with which they work in order to capture the process of transforming waste into resources and examine its potential to disrupt and transform human actions. Women volunteers aged between 18 and 35 shared their daily lives through semi-formal interviews and a focus group discussion was conducted. Observation notebooks, descriptions of field experiences, photos, audio, and records at the site were used to capture details of the socio-spatial configuration of living spaces and the relationship between humans and non-human agents.

In small-scale studies such as this, walking with the participants enables close relationships to develop and thus has the potential to adjust our representations of the space where social practices are performed, materiality is embodied, and rules of space are lived (Streule 2020). Walks through the waste treatment terrain allowed some of the interviews to be done on the move, while others were conducted using standard techniques in specific working places. This method, alongside with the field observation, was particularly relevant as it allowed us to become engaged with the working environment revealing the atmosphere in which the relationships between humans and the objects (recyclable waste, technical equipment, place) are forged. Reflexive participant observation revealed a place filled with human and non-human presence, full of energy, vibrancy, and life.

The interviews included questions about sociodemographic information (age, sex, skin color, marital status, children, education, place of birth and living, prior working activity, etc.) and personal life trajectories/narratives. The photos and talks were recorded with informed consent. The focus group activity was held in the workplace canteen, allowing for the exchange of opinions, ideas, effects, and emotions between the participants concerning the objects they work with and the waste treatment facilities where they work.

Colleagues from the São Paulo State University (UNESP) at the Presidente Prudente campus were facilitators in introducing the cooperative members. The information colleagues shared encouraged the cooperation between us (researchers from the "North" and the "South"), and the exploration of common grounds to deepen the research (Monk, Manning and Denman 2003). As the research progressed, I became more aware of women's roles, their knowledge, and practices. In their reflexive commitment to the processes and methodologies used to create and apply knowledge. Monk, Manning, and Denman (2003, 26) called for attention to "women's lives constructed within the dominant relations of production and reproduction".

In Cooperlix women revealed that they seek and remain in the cooperative for several reasons: the domestic work is unpaid, thus not socially recognized as this one; the lack of better jobs with a social security plan; the unemployment of the partner; the need for financial support for their children; and the fact that they feel "independent" from the moment they obtain their own money through working with recyclables.

The context: from waste pickers to recyclable materials collectors

Brazil is marked by unemployment and exclusion from the formal labor market. According to IBGE 2020, the unemployed constitute about 14 million and unemployment affects 1/3 of the lowest income families. Consequently, it is common for many jobless persons to find refuge in informal economic activities, often combined with precarious working conditions, as is the case of the recyclable material collectors (Thomas-Hope 1998). In most cases, the activities they perform are informal and start in the cities' streets or at garbage dumps – as "waste pickers" or "scavengers" (in Portuguese, "catadores"). About 10% of the nearly 500,000 collectors of recyclable materials in Brazil are formally organized into collective working groups. These associations and/or cooperatives encompass around 1,000 collective organizations of waste pickers (Paiva 2016; Queirós, Leal and Fuzzi 2020).

In examining the changing impacts of development on women and men, Momsen (2020) exposes serious problems with garbage in poor countries, particularly in densely populated urban areas, but at the same time notes this can be an opportunity for poor people to earn from the discards of the wealthier. The activity of collecting recyclable materials (disposable paper, glass, metal, and plastic stuff) is particularly relevant in society because, among other factors, it deals with waste as a non-human object with emergent properties that enable networks of agency (Gregson and Crang 2010; Moore 2012; Gutberlet 2015; Millington and Lawhon 2018; Momsen 2020; Van Bemmel and Parizeau 2020). This perspective defines the properties of waste as an actant, meaning that they act upon individuals and society – rather than only the reverse (Moore 2012). This relationality is an important aspect of waste studies. While human actions and technologies may transform waste into recyclable materials, the value of these materials and the activities related to its preparation for sale can therefore influence the life and behavior of actors who encounter them, including the clustering into cooperatives.

In 2010, in Brazil, waste pickers were recognized officially as service providers (Momsen 2020). Today the Brazilian Employment Ministry identifies the activities of recyclable material collectors and selection workers as collecting and selecting recyclable and reusable stuff, selling the collected material and preparing materials for shipment. In Brazil, this activity has been formally acknowledged since 2010 through the National Solid Waste Policy (PNRS, Law n°12, 305) which identifies the need for social inclusion of waste pickers and represents a normative advance for social and environmental issues. This solid waste policy is also significant as it offers legal and technical bases for solid waste management to contain the problems caused by the generation of waste. The PNRS corresponds not only to a national regulatory framework for sustainable practices related to waste and to urban solid waste management but also reveals a concern about social protection through the inclusion of recyclable material collectors and the recognition of the value of their work (Gonçalves et al. 2016).

Another significant initiative to improve the working conditions of collectors was also launched in 2010, known as the "Pro-Catador" Program (Decree n°7, 405/2010). Thus, according to this act, policies aimed at collectors would be established through the so-called Inter-ministerial Committee for Social and Economic Inclusion of Reusable and Recyclable Material Collectors (CIISC). This program articulates the actions of the federal government to support the productive organization of recyclable material collectors, improve their working conditions, expand opportunities for social and economic inclusion, and develop, in partnership with collectors, the selective collection of solid waste, reuse and recycling.

With the National Solid Waste Policy, the carrying out of waste picker activities in dumps was prohibited – but they were not eliminated. The law established that, by 2012, Brazilian municipalities needed to have an integrated solid waste management plan and implement selective collecting systems, and by 2014, to eradicate dumps. These legal deadlines were not met by all municipalities, revealing their financial and technical weaknesses in planning and management of solid waste. Therefore, many of the waste pickers are still in open-air dumps; others carry out the activity in landfills complying with legal and engineering requirements (IPEA 2013).

As Thomas-Hope (1998, 2) pointed in tackling waste in developing counties, "there is a general lack of a culture of cooperation". In fact, throughout Brazil, in the early stages of the process, it was challenging to organize waste workers into collectives. Yet today it can be noted that the changes and collectivization that took place generated confidence, self-esteem, reciprocity, and group identity. In addition, the formal recognition of the profession, designation of a place, infrastructure, equipment, and technologies to work with, strengthens identities, empowers waste pickers, gives meaning to their interactions and entrepreneurship, and expands their life opportunities.

The Cooperlix treatment facility: origins and stabilization

In the early 2000s, the waste pickers of Presidente Prudente collected, separated, and sold recyclable waste randomly deposited in the urban perimeter,

or directly in the municipal dump. Most of them faced class and race discrimination. They lived and worked in precarious conditions and supplied to recycling companies that paid low prices for materials (Leal 2002, 2004; Gonçalves et al. 2016; Carvalho and Rondin 2017). Fortunately, this scenario changed with the Recyclable Products Workers Cooperative (Cooperlix) being formed in 2002. The cooperative's headquarters were provided by the municipal government and the equipment was acquired through projects developed in partnership with the Bank of Brazil Foundation, FAPESP (Research Support Foundation of the State of São Paulo) and UNESP (Presidente Prudente University), among other sources of support, including organized community groups (trade unions, churches, etc.) (Leal 2002, 2004).

Today Cooperlix is a non-profit entity, where the income is divided among its members, used to meet losses, and for technical, educational, and social assistance. At first, many collectors did not want to join the cooperative due to the overall lack of trust in society, greater earnings from solo work or working in small groups. The buyers of recyclable materials had no interest in the formal organization of waste collectors and at that time, only 37 collectors (21 men and 16 women) agreed to participate in the formal creation of Cooperlix (Queirós, Leal and Fuzzi 2020).

Between 2004 and 2015, the size of the cooperative fluctuated due to financial difficulties. The low turnover was one of the reasons for the drop out of collectors, mostly men. As the formal labor market employment opportunities available to women in the city-region are not sufficient, they continue in activities with lower remuneration and social prestige to support their families. In the small group that remained, women took over the leadership of the cooperative, fighting for the continuity of the project, which they feel is an environmental service extremely relevant to society. Thus, there was a change in the composition of the board, with an increase in the number of women and in 2006 a woman assumed the presidency of Cooperlix until 2019 (Leal 2002, 2004).

The financial stability of the cooperative was achieved in 2015, when it was hired by the municipality for collection of waste materials, allowing a fixed monthly income, complemented by sales of collected recyclable waste. In 2016, the activity of waste scavengers was banned in the municipal dump, so they were voluntarily incorporated into Cooperlix. Thus, the impossibility of continuing to work in the dump, as well as the growing empowerment and gains of collective work, enlarged the number of its members: in December 2018, the collective had 88 workers, of which 41 were women and 47 men (Queirós, Leal and Fuzzi 2020).

Currently, the work has evolved and become more specialized and gendered among the 90 members. As Momsen (2020) noticed, men tend to deal with the heavier and more hazardous materials. At Cooperlix this also occurs, while additionally men usually drive the collection trucks. The internal organization of the facility is almost an empty space, yet it also reveals gender and spatial divisions of labor. Women concentrate and work on the sorting belt while selective collection, transport, and pressing are carried out mainly by men. Some craftwork with metals is men's responsibility as well. But, as women become more powerful in the cooperative, these divisions of labor become less rigid (Queirós, Leal and Fuzzi 2020).

The Cooperlix treatment facility: a more than human atmosphere

Anderson (2014) explains that it is necessary to understand how a diverse grouping of people come together to speculate on how an atmosphere forms and unfolds. The concept of atmosphere is described as a feeling that emanates from the dynamics between humans and the non-human (Labanyi 2010; Vannini and Vannini 2020; Tan 2021). It occurs in specific spaces and an affective materiality can be felt through human bodies in motion. Atmospheres are "melded between and within the affective and emotional, the individual and collective" (Tan 2021, 3). So, affect and emotion are dynamic, simultaneous experiences that people encounter as they are entangled by an atmosphere. Since the foundation of Cooperlix there has been a huge process of transformation and empowerment.

It must be remembered that the women in this collective do not have much education, consider themselves "negras" and "pardas" (colored), have never travelled outside the state of São Paulo, and in the past did not have the capacity to support themselves financially (Katz and Monk 1993). The transformation starts as soon as those women leave their informal activity and move into a formalized setting with the help of UNESP researchers (Figure 20.1). In general, the history of cooperatives shows how the materialities associated with the workplace play an important role in social transitions, as

Figure 20.1 Mural with the beginnings of Cooperlix (with the help of an action-research project from UNESP, Dept. Geography – the colleague in the mural is Cezar Leal, the collectors say that "God is in heaven and Cezar is in earth to help us").

well as offering the beneficial effects of social inclusion. The waste pickers are affected by mandatory regulations related to their activity, which firstly makes them suspicious, but then encourages them to organize in collectives. Recyclable materials collectors are empowered by the objects they select from consumption, and these again become raw materials to the production cycle.

In the sheds/infrastructure we find material components – equipment, as well as the recyclable objects – through which the women separate the different materials according to their composition and market value, where the process of empowerment takes place (Figure 20.2). They take over the entire space to perform the activity and the happiness and rhythm that we feel there contributes to the formation of an atmosphere that does not constrain individuals.

Among the interviewees, there was a common idea that the infrastructure and equipment reduced physical effort, making their work easier and more efficient. They all shared the opinion that the shed protects them from the heat, the conveyor belt helps the separation of materials in a safer way, and the truck allows a greater amount to be collected, thus creating a better income (Figures 20.3 and 20.4). While performing this activity, they experience positive feelings/emotions, especially if they remember the previous working conditions.

The increase in infrastructure quality, adequate equipment, and better technologies enhance working conditions, increase the quantities of selected and packaged materials for sale, enable workers to perform specialized

Figure 20.2 At Cooperlix site: plastic objects separated by composition and market value, ready to be transported to destination.

Figure 20.3 A shelter for working women: the shed from inside, the conveyor belts and the separation process.

Figure 20.4 The Cooperlix shed from outside (the truck unloading paper and cardboard).

activities, provide closer dynamics between them, improving efficiency and resulting in overall gains. The condition of the place thus allows for an equal and close relationship to develop and a sense of motivation. The workplace gives a feeling of refuge to these women. They showed me the facilities with great pride and joy, claiming "see *and photograph without any problem, we are happy here and we want our visitors to feel happy*" (Elsa, interview June 2019) (Figure 20.5).

Many of these women also shared painful aspects of their past. They revealed that their fathers exchanged them for money, furniture, or other possessions to their future husband. Most of them experienced motherhood when they were adolescents and afterwards were abandoned by their partners. Obviously in most cases, they became economically dependent, invisible, and subservient as a mother and/or attending to the male partner's needs. Today, through the cooperative, women share feelings of freedom, self-esteem, and confidence.

Despite their struggles, these women persist in improving their work and living conditions. The precarious conditions of their lives forced them to collect garbage in the streets and taking the step to form and join a collective was at the time the best and most liberating solution they found. Today they show pride in their achievements and refer to garbage with knowledge of its physical properties and with affection, recognizing that it has brought them autonomy, dignity, hope, and joy in living. The treatment equipment is felt by

Figure 20.5 The Cooperlix: a detail of a showcase of collected and reused materials for room decoration.

everyone as a collective acquisition, earned through individual and joint work, only possible due to the warm and protective environment they found at Cooperlix. An individual and collective energy is noticeable in the execution of the hard work, in times to eat and rest, and in the hours of meetings to discuss issues and take decisions.

The impact of the place of the cooperative, is the product of a complex mixture between the technological "apparatus" for separating and compiling recyclable materials, and the local environment, such as fauna, flora, light, and temperature that make these people surprisingly hopeful, connected, protected and emotional – quoting Elsa (interview, June 2018), "*we are constantly striving to have all this equipment and this place to do our work; (…) I'm here with friends, I share my problems with them and together we find solutions*" (Queirós, Leal and Fuzzi 2020).

Women at Cooperlix have gained leadership positions and are aware of their achievements despite being born and living in unfavorable male-dominated environments. Today, they consider themselves recyclable material collectors, a position where they "*work for the benefit of the environment and public health*" (Silvia, interview June 2018). Thus, from the awareness of their role and actions, the unexpected emerges: a pleasure in what they do, leadership capacity and the sense of "sororidade", an affection of sisterhood, as the united "family" that they did not have in their past existence.

Recyclable waste thus does not represent the end; it is a beginning for the reframing of these women's lives (Queirós, Leal and Fuzzi 2020). The line between staying in a collective or returning to the dump is thin and fluid. Women who remain in the collective believe in the strength of the group and the emergence of a sense of "home" and protection.

As a researcher, the initial discomfort I felt when hearing about the tragic stories of women waste pickers was transformed into admiration in the course of my research. 'Overcoming' is a great word to describe the experiences of these women and sharing these proved therapeutic . Janice Monk's lifelong research inspires feminist researchers to establish bridges between studies from the margins to the mainstream of the privileged. . Inspired by her telling the stories of women who live by collecting and separating waste and the consequent socio-materiality of these materials is part of my mission. According to Katz and Monk (1993, 26) research such as this opens paths towards change that begins in all of the many 'locations' in which women find themselves and which go 'full circle' to address the webs of sociocultural and political-economic relations in their lives I pay tribute to Janice Monk, through making known the value of these women, interpreting parts of their stories and, above all, establishing bonds between researchers and recyclable waste collectors.

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