



Behind Closed Bins

On the use of human panopticism in reversed waste collection in Beuningen and Druten

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Student: Linda Schravendeel
Student number: 4241509
E-mail: lindaschravendeel@gmail.com

Course: Master thesis Urban and Cultural Geography
Faculty: Nijmegen School of Management
University: Radboud University Nijmegen
Tutor: Dr. ir. Henk-Jan Kooij

Internship: Lentekracht
Internship tutor: Koen Vrielink

Place and date: Nijmegen, 4/8/2017

Preface

I am relieved but excited to present the final version of my master thesis about the use of human panopticism in reversed waste collection in Beuningen and Druten. For the past 9 months I have been working on designing, executing and reporting this research, which included an interesting internship, being a waste coach. I have overcome obstacles during this process and at times, my own determination was not enough. Therefore, there are some people I want to show my appreciation to, by acknowledging them in this preface.

First, and most importantly, I want to thank my tutor, Henk-Jan Kooij, for reassuring me about my thesis, for inspiring me to pick the unpaved roads and for motivating me with new insights. I also want to thank Koen Vrielink, for always taking the time to read my work, and the people from Dar, especially Pouwel Inberg and Anke Volkerink for guiding me into the role of the waste coach and for their cooperation in figuring out what the role of the waste coach really was.

Furthermore, I am grateful for Arnoud Vrieler, for his unconditional and tireless support throughout the process. And last, but not least, I would like to thank my parents and my friends, because they would always show interest in me and this thesis.

Finally, I would like to thank you in advance for taking the time to read my master thesis, a product that I've worked hard for, and consider the biggest obstacle I've ever taken in my short academic career. I hope you enjoy reading it.

Linda Schravendeel, Nijmegen 4/8/2017

Abstract

Over the past few years, multiple municipalities in the Netherlands decide to employ a waste coach. This social approach should decrease the distance between the citizen and the policy maker through personal communication. Besides, a waste coach can perform specific tasks in the field of work, and can be involved in special public actions. To date, little is known about this complex role of the waste coach and it is unknown to what extent this effect has on the behavior of citizens.

The goal of this research is *to determine the role of the waste coach in stimulating the correct use of a reversed waste collection system, by developing the concept of human panopticism*. The theory of the panopticon of Michel Foucault was used to develop the new concept, human panopticism. Human panopticism refers to a situation in which the effects of the panopticon are achieved by direct human contact, and not by physical or digital means.

Fieldwork was conducted between October 2016 and March 2017. The researcher literally dropped into a waste coach's skin and could thus come close to the citizen. Many conversations have been held, interviews were conducted and data is collected from other sources. This data has been analyzed and could ultimately answer the main question. The main question was *how does the presence of a waste coach stimulate the correct use of a reversed waste collection system by citizens of Druten and Beuningen, and how is this explained through human panopticism?*

This research identifies five aspects that contribute to the choice, whether conscious or not, of citizens to properly separate their waste. These five aspects are financial aspects, convenience, sustainability, information and knowledge and status and self-image. Each of these aspects were also present in the studied literature and were used by policy makers to make citizens comply to the policy better. The waste coach could influence the information and knowledge a citizen possesses and has an influence on the status and self-image of the citizen. The latter is where human panopticism plays a role and where this research goes into depth.

The research aimed at evaluating the effect of a waste coach, which turned out to be the strongest through face-to-face contact. The results showed that citizens separate their waste mostly because it was the norm and they did not want to be caught deviating from that norm. Citizens showed that they are embarrassed when the waste coach confronted with the fact that the waste rules are not carried out properly by them. The waste coaches were often seen as an authoritarian figure, partly

because of the yellow jacket, and could therefore make use of the citizens' feelings of pride and shame. In this study, the direct effect of human panopticism was discovered. In general, the immediate presence of the waste coach made citizens aware of the fact that they could be watched or confronted everywhere. The fear of this confrontation meant that they adjusted their waste behavior immediately. In addition, indirect or direct confrontation with the waste coach leads to self-reflection among the citizens. The mere presence of the waste coach reminds the citizens of the subjective norm regarding waste separation. Using conversations, the citizens could also test their own behavior to the subjective norm that was symbolized by the waste coach, which strengthens their reflection on their own waste behavior.

This confrontation with their own behavior leads to self-reflection that goes beyond just the places the waste coach can check and further than the fear of confrontation. It goes beyond closed doors and even beyond closed bins, because it affects their self-image. And this is exactly the purpose of a panopticon. You behave, even though you do not know if you are watched. Furthermore, due to the different public controlling actions of the waste coach, the citizens started to control not only themselves but also each other. This led to a human panopticon in which the citizens became both the controlling body and the controlled group, leaving the waste coach as nothing more than the inventor of the panopticon.

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1. Introduction

1.1 Reading guide

In the current field of scientific research on waste behavior, ever wider angles are being used. Not only research papers, but also more practical policy plans emphasize the more social side of policy implementation. Scholars and policy makers try to look at human motivations in different ways, rather than just the assumed '*carrot-and-stick*' principle. Although individual situations of people can never be ignored, this research specifically favors a structuralist approach for studying waste behavior to show and prove that social behavior can be controlled in a human-friendly way. To do this, Michel Foucault's work and his theory of the panopticon are used. This research makes a case for a face-to-face variety of the panopticon, human panopticism.

In this chapter, the introduction, the research framework is outlined. This focuses on the geographical area of this research, as well as demarcation of the research. This will be done in the form of a main question and a research objective. A brief overview will also be given of existing literature on waste behavior and face-to-face contact and this research will be placed within that debate.

Chapter 2 explains the theory of panopticon and poses the hypothesis for human panopticism. Chapter 3 discusses the method used in this research and explains how the data collection went into its work. Chapter 4 consists of an analysis of the results and makes a case for human panopticism. Chapter 5 places the findings of the research within the theoretical framework of human panopticism. Chapter 6 discusses the outcomes that arise from this and reflects on the research as a whole. Chapter 7 provides recommendations for researchers who are interested in human panopticism or research on waste behavior in the future. This chapter also makes recommendations for practice. A stakeholder analysis is discussed in Appendix A.

1.2 Reversed waste collection in the Netherlands

In 2009, the company ROVA introduced reversed waste collection in the Netherlands. Reversed waste collection means that the household waste that is considered a resource, is picked up at the house, while the residual, unrecyclable household waste should be brought to an underground container. In 2011, ROVA introduced this waste collection system in a few municipalities. In 2014, this led to a recycling percentage of 75% in these municipalities on average (ROVA.nl). Over the past few years, several

municipalities in the Netherlands have made the transition towards reversed waste collection, with the goal of reducing the share of residual waste and moving towards a circular economy.

In December of 2015, the European Union adopted the plan to work towards a circular economy, where all resources must be used in a more sustainable way. A circular economy is one where there is almost no residual waste and where re-use and recycling are key (European Commission, 2015). This directive leaves member states to decide for themselves how they want to achieve the goals that the EU wants to reach. In the Netherlands, this EU goal is voiced in the national program for circular economy, which was published on the 14th of September 2016. Its aim is to achieve a circular economy in the Netherlands by 2050. (Dijksma & Kamp, 2016). This national goal translated into the VANG (Van Afval Naar Grondstof) program. A program that contains action guidelines for municipalities to follow and in turn leaves the municipalities free to achieve the goals in whatever way they want to, but expects a pro-active attitude (Rijksoverheid, VNG, & NVRD, 2014). The reversed waste collection policy is a progressive policy in this field and important in achieving a circular economy regarding waste management by municipalities in the Netherlands.

1.3 Waste coach

When implementing such a policy, most local governments inform their residents of the new policy by sending them letters, e-mails and by organizing information gatherings. This is because a transition like this expects many efforts from the residents, they are expected to adjust to a different type of waste handling and they must bring their residual waste to an underground container. To ensure the correct use of the system in the first period, a few municipal governments such as Arnhem, Sliedrecht, Veenendaal, Winterswijk, Beuningen and Druten have chosen to adopt a so-called waste coach. The idea behind this waste coach is that human intervention is needed between the government and the residents of a certain municipality. The tasks of the waste coach vary from explaining rules, checking around the underground containers for disruptions and illegal dumping and engage with entrepreneurs and owners' associations to jointly seek for custom solutions for problems that might occur. The waste coach has been widely used and has been claimed to be a positive addition to policy implementation, but the exact effect of the waste coach has not yet been extensively evaluated.

1.4 Research goal and question

Through this research, a deeper meaning of the supervising role of the waste coach will be sought. According to the ideas of philosophers Jeremy Bentham and Michel Foucault, merely the idea or feeling of being watched and monitored can influence the behavior of a targeted group. This is a concept that

comes into being through the panopticon. This is a situation in which a group is watched and monitored by only one person and therefore behaves in the desired way. This is caused because of the magnified power of that one person through physical or digital surroundings. In this research, the theory of the panopticon will be applied to the presence of a waste coach, leading to the introduction of the concept of human panopticism.

This research will determine the extent to which the presence of a waste coach can influence correct use of a reversed waste collection system. The theory of the panopticon will be reassessed and extended to the point where it can be used to evaluate the effect of the presence of a waste coach. This will lead to the introduction of human panopticism. The concept of human panopticism will then be applied to the presence of a waste coach. In short, the research goal can be formulated as follows:

“To determine the role of the waste coach in stimulating the correct use of a reversed waste collection system, by developing the concept of human panopticism.”

The role of the waste coach among different policy instruments will be determined within the context of a research area. This research will be conducted in the municipalities of Druten and Beuningen. The research area is not reflected in the research goal, because this research aims to be of value, also for other municipalities in the Netherlands, even though these municipalities in itself, and also their policy approach towards a waste coach may differ from Druten and Beuningen. A secondary research goal is therefore also to be able to (partly) generalize the research findings, so that this research may be useful for other municipalities that think about employing a waste coach. The research goal that was formulated above is slightly broad and vague. To make this research goal feasible, it is translated into a main research question. The question is formulated as follows:

“How does the presence of a waste coach stimulate the correct use of a reversed waste collection system by citizens of Druten and Beuningen, and how is this explained through human panopticism?”

1.5 Research area

As mentioned above, the research area for this research will be the municipalities of Druten and Beuningen. This area is chosen because in Druten and Beuningen, the waste coach was employed exactly during the period of this research. It is also because the researcher had the opportunity to be a waste coach in Druten and Beuningen, and therefore was able to dive deeper into the situation. The chosen municipalities fit well as a research area because they are average Dutch municipalities. In this way, it is expected that the research findings can be translated to fit other municipalities in the Netherlands.

The municipalities Druten and Beuningen lie in the east of the Netherlands, in the province of Gelderland. Figure 1 shows the exact location of the two municipalities in Gelderland. In January of 2016, the population of Druten in total was set at 18.407 (Gemeente Druten, 2016) and in March 2017, Beuningen had 25.481 inhabitants (CBS, 2017). In the last months before the start of the reversed waste collection policy, underground containers were placed on different locations in Druten and Beuningen. From the start of reversed waste collection, the inhabitants of Druten and Beuningen should bring their residual waste, the waste that is left after separating all other waste streams, to an underground container. Every time the container is opened, the costs are 0,75 euro in Druten and 1 euro in Beuningen for the inhabitant that opens it. This also means that the residual waste will not be picked up at the house anymore.

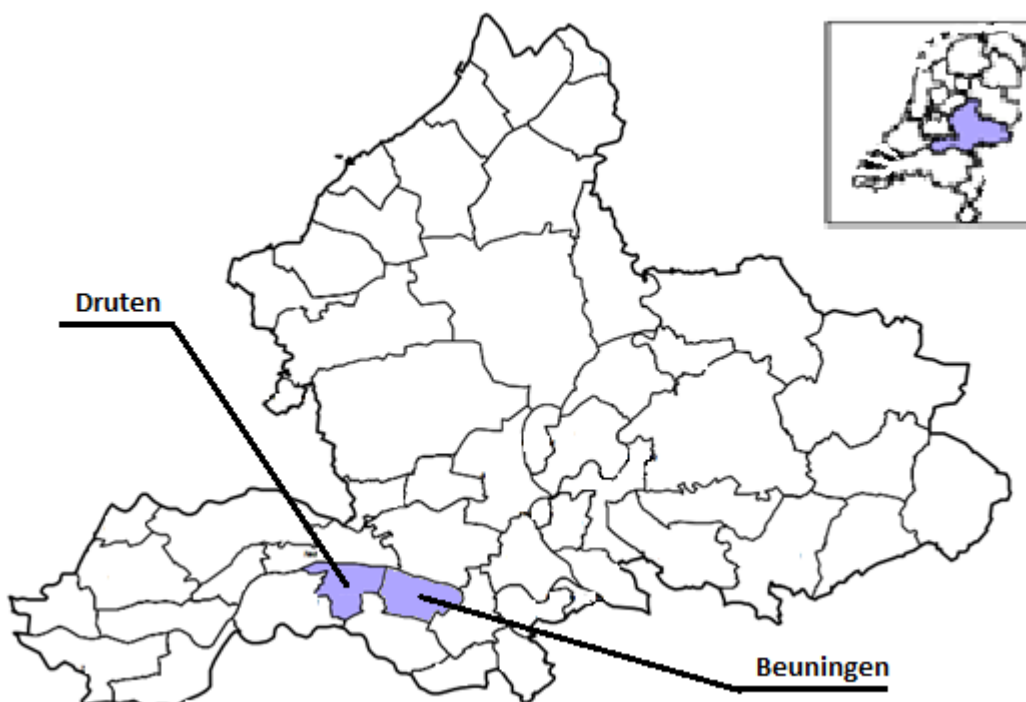


FIGURE 1: MUNICIPALITIES SITUATED IN GELDERLAND

Druten is a municipality that consists of 5 villages, called Afferden, Deest, Druten, Horssen and Puiflijk. In the villages Afferden and Deest, reversed waste collection has already been implemented without a waste coach. For Druten, Horssen and Puiflijk, reversed waste collection started in October 2016. The waste coach was being active in Druten for three months, during the period of October 2016

till January 2017. The municipality of Beuningen consists of four villages, Winssen, Ewijk, Weurt and Beuningen. Reversed waste collection started in Beuningen in January of 2017. In this municipality, the waste coach will be also active for three months, until March 2017. In the period before October 2016, residual waste in Druten and Beuningen was picked up by the house and had to be offered outside of the house in a special bag, which was available to buy at local supermarkets. Plastic+, the combination of plastic, beverage packaging and tin cans, had to be offered in the same way but in a different bag, specifically for Plastic+. For paper and cardboard there was no container. From October 2016 onwards, there were containers for both paper and plastic+ (Dar NV, 2016) The residents already had containers for organic waste, these containers will remain.

1.6 Relevance

This research will give an answer to the question what the exact effects are of the use of the waste coach, focusing on the presence of the waste coach. Besides that, this research will also critically reflect on the use of the waste coach by Dar and the municipalities Druten and Beuningen. This will help further municipalities make the decision whether to employ a waste coach or not. Municipalities can, with the knowledge that comes from this research, decide to employ a waste coach to achieve a successful implementation of the policy. If they decide to employ a waste coach, they will be able to use the knowledge that is provided by this research to educate and train new waste coaches, to fine-tune the policy and to foresee and diagnose minor defects in the policy implementation phase.

The results of this research may also contribute to the process of moving to circular economy on a much larger scale. A successful implementation of a reversed waste collection policy, leads to a decrease of residual waste, which in turn contributes to the goals that were set by the EU. Accomplishing these goals will have positive effects on the environment and will bring the world closer to the final goal of a circular economy. Lastly, a correct use of the new system by residents will lead to a better separation of household waste, and less residual waste, which will be financially beneficial for the residents.

In many developed economies, the responsibilities for waste management are allocated to certain agencies that will clean up the environment (Ogbonna, Ekweozor, & Igwe, 2002), but with the rising of circular economy programs, clean streets are not enough. Waste prevention, separation, and recycling, resulting in a reduction of residual waste to a minimum is the new goal. As mentioned before, a program for circular waste management has also been adapted in the Netherlands (Rijksoverheid, VNG, & NVRD, 2014). More than in the allocated responsibility approach, the responsibility of disposing

household waste lies now increasingly with the residents. The goal is to eventually get the users of waste management to dispose of their household waste in the right way.

Increasingly, since global solid waste problems are becoming a widely discussed issue, researchers have determined various ways to engage citizens with their own household waste disposal. For example, Joseph Kurian, (2006), argues that the involvement and participation of every stakeholder in the process is a key factor in sustainable waste management. When viewed from the perspective of resident responsibility, the stakeholders must function as a facilitator for environmentally friendly waste disposal. Only when the opportunities to separate waste are facilitated by all parts of the recycling chain, residents will be able to separate. But even when facilitated, the residents will not always separate their household waste. To make the benefits add up to the costs of separation, the “polluter pays” principle has been applied (Luppi, Parisi, & Rajagopalan, 2012). This makes the costs of non-environmentally friendly acts higher. But besides economic incentives, citizens also seek for convenience (Bernstad, Household food waste separation behavior and the importance of convenience, 2014), and want to live up to social expectations regarding waste management (Andersson & Stage, 2017)

The waste disposal choices that people make can also be influenced by their environmental awareness or by influential people that tell them to. In 2015, Schravendeel argues that the chief of a small Indonesian neighborhood has a direct influence on the awareness of the inhabitants of that neighborhood and can directly influence the sustainability of the practices in that neighborhood. The chief of a neighborhood can implement small policy changes and inspire people to care about their environment (Schravendeel L. , 2015). In developed countries, media are often used to raise awareness. An example of this are environmental awareness campaigns with anti-littering posters or commercials. A Swiss report by Hansmann & Steimer (2015), measures the effect of anti-littering posters compared to face-to-face communication using waste coach-like anti-littering ambassadors. The report concludes that *“witty and creative posters focusing on benefits for the environment are more effective and better accepted than authoritarian, commanding ones”* (Hansmann & Steimer, 2015), but also stated that additional field experiments are needed to objectively measure the effect of these posters. The research also claims that *“face-to-face conversations with persons from target groups represents a promising way to counteract littering”* (Hansmann & Steimer, 2015). The research proves that face-to-face conversations are a good way to reach people regarding environmental issues. This is why also Dutch municipalities chose this strategy, in Amersfoort, for example, a waste coach was employed and could be very helpful within the city to guide people through the pilot of reversed waste collection (Zwaan, 2016).

In presenting their results, the municipality of Amersfoort mainly focuses on increasing the acceptance of the policy beforehand and involving people using face-to-face contact, while the Swiss research used face-to-face contact to change existing behavior of polluters. Both reports have positive attitudes towards the waste coach, but have not evaluated this policy in a scientific manner, nor have they looked at the variety of ways that the waste coach can contribute to the adjustment of residents to policy adjustments. This research aims to conduct this evaluation in a scientific manner, to find out in what ways a waste coach may affect the use of a new waste collection system.

Within the range of different strategies that have been researched on how to make citizens perform environmentally-friendly behavior and engaging them in waste separation, the waste coach approach hasn't found its place yet. This research aims to determine the position of the waste coach and will therefore join the debate about waste management strategies, with the new hypothesis of human panopticism.

2. Theoretical framework

The following chapters will elaborate on the theoretical base of this research. It will explain the background of the theories that are used and discuss the use of these theories for this research. The first part of this chapter will expand on the panopticon, a theoretical concept introduced by Jeremy Bentham and further developed by multiple scholars. This part will lead to the introduction of human panopticism, as a means of control. The panopticon was chosen to form the theoretical base for this research and creates a unique way of viewing waste behavior. In research on waste reduction strategies, approaches that directly reward or punish the citizen, using convenience or financial stimuli are most used. Social approaches are just now becoming popular in waste behavior research, the waste coach approach being one of them. The upcoming social approach is celebrated by social scientists, but lacks conviction, and is therefore not often used in policy. By applying the structuralist theory of the panopticon to waste behavior, a rational viewpoint is created that may appeal to policy makers, and will make a convincing case for the waste coach.

2.1 The Panopticon

After an idea of his little brother, Jeremy Bentham introduced the Panopticon in his design for a prison building. He envisioned it as a circular building, in which the cells of the prisoners are arranged around the outer wall. In the middle of the building, a tower is located where the guard can stand. The guard can see and communicate with all the prisoners at all time, while the prisoners cannot see the guard. The constant visibility of the prisoners by only one guard, combined with the feeling that all prisoners have of being constantly watched, made the architectural idea very renewing (UCL, sd) .

“Bentham expected that this 'new mode of obtaining power of mind over mind, in a quantity hitherto without example' would ensure that the prisoners would modify their behavior and work hard, in order to avoid chastisement and avoid punishment (UCL, sd)”

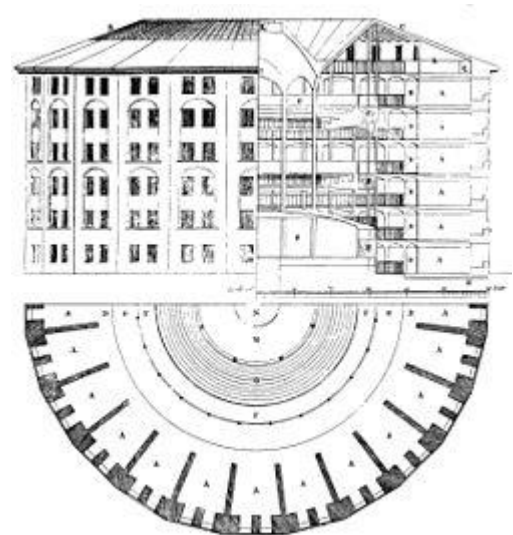


FIGURE 2: JEMERY BENTHAM'S PANOPTICON PENINTENTIARY, DRAWN BY WILLEY REVELEY, 1791

In the philosophical work of Michel Foucault, the concept of the Panopticon was further developed into a theoretical concept. Foucault described the major effect of the Panopticon as *“to induce in the inmate a state of conscious and permanent visibility that assures the automatic functioning of power”* (Foucault, 1977). The type of power that comes from a Panopticon is deindividualized, which means that the power is not based on a single person, but can be used by anyone who is controlling the “machine”. The power functions automatically, no matter who is exercising it, no matter the purpose of the power.

The panoptic institution where the effects of the Panopticon are most visible and local, is the prison as it was described by Bentham. The physical shape of the building determines the effect of the Panopticon. The prisoners are kept behind bars and have two windows, which also have bars. In the further development of the panopticism, Bentham discovered that the idea of the Panopticon could also be used in other institutions, that did not have a physical shape like the prison at all. According to Foucault, *“Bentham was surprised that panoptic institutions could be so light: there were no more bars, no more chains, no more heavy locks”* (Foucault, 1977). Therefore, we need to see panopticism not in the way it is achieved, but more as something that is felt. The ability of the Panopticon to make the subjects do what they do lies in the power that fear has.

The basic characteristics of a panopticon can be found in the literature by Foucault. There are always two sides, the controlling body and the controlled group, the subjects. The controlling body is able to see the controlled group at all times. The controlled group is aware of this ability and the presence of the controlling body. The controlled group is also aware that they might be confronted with their behavior at any time and what the consequences of disobedience will be. As a result, the controlled group behaves according to the rules. The reason that the controlled group obeys is because of fear for confrontation, exclusion, or other consequences. Foucault mentions that the *“surveillance is permanent in its effects, even if discontinuous in actions”* (1977), which means that the presence of a controlling body is not necessary all the time, because the effect will continue. This is due to a situation in which the subjects do not know when they might be seen or controlled. Furthermore, the panopticon as a machine will function independently of the person who operates it. The power relation is established and produces homogeneous effects of power.

2.2 Dobson and Fisher

From the moment the Panopticon made its debut in scientific debate, scientists have argued that the Panopticon should not be taken literally, *“but as a metaphor for surveillance of all types, with emphasis*

on power relationships” (Dobson and Fisher, 2007). In their work, Dobson and Fisher describe three variants of the Panopticon. The first, Panopticon I, is the Panopticon that Bentham designed, the variant that was discussed above and mostly referred to as the prison type. Panopticon II is imagined by George Orwell in his book “1984”. It is an electronic Panopticon, that enables governments to have total control over the actions of the citizens. George Orwell called it “*Big Brother*”, the all-seeing eye that keeps people in control. An example of this is closed-circuit television (CCTV), where the moves of a single person through public space can be imaged by different cameras throughout the city and therefore be followed non-stop. The third type of Panopticon is a type where control is not always intended, but can be used at any time. It is human tracking via various types of location-based services. Using radio waves, GPS, local internet networks etc., the location of individuals can be tracked. This can happen either willingly (and therefore knowingly) or unknowingly. The unknowing type, Dobson and Fisher refer to as geoslavery. *“In the modern case of Panopticon III, control may or may not be intended. Rare, however, is the “inspector” who can watch and know and yet resist the temptation to influence the subjects’ actions to one degree or another”* (Dobson & Fisher, 2007).

According to Dobson and Fisher, the Panopticons each have their own distinctive rationale, “first (Panopticon I) the utopian perfection of society; second (Panopticon II), enforcement of absolute tyranny; today (Panopticon III), safety and security. Functionally, however, their root function is the same-total surveillance-and they are indeed three successive generations of Panopticons” (Dobson and Fisher, 2007). These alternatives of the Panopticon are thus categorized by the ultimate goal that was pursued with the use of the Panopticon. The types are also strain from different time periods.

2.3 Panopticism and post-panopticism

In this sub-chapter, a new way of categorizing the Panopticon is introduced. Whilst Dobson and Fisher categorized the Panopticons by time period and the associated rationale or the goal, this research would benefit more from a categorization by means to achieve that goal. Therefore, and also to prevent confusion, in this grouping, instead of speaking of different types of the Panopticon, we will use the term Panopticism. Three types of Panopticism will be distinguished, which are physical, digital, and human panopticism.

Roy Boyne (2000) advocated for post-panopticism and therefore fully abandoning the concept of the Panopticon. The most important reason for this is the growing importance of seduction in our society. The use of seduction to make citizens obey, has become increasingly important, to the point where the confidence in surveillance is becoming less, and seduction has become the main means to

control the behavior of people (Boyne, 2000). Other reasons to abandon the Panopticon are the supplementation of the Panopticon by the Synopticon, which means that, instead of the many being watched by the few, the few are being watched by the many. Also *“redundancy of the Panoptical impulse brought about by the evident durability of the self-surveillance functions which partly constitute the normal, socialized, ‘Western’ subject, [and] reduction in the number of occasions of any conceivable need for Panoptical surveillance on account of simulation, prediction, and action before the fact”* (Boyne, 2000) are mentioned. The fifth and final reason to abandon the concept of the Panopticon, is the failure of the Panopticon to produce reliably docile subjects (Boyne, 2000). The production of reliably docile subjects is a goal that can never be achieved. It is a goal that is aimed for in Panopticon I, but policy makers that want to keep control over an entire society, are nowadays realistic enough to keep in mind that not 100% of the citizens will obey.

In this research, the notion of the panopticon is not denied, but complemented. While the first panopticon was an effect that occurred in an institution, this research assumes that all types of modern day panopticism occur throughout society. This is what Deleuze (1992) and Foucault (1977) call the societies of control. According to Deleuze, these *“are in the process of replacing the disciplinary societies”*, in which discipline and control was mainly applied in institutions like the school, the hospital, the workplace, and the prison. The effect of panopticism in societies of control is not time-bound, nor place-bound. It is a continuous effect and is mainly used by governments, but also works through social control by peers. The main difference between the societies of control and the discipline society for this new introduction to panopticism is the use of fear. In the institutions that occur in the discipline society, the use of fear is a prominent means to achieve the goal of control and obedience. In the control society, active punishment and therefore fear is less prominent because the controlling side has other means to achieve their goal, such as normalization and social control.

2.4 Digital, Physical and Human Panopticism

Panoptic institutions in Bentham's time were institutions where the physical shape of the building led to the panoptical effect. The physical build-up of public spaces, but also of institutions like the prison can lead to control and surveillance. Another example of this is the playground, where children can be watched by their parents from all around. A playground will never be situated in a dark, narrow, or closed environment. Physical panopticism can also be seen in offices with a lot of glass, or in supermarkets with below eye-level shelves, so that the owner can keep a good oversight. In this research, this type of panopticism will be referred to as *physical panopticism*, because it is achieved by

manipulating the physical surroundings of the subjects. In the case of Druten, physical panopticism can also be visible. It is unintendedly used when planning the locations of the underground containers. It is made sure that these are in open spaces, which leads to more social control.

Shoshana Zuboff, in her book "In the age of the smart machine: The future of work and ethic" (Zuboff, 1988), speaks about, what she calls the information Panopticon. A type of Panopticon that does not require the mutual presence of the of the object of observation and the observer. Zuboff describes that *"the counterpart of the central tower is a video screen. The web of windows is replaced by procedures for data entry, such as microprocessors, built into operating equipment, of the control interfaces that record inputs"*. In this type of Panopticon, the means are not physical anymore, they become digital. The goal, however, is still to watch and to be watched, to control and to be controlled, and to enhance the power of the few by constantly invigilating the many. This type of panopticism will be referred to as *digital panopticism*. It uses the same means as in the above-mentioned Panopticon II and III, namely the use of camera's, GPS-tracking systems, textualization of human activity etc. In Druten, physical panopticism becomes visible in the shape of a chipped-card that is used by the residents to pay for using the underground container. Their behavior regarding residual waste is hereby tracked. At this stage of the research, it is unknown if the residents are aware of this.

Shoshana Zuboff (1988), also saw flaws in the functioning of her information Panopticon. The information Panopticon that she describes is a system where the tasks of a worker in a business are established in a system. The workers should complete the tasks and the computer will automatically keep track of this. The pitfall of this system is that the high achievers will do less work than usual, and the low achievers will do more than usual. When checking the workers' performance in the computer system, the situation looked orderly. Below the surface, however, a "passive resistance" approach by the workers became visible. Workers ignored work requests and blamed the computer for not registering the task, they claimed that they worked on a task and weren't able to fix it or finish it, while they might have been just sleeping or reading a book (Zuboff, 1988. p.352).

Resulting from this behavior, the system indicated that all tasks are carried out within the specified time, while the workers only try to satisfy the system, and not work their hardest. The reality may be that the work tasks are not executed (correctly), that some workers could do much more, or that the work floor ethics were low because workers were not able to ask for help, feedback or to give feedback on the system itself.

2.4.1 Human panopticism

This research argues that panopticism could be used without the means, mentioned in literature, by which the panoptic effect is normally achieved, and therefore also advocates post-panopticism. This is not in a way that rejects the effectivity of the above-mentioned two types of panopticism, because their effect is still true, but because the effect of both physical and digital panopticism is achieved through indirect means. This research argues that the effect of the panopticon can also work without these means, thus directly through the presence of the human. This direct form of panopticism is called human panopticism.

The idea of human panopticism is derived from practical situations in which a panoptic-like situation occurs, without the physical or digital means that normally provide a panopticon. These practical situations all conform to a few of the requirements for panopticism that were mentioned above. For human panopticism, there may be a face to face confrontation when a person does not obey to the rules. This brings along shame. According to (Gilbert, 2003), *“the fear of shame and ridicule can be so strong that people will risk serious physical injury or even death to avoid it”*. This means that people will avoid the confrontation that may bring them shame, at high cost, which makes them prefer obeying the rules to disobeying with a chance of confrontation.

The idea behind human panopticism is not new. Despite the ongoing trend of automation and the growing confidence in technology, people have known for a long time that in some situations, the human element is indispensable. Beside the waste coach, there are other examples of human panopticism in practice. The most common one is the police officer, who roams the streets and makes you check twice if you are actually wearing your seatbelt and driving the speed limit.

Parking coaches are another example, these are used to make sure students put their bikes in the bike rack (Elbersen, 2015). This parking coach wears a jacket that says, “parking coach”. They walk around bike racks that tend to get overfull and encourage people to park somewhere else. The mere presence of this parking coach, together with the fear of shame, makes the students avoid confrontation and put their bikes in a correct spot. Also, clean neighborhood coaches have been employed in the past for preventing dog-poo in the streets and encouraging dog owners to pick up after their dog (Gemeente Veenendaal, 2016). Again, the mere presence of this coach would be enough to keep the dog owners from leaving their dog’s poo in public spaces.

In this research, the role of the human element that intervenes between the government and the citizens and has face-to-face contact with them will be put in the light of panopticism by determining

the elements that are essential to panopticism and comparing these to the role of a waste coach. The notion of human panopticism can therefore be the hypothesis of this research. The waste coach will function as the controlling body, and the inhabitants of Druten, the users of the new waste collecting system, will be the controlled group.

3. Method

For this research, it was necessary to find out more about the thoughts and motives of the citizen. The citizen is thus the research object. As a waste coach, it is obvious that you gradually find out more about why citizens choose to separate their waste and why they have a certain attitude towards dumping, but the art of capturing this data and finding citizens that would express themselves regarding this subject, was challenging. In this study, it was interesting to discover what are the motives for separating waste, regardless of the use of a waste coach, and what circumstances matter in this regard.

As a researcher, one would like to capture this data in a scientifically correct and structured manner. However, the target audience, which were citizens who did not obey the rules, was challenging to come into contact with. It was a group that did not get in touch with the waste coach often and was difficult to identify. It was not only a matter of finding someone who does not comply with the rules, but also someone aware of it, someone aware of why they do so, someone willing to explain this to a researcher and not give socially desirable answers. Data about this group is therefore not everywhere available, nor easy to retrieve.

Several researchers have faced the challenge of small, unreachable research subjects or research subjects who do not easily release information and can confirm that this is a difficult issue. Despite this challenge, the possibility to perform a good research is still present. When the right techniques are used in the interviews, there is no high number of respondents necessary. As Weiss (1995) noted: *"In attempting to learn about a group difficult to penetrate [...], it can be a breakthrough to find any member of the group, any member at all, willing to serve as an informant and respondent. Sometimes the kind of people we want are unusual in a population and, in addition, not listed anywhere."*

Weiss shows that a difficult target group is a problem that can be overcome by sufficient social skills and good preparation. In this study, several methods were investigated, which led to an approach that could lead to a full conclusion.

3.2 Research Strategy

From October 2017 until March 2017, the waste coach was working in Druten and Beuningen. The waste coach was in contact with the citizens and guided them through the transition towards reversed waste collection. During this period, the waste coach spoke to a lot of citizens, the waste coach helped citizens, gave them extra information, and even discussed the policy with them. This position was favorable for the researcher, because during this period, the researcher had the opportunity to “go native” and use the role as a waste coach to gain the citizens’ trust and get to know their motives and their waste routine.

Ethnographic research approaches turned out to fit this investigation in the everyday waste-routine of the citizens and formed the base of this method. Ethnographic research is not as much a method, as it is an approach. According to Goldbart and Hustler (2005), ethnography is interpreted differently by different scholars, and for some is viewed as a method, while for others is viewed as a school of thought. For this research, there has not been made use of a yet existing method, but this research did broadly hold on to the viewpoint of ethnographic research. Golbert and Hustler state that *“it is in the detailed descriptions and analyses of what people say and do [...] that ethnographers have reveled”*. Which points out that ethnography may be more an issue of reporting than an issue of methodology.

During the development of this research methodology, multiple methods within the ethnographic school of thought were considered. Action research as an approach was considered and was a good method to reach the goal of the research. Action research is a form of research that can bring theory and practice together, it is a participatory research that has two main goals. The first goal is for the researcher to merge with the community and jointly work towards solutions or improvements. The second goal is to generate knowledge and to contribute to scientific theories (Whyte, Greenwood, & Lazes, 1991). This research method would have been perfect for the case, if the researcher as the waste coach would have had more freedom to decide their own path. However, one of the tasks of the waste coach was to present reversed waste collection to the public as a solution, and to make the people comply with this policy. Because action research did not follow the same path as the waste coach did, the method was not adopted in this research.

Participant observation was also a considered method. Participant observation is a method where the researcher makes observations in the field and collects data in this way. This is done while participating in everyday activities (Saunders, Lewis, Thornhill, Booij, & Verckens, 2011). *“For some*

researchers, it can only be 'proper' ethnography if the researcher is just a participant observer in the everyday lives of whichever society or group s/he is studying" (Goldbart & Hustler, 2005). In a sense, the method that was used within this research was participant observation. The researcher took on the shape of the waste coach and interacted with citizens, companies and civil servants, and therefore completely dove into the waste coach' existence. On the other hand, the waste coach was not a participant observer that could mingle with the research subjects, which were the citizens. This meant that the waste coach could obtain a lot of information from the research subjects, but this information could not be retrieved on the assumption that the researcher was equal to the citizen. Citizens would give different answers to a waste coach than they might give to a peer. This was one of the main obstacles for the data collection.

3.3 Data collection

During the entire period that the waste coach was active in the municipalities, data was collected. After the process of desk research and observations, a questionnaire was prepared, based on the literature on a famous policy compliance framework called "de Tafel van Elf". The survey was tested, but as expected, the quantitative approach was insufficient to collect the data that was needed to answer the main question. This was due to multiple problems, most importantly the issue that compliance could not be measured because the risk of socially desirable answers was too large, even though the questionnaire was anonymous. The questions about control and surveillance were also often misinterpreted or criticized by the respondents. And it was concluded that these subjects should be approached subtler, and would probably function on a more subconscious level. All these issues would make the data very biased and invalid, and made it clear that a quantitative approach would not generate the information that is needed to find an in-depth answer to the main question. For this research, the survey as a method together with the quantitative path in its entirety has therefore been abandoned and the decision has been made to use qualitative methods.

The goal of this research was to make a statement about how human panopticism functions within the context of a waste coach. To make valid statements about this, the underlying factors that drive this panopticism must be discovered. The best way to find these is not through a survey, but to engage in conversation with the respondents, and to ask specific questions. To be able to discover more deeply what the effect of the waste coach was in and around the municipalities, multiple interview guides were developed (these can be found in Appendix C). As mentioned before, the target group for this research was difficult to find and break into. There was no database or known group of people that

did not obey the waste rules, and catching them 'red-handed' was not an option, because the violations would mostly take place at night and on different locations. That is why this research made the decision to conduct street interviews. When a citizen was approached, subtlety and social skills were required in the conversation to gain information about the citizens viewpoint on minor violations and on the waste coach.

During all different data collection methods, the issue of socially desirable answers was present. This problem caused the answers given by citizens to be less reliable, but brought along a very important message. Socially desirable answers, the emotions that respondents showed when asked a question and the message they sent "between the lines" were the important thing in this fieldwork. These attitudes and adjusted answers are exactly what this research needed. To look further than the answer that the respondents give, and to look beyond the words they speak, and even further than the respondent knows themselves. To interpret and analyze these answers, whatever way they were gained, is therefore the most important approach within this research.

3.3.1 Data sources

The data for this research comes from many different types of sources, and the finding of respondents and other sources for the data collection can be described as convenience sampling. The data comes from observations, interviews and later also from analyzing documents and social media activity. At the beginning of this research, the observations did not always correspond with the conversations that the researcher had as a waste coach with the citizens. In other words, the citizens do not always speak the truth about their actions. It soon became clear that casual conversations with citizens would not yield valid data.

An interview with a special investigations officer created more clarity in the motives of citizens. Roy Steins has been in the field for many years and was able to properly assess what the reasons for citizens were to comply to the policy or not. Roy Steins showed a very social side during the interview. Despite his profession, he was not in favor of direct punishment. He showed understanding for the disobedient citizens and explained that everyone has a story. An eye-opening interview, which was all the more confirming that there is more than what citizens directly show of themselves and that it is possible to see beyond this shell. This interview led to the realization that data is everywhere. In short conversations, in actions, on the Internet, in a glance and led to observations being better noted. A series of semi-structured street interviews were also planned as a result of this interview. In these interviews, contrary to all other interviews, the investigator was not dressed as a waste coach but also as a citizen.

The street interviews were conducted at the end of the data collection period and could therefore make use of the information already obtained about citizens and their actions, which made it possible for the researcher to see beyond the words of the citizen and to ensure that the citizens would feel freer to speak. The reactions of citizens on certain public actions that the waste coach engaged in, also appeared to be useful data. Later it became apparent that even the data of casual street conversations, which were not valid, constitute an important piece of evidence for the case of human panopticism, because they showed -between the lines- the human motives as shame and desire for appreciation.

Besides the street interviews, other data sources are communication from Dar and the municipalities (website, letters), and the contact through social media between Dar and the municipalities and the citizens. This variety of data was used to discover different motives and perceptions of actors. Again, the citizens took a central place in this. There has been made use of manual coding, using stickers and markers. To support this research, an actor-analysis has been made, which elaborates on the motivations, perceptions, and instruments of different actors. The actor-analysis can be found in appendix A. The table below shows what the different sources are, what kind of resource it is and how these sources are analyzed.

SOURCE	TYPE	DATE OF CONDUCT	ANALYSIS
Roy Steins - BOA	Interview	March 2nd 2017	Memo's and written report
Citizen 1	House-to-house interview	January 14th 2017	Coding
Citizen 2	House-to-house interview	January 14th 2017	Coding
Citizen 3	Street interview	March 30th 2017	Analog coding
Citizen 4	Street interview	March 30th 2017	Analog coding
Citizen 5	Street interview	March 30th 2017	Analog coding
Citizen 6	Street interview	March 30th 2017	Analog coding
Citizen 7	Street interview	March 30th 2017	Analog coding
Citizen 8	Street interview	March 30th 2017	Analog coding
Citizen 9	Street interview	March 30th 2017	Analog coding
Dar.nl	Website	No date	Analog coding

Dar NV and Gemeente Beuningen	Communication letter 1	May 2016	Analog coding
Dar NV and Gemeente Beuningen	Communication letter 2	June 16th 2016	Analog coding
Dar NV and Gemeente Beuningen	Communication letter 3	December 29th 2016	Analog coding
Dar NV	Afvalcoaches handboek	September 2016	Analog coding
Citizens from Druten and Beuningen	Logbooks	October 2016 – March 2017	Not coded
Citizens Online	Facebook	Multiple dates	Analog coding

3.4 Data analysis

The relatively long data collection period and the variety of ways in which the data was collected, lead to a pile of data that was hard to overlook. In all data, a few key subjects had to be determined in the analysis in order to understand the complete field. For every actor in the field of reversed waste collection in Druten and Beuningen, the perception of the other actors, the motivations, the interests and the instruments were distinguished. The memo's that were made while analyzing the interview with Roy Steins and the codes that were used for manual coding can be found in Appendix B.

From this analysis, it appeared that multiple actors were active, trying to get their own interests served first. Dar NV is the environmental service in the municipalities of Beuningen and Druten. Dar had been commissioned by various municipalities to perform all kinds of services in the field of waste collection and cleaning of public areas (Dar NV, 2017). As mentioned before, the central government of the Netherlands aims to reduce residual waste to 100kg per citizen per year, by the year 2020. This means 75% of all household waste should be separated by then (Rijksoverheid; VNG; NVRD, 2014). It is up to local governments to reach this goal within their municipality. In the municipalities of Druten and Beuningen, Dar proposed to start reversed waste collection to reach this goal. These ideas were further elaborated in 2015 and 2016 by a collaboration between the municipalities and Dar. In the summer of 2016, the idea of employing a waste coach was coined. The waste coach would fill in the gap between the policy and the citizens in terms of education and information and support Dar in multiple tasks. The municipalities and Dar have largely the same motivations and interests. They aim to reduce the waste and keep the citizens as happy as possible, because they are the ones that actually have to carry out the

policy. The behavior of the citizens will eventually make the municipality reach the goal or not. The citizens therefore also play the final, deciding role. The motivations, interests and instruments that determine the actions of the citizens in this field, are less straight-forward than those of Dar and the municipalities. They have been researched thoroughly, and their motivations and interests appeared to be very broad. The motivations and interests of the citizens will be discussed in the following chapters.

The fact that the data that was gathered in this research had so many different shapes and forms, made the analysis challenging. Due to the different file types, which include screenshots of Facebook posts, interviews, printed letters and more, the choice was made for analog coding in the case of some data. Analog coding was done using colored stickers and pen. The longer interviews were coded using Atlas ti.

4. Results and Analysis

4.1 Reading guide

This chapter makes a case for human panopticism. In the following four chapters, this case is built, and in the last chapter, the conclusion will follow. In order to fully understand the concept of human panopticism in this case, the previous chapters should be read as well. Each chapter consists of a part in which the results are elaborated, and ends with an analysis, in which a deeper meaning to the results is sought. The structure of this chapter is based on four aspects that were discovered during the fieldwork. These aspects make citizens comply or not comply to the new waste collection policy, depending on their personal situation. These aspects are financial aspects and convenience, environmental awareness, information and knowledge and status and self-image. These aspects came up during conversations with the citizens during the fieldwork, and are also frequently named in literature about waste behavior.

The waste coach, as the main character in this research, will only be addressed in the chapters on information and knowledge and on status and self-image. This is because these aspects are the only area's where the waste coach could have impact. The other chapters put this into perspective and show how the waste coach is positioned within the different directions policy makers can choose for their instruments.

4.2 Financial aspects and convenience

Since financial resources are at the root of all types of all kinds of resources, it is the most important kind of resource that is needed to maintain, change, or improve one's position in society. Therefore, citizens strive for it. As mentioned before, financial resources determine a big part of a citizen's position in society. It also determines your wealth and your happiness. It is therefore much strived for and desired. From the fieldwork, but also from literature, it appeared that financial reasons are one of the most common reasons to separate household waste. From fieldwork that Lentekracht did in December of 2016, it was noted that the most common reason to separate waste was *"because it is cheap"*. The better the citizen separates their household waste into different streams, the less waste ends up in the bin for residual waste, which they eventually have to pay for. Respondent 7 of the street interviews extends this viewpoint and states that: *"people want to get rid of their shit in the cheapest way possible"*.

Convenience refers to the effort that the citizen must put in to comply to the policy. Naturally, a citizen would want to put in the lowest amount of effort, and therefore save time and energy. In the field of reversed waste collection in Beuningen and Druten, the citizens should bring the bag to the container.

When citizens separate their waste better, they have less residual waste, and therefore do not have to bring their bag to the container that often. Which is convenient for them, because it costs less effort. This is an encouragement for the citizen to put more effort in waste separation.

During the fieldwork citizens, directly and indirectly showed that convenience plays an important role in waste behavior. In the street interviews, it became clear that different groups of citizens have very little comprehension for each other's behavior. This means that different citizens have different perceptions of what they think is high effort and low effort. Most people detest the sight of dumping next to containers, but respondent 6 stated that they don't see any harm and it is only logical that there is dumping on the location. *"Big glass bottles are left next to the container because they do not fit in, they will take them away anyway"* is the way he puts it. This perspective is the total opposite of respondent 3, 4 and 5, who state that it is *"laziness and indolence"*, *"the mentality of certain people"* and that *"they choose the easy way out"*.

In literature, but also in policy in general. The financial trigger often occurs as an instrument for carrot-and-stick approaches. In the Netherlands and Belgium, an increasing number of municipalities use polluter-pays principles in their waste policy (De Jaeger, 2010). Economic incentives for waste separation are also the most common factor that is named in waste separation research, and turned out to be the most successful policy instrument to influence waste behavior, (Sidique, Joshi, & Lupi, 2010) proved that that variable pricing of waste disposal significantly increases the rate of recycling by up to one third, which makes it the most important factor in waste separation. Convenience appears to be an important factor as well in research about recycling and waste separation in general. In research about all different factors that influence recycling. Convenience is always named as an important factor. See also Bernstad (2014), in which convenience was largely increased for the citizens, by installing equipment for source segregation, which led to vastly increased separation rates in the research area.

The desire for financial resources and convenience can be used both as a reward and as a punishment. This giving and taking of resources from citizens is commonly referred to as the carrot and stick approach. The carrot stands for positive reward or treat and is therefore used to lure people into showing certain behavior. The stick stands for punishment and is mostly used to scare people into doing the right thing, by explaining the consequences if they choose to do something else.

Also within the case of this research, the carrot and stick approach was used. Financial triggers are used to get people to separate their waste and to reduce dumping. When researching the field in which reversed waste management was implemented in Druten and Beuningen, and examining this

mode of implementation, it became very clear that the policy makers designed the policy to mainly have stick features. For example, a financial trigger was used. Every time the residual waste container was opened, citizens had to pay. When the citizens used the container very often, they were punished with a large bill at the end of the year. The municipality also maintained the policy with a stick approach. An example of this is the special investigations officer, who would be able to hand out fines for dumping and littering. Policy makers also focused on convenience of the citizen, by emptying most of the containers at their home. This is a treat that is not even connected to a certain type of behavior, but is given to the citizens regardless of their behavior.

Using this economic incentive works for most citizens. However, households that have very little to spend, sometimes do not want to spend extra money on waste disposal, and therefore look for alternatives, like waste dumping, ignoring separation rules or misuse of public trash cans. This was noticed during the activity of hanging the hangers on the containers, which was explained in Appendix A. Very wealthy households, on the other hand, may not need to save money and therefore do not need to put in the extra effort of separation. The economic incentive therefore does not play a role for them.

4.3 Sustainability

The environment is the main reason the European Union advocates to separate household waste. Due to agreements on global level, the implementation trickles down to our households. But no matter how urgent this global problem is, it is not always felt that way within the households. As mentioned before, the price tag and the convenience are most acknowledged when talking to citizens. However, an argument that was mentioned a lot when debating about waste separation was that everything would be thrown back on one pile afterwards. This concern makes clear that, even though waste separation saves money for the citizens, the citizen is also interested in what happens after the waste collection, and would be disturbed if all the separated waste would be thrown back on one pile. With this, it must be pointed out that this argument may also be used as an excuse to renounce waste separation, and point out the evil in governmental decisions.

Many studies have shown that environmental concern is positively correlated with sustainable behavior (Hines, Hungerford, and Tomera, 1986). But Rousta, Bolton, & Dahlen (2017) stated that environmental values of citizens do not have a direct influence on waste behavior and claims that ability and opportunity are also required. These will function as a bridge towards practicing the environmental incentives.

The sustainability of a waste collection system can drive the citizen to separate their waste better. If they hear that good things are being done with their disposed waste, they are more motivated to separate it. While citizens can have direct influence on the sustainability of the waste collection system, by separating and not dumping, influencing the sustainability is a lot more complex for the municipalities. The waste collection system is more complicated than most citizens think and cannot be influenced as easily on a local level, when designing a single policy. Besides, the municipalities and Dar will only strive for less residual waste and cost-effective waste management strategies, and are not as environmentally ambitious as the EU is.

In the case of Beuningen and Druten, the sustainability of the waste collection system did not change at all, meaning there were no projects on new forms of recycling, or reducing waste in general. However, in practice, the waste collection in Druten and Beuningen did become a lot more sustainable. Citizens started to produce less residual waste because of other reasons (financial, convenience, awareness), which made the result of the waste collection much more environmentally friendly, because a larger portion of the total waste became recyclable. These quick results impressed citizens, which made them want to get on board with waste separation.

The section above only discusses actual sustainability, yet the sustainability that people experience is not always in line with that. The perceived sustainability is what actually drives people. So, when citizens are convinced that all the garbage will be thrown onto one pile afterwards, their environmental incentive to separate will be totally lost. The same situation occurs when citizens grow up with the idea that anything may be thrown on the ground, because it will be picked up by a street cleaner anyway. The perceived sustainability of a waste collection system can, contrary to the actual sustainability, be influenced by policy makers. This can be done through education, and will be discussed in chapter 4.4.

4.4 Information and knowledge

A new waste collection system requires some flexibility and adaptability from the citizens. For some citizens, the rules are self-explanatory and if they need more information, they will find it online. Other citizens have experienced more difficulties with the new waste collection policy. Especially with elderly people, it seemed a hard task to get them to separate their household waste and use the container. Also, people without computers and disabled people needed extra information. People who don't have any enough information, will not be able to comply to this new policy, so they need to be informed. But what is even more important, the more information people have, the better they will get at waste separation

and the easier it will get for them. Besides the elderly and disabled people, there is also a group of citizens that is misinformed. Those citizens have received wrong information or have heard gossip and believe the things they hear from friends and neighbors. Horror stories about the new policy are very popular before the introduction of a new waste collection system, but need to be suppressed in order to make the policy successful. Information and knowledge about the waste separation system was often described in literature as a requirement for good recycling behavior. Rousta, Bolton, & Dahlen (2017) describe it as a necessary 'ability' that citizens need in order to perform good waste behavior.

Information and knowledge cannot be given that easily to citizens, and is not cherished and searched for in the same way that financial resources are, therefore information and knowledge work best the other way around. It is something that should be given to the citizens, aiming for the result of more knowledge about waste separation, waste prevention, and prevention of littering and environmental awareness. Bluntly said, the previous statements tell us that people want information, but only to use it to perform the policy as efficient as possible, which means having the lowest costs and highest convenience, while maintaining a good status, feeling good about themselves and contributing to a better environment. Citizens use information about waste collection rules and policy only to obtain other things. In contrast to financial resources, the citizens having information and knowledge is beneficial for both Dar and the municipalities, as well as the citizens themselves, which eliminates a conflict of interest. Using financial triggers, the citizens that do well are rewarded with a low bill at the end of the year. Dar and the municipalities want people to separate their household waste, but eventually also make money when people use the underground containers a lot. With information provision, this is not the case.

The instrument to distribute knowledge, information and environmental awareness is evident. Education. Knowledge does not come by itself and people will take their own truth if they are not educated. This is also very relevant in waste policy transformations. Usually, citizens are resistant to change and can only think of the negative sides of a new policy. Their stories take their own paths and may become the truth for many citizens. An example of this is the idea that all the waste that is collected, will be thrown on one pile after collection. Various forms of education may help solve these issues, and even spread environmental awareness. In the case of Druten and Beuningen, there were information gatherings, brochures, websites, but the waste coach appeared to be the perfect instrument to perform some of the other, more personal educational tasks within the field. For example, the waste coach has had conversations with a large number of citizens every workday. This way, a large group was

reached and was put in the position to ask questions about the policy. The waste coach also performed more focused educational tasks, such as identifying a general lack of knowledge about the new system among a certain group of elderly people and tackling this problem. Also, children from a scouts group in Ewijk received personal education from the waste coach.

4.5 Status and self-image

Being a good citizen brings along a certain status, or image that people want to require. Waste separation is something that could contribute to being a good citizen. Even though it has not been mentioned explicitly in one of the interviews or conversations, implicitly, people mention status all the time, they want to separate themselves from the *other*, the group that would dump their garbage. In the at-home interviews in Druten, the researcher was wearing the yellow jacket and noticed that people were eager to impress them, make sure the researcher knew they did nothing wrong. Something that can be seen from the following conversation.

“I cannot even understand it, that someone would throw a bag of garbage in the ditch for only 75ct. I can’t wrap my brain around it. When our children were young and they had a candy wrapper, they had to take it home and throw it in the bin. They were not allowed to throw it on the street. When other kids came to play here we would tell them to do the same and they would look at us as if we had gone mad.”

The need to tell this, without the researcher asking anything about this, tells us that the respondent thought the waste coach needed to know this. Emphasizing this in our conversation indicates that good citizenship is important to them, but it is also important that other people know about their good citizenship. In their paper on waste management policies in Swedish households, Andersson and Stage note that *“policy instruments can affect the individual’s self-image of being a responsible person”* (Andersson & Stage, 2017), which will potentially strengthen *“an individual’s self-perception as a responsible person when s/he recycles waste – thus increasing the likelihood of recycling”* (Andersson & Stage, 2017).

Status refers to the networks and relationships that a citizen has and how they are perceived in their surroundings. In any field, it is important for citizens to have both social connections and institutionalized network. This status and self-image is cherished, because it gives a good feeling to the citizens. Status can also help in achieving other things, like using your network in a more effective way. Self-image and status can be achieved through self-worth, but is mainly determined by the perception of

you by other citizens. Within the field of reversed waste collection, status and self-image is linked with the self-confidence that is gained from your waste behavior, the statements of other people on your waste behavior, and the expected perception of other people on your waste behavior. This statement will be elaborated below.

People take pride in good waste separation. Citizens enjoyed talking about their waste separation and get enthusiastic about it. If they are complimented on their waste behavior, they rejoice. When the waste coach told people that they did a good job, they were excited and wanted to tell even more about it. If people are being held accountable for their waste behavior, it bothers them. They will make up excuses or completely deny. If they get the chance, they will redo it or change it. The effect of another persons' judgement goes even further than that, as was discussed in the theoretical framework. If people think they are judged by others, they adjust their behavior accordingly.

Just as the previously discussed aspects, the need for status and a good self-image can also be used to influence behavior. The form of social control in this field is very effective in controlling the behavior of citizens. That is why the decision has been made to place the containers in public space, on very visible sites. People will find themselves watched and will therefore be less likely to dump their garbage next to a container. This difference in attitude can be attributed to human panopticism. In human panopticism, a panoptic-like situation takes place that is caused by human interaction or the presence of a human. Within the case of this research, the waste coach was the instrument to achieve human panopticism. The waste coach was used to get in touch with citizens about their waste behavior. In this conversation, they were not only educated, but also influenced by the compliments and remarks that they received from the waste coach. Also, when the waste coach was not interacting with the citizens, the mere presence of the waste coach on site, was enough for some citizens to behave differently than they would if the waste coach was not there. This is the main example of the effect of human panopticism that appears within this research. The next subchapter will further elaborate on human panopticism within this field, and human panopticism as a concept which is ignored within research in general.

4.6 Conclusion

Within contemporary research on household solid waste behavior, most of the discussion on policy implementation and waste separation strategies remains within using carrot and stick approaches, combines with information provision. This is odd, because in even the most significant behavioral theories, the social field is just as important as other factors. In the theory of planned behavior,

developed by Ajzen and Fishbein in 1967, the significance of the subjective norm was determined and was accepted in a wide range of policy fields as a factor that determines behavior. The subjective norm refers to the perceived social pressure to perform a certain behavior (Ajzen, 1991). This confirms that citizens feel the urge to blend in with the norm and perform a certain type of behavior that is socially acceptable. When considering waste behavior, the subjective norm is clear, people disapprove of waste dumping and bad waste separation.

The difference between household solid waste policy and other policy fields, is that waste separation can be a very private case. It happens behind closed doors, even behind closed bins. If someone decides not to obey to waste separation rules, there is nobody there to see it. No colleagues, no friends, no peers. This is exactly why the waste coach was such a revolutionary concept. It opened the doors for conversations about thought on waste behavior, it made room for personal reflection among the citizens. The waste coach worked as a human panopticon.

The human panopticon that was created by the waste coach is different from any other type of panopticon that has been discussed in literature before, because it does not function through a medium, like digital and physical panopticism do. Human panopticism functions directly from one human to another human or a group of other human. In the case of Beuningen and Druten, the waste coach created a human panopticon that had the same effects of other panopticon, but was performed through direct contact between the citizen and the waste coach. The citizens are aware that they may be confronted with their waste behavior, because that is the job of a waste coach. This mere realization was enough to influence them in their behavior. The sudden awareness of, and reflection on their own behavior by citizens, combined with a worry of being confronted with it, is the core of human panopticism.

The strength of human panopticism therefore does not lie in a predetermined power relation, but in the power that it has to let people think about their own habits and decisions. While engaging in conversation with the waste coach, people opened up about their viewpoints on waste, their uncertainty considering some of the waste rules, and also their own waste behavior. In these conversations, the waste coach was an empathic partner in the conversation, but also remained positioned on the side of the municipalities and Dar. This made it possible for the citizens to test their own behavior to the subjective norm that was symbolized by the waste coach. The citizen could then reflect on their own behavior and draw their own conclusions from the conversation.

The waste coach only manifested itself in two people at maximum, but the effect of these waste coaches spread among the citizens. Ever since waste separation became a hot topic again, the norm among citizens changed, they became more environmentally aware, and were engaged with the waste rules. People also started to pay more attention to the waste dumping sites. The waste coaches were definitely a catalyst in this trend. An example of this spreading social control was the event where the waste coaches hung hangers on the plastic container. This event led to people not only wanting to know if they did it well, but also peeking at their neighbors to see how they did. The citizens started to control themselves and each other, leading to a human panopticon in which the people were both the controlling body and the controlled group, leaving the waste coach as nothing more than the inventor of the panopticon. This effect continues in the minds of the citizen, because the subjective norm has changed. The effect will gradually weaken, but lasts longer than the presence of the waste coach.

A very visible, but also temporary effect of the waste coach was the effect of direct mutual presence of the waste coach and citizens on container locations. A mini-panopticon was created on garbage drop-off sites when the waste coach was present. From the results of this research could be concluded that the presence of the waste coach affects citizens. Not only do they suddenly become aware of their own decisions and habits, they also experience the fear of being directly confronted with their behavior. This is a very strong effect, and also the reason why the waste coach has never experienced any dumping on garbage drop-off sites when they were present. The drawback of this strong effect, is that this panoptic situation is time and space-bound.

On top of the panoptic effect of human panopticism, the human effect is what completes the success of the waste coach. When comparing all types of panopticism, humans will always play a role. But the way human interaction is shaped differs greatly. The strength of human panopticism lies in the power of social interaction. In the field of Beuningen and Druten, the waste coach did not only function as a panopticon, but could also educate the citizens about the new waste policy, function as a sounding board and, together with the citizen, reflect on the policy. The waste coach was not something to be afraid of, but rather an information point, or quick access to an insider at Dar, who could explain and justify the new policy. This position of the waste coach within the field, led to a creation of goodwill among the citizens, make them even more willing to satisfy the waste coach.

5. Conclusion

In the previous chapters, the results of this research were stated and analyzed. In this chapter, the conclusions of this research will be explained and a few recommendations will be given, regarding future policy making and future research. This research aimed to answer the main question on how the the presence of a waste coach could stimulate the correct use of a reversed waste collection system by citizens of Druten and Beuningen. In the beginning of this research, a theoretical hypothesis was posed, which was tested and evaluated using practical research. The hypothesis claimed that human panopticism was the way in which the waste coach, (sub)consciously functioned. This chapter will shortly discuss the results and then use the provided analysis to come a theoretical conclusion about this human panopticism.

In the field of reversed waste collection, multiple actors play different roles. Their acts are determined by their motivations, perception, interests, and the instruments that they have access to. Using these factors to categorize the actors, three major groups of actors could be formed. These are the citizens of Druten and Beuningen, The waste coach and Dar and the two municipalities. This complex field consisted of two parties that have interests that are completely opposite of each other, i.e. Dar and the two municipalities versus the citizens. The waste coach, as a third party, is left in the middle, forming a bridge between the two. This position of the waste coach had advantages and disadvantages. It was good position to get insight on the viewpoints of the citizens, and communicate these to Dar and vice versa. Due to the complexity of the new waste management system in the two municipalities, this bridge between the citizens and the policy makers was beneficial for both parties.

The waste coach used multiple instruments to stimulate the correct use, which can be categorized into two types. Educational and panoptical. The waste coaches could educate citizens through personal conversations, information gatherings and through (social) media. The waste coach did also stimulate the correct use through merely being present. The new waste collection policy, combined with the presence of the waste coach enhanced the environmental awareness of the two municipalities, and the presence of the waste coach on site made people extra aware of their behavior.

From the fieldwork, which consisted of observations and different types of interviews, it appeared that there were different aspects that made citizens comply, or not comply, to the new waste collection policy. These are financial aspects, convenience, environmental awareness, information and knowledge and status and a positive self-image. Citizens directly and indirectly brought these up

themselves, but the conditions were also frequently named in research on waste management strategies. Policy makers can respond to these aspects in an effective way and use these motivations to enforce the desired waste behavior.

There are five aspects that drive people to separate their household waste. The extent to which these aspects influence citizens, differs per person and per situation. To four out of the five aspects, policy makers can respond to make the citizens perform the right behavior. Sustainability of the policy is something that national policy makers can improve. However, there are more factors included and it is not something that a municipality can decide in their own policy. Besides, improving the sustainability of the waste collection system cannot be considered a citizen-focused approach and is something that should be done nevertheless. Therefore, sustainability is not included in the concluding model. The remaining four aspects are all very suited to be used in waste management strategies. However, these aspects all need a different approach. Shown in figure 16, is the way in which the four aspects can be used, and how policy makers should respond to them.

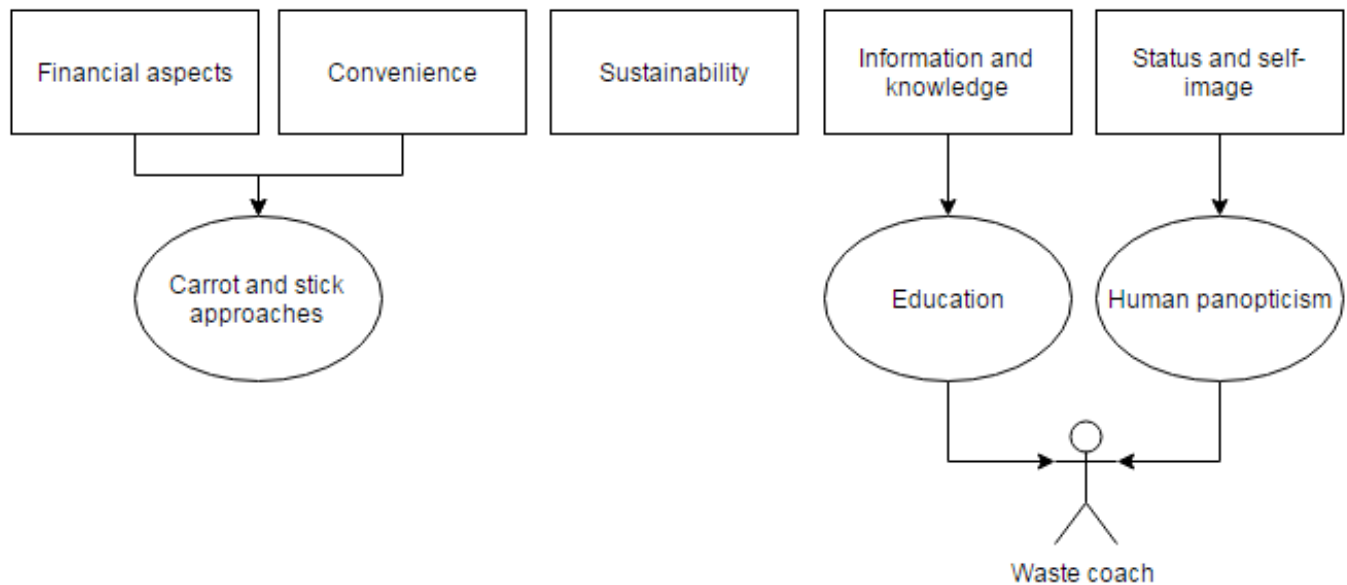


FIGURE 3: FIVE ASPECTS AND THEIR APPROACHES

Financial motivation is very present with citizens and is therefore often used to make the citizen comply to the policy. In different types of policy fields, fines are used to scare the citizen and financial

benefits are used to help the citizens make the right decision. This is also frequently used in the field of waste management. The pay-per-bag principle makes people produce less residual waste. Besides this, there has also been made use of the need for convenience. The effort it takes to dispose of a bag is increased by the distance the citizens have to walk to the underground container. This also makes the citizen produce much less residual waste. Both financial motivations and carrot and stick approaches can be used in carrot and stick approaches. This is a method that uses rewards and punishments to make citizens perform a certain behavior.

Information and knowledge about waste separation, the environment and the rules that apply in the municipality are very important in giving the citizen the ability to separate their household waste. But it is also something that citizens want to have themselves. When a new policy is introduced, incorrect information and uncertainty about the new policy can spread rapidly among citizens, and this can break the success of the policy. By informing citizens better, improving information facilities and providing tips for citizens, it will be easier for them to obey all the rules. Personal communication works best, and therefore the waste coach was an ideal solution for this. When people had complaints, personal contact was sought and an explanation was given. In this way, complaints could be prevented from leading their own life, and perhaps coming to the press, and making it more bearable for the citizens to implement the policy.

Status and self-image is the last aspect that citizens and literature referred to. This is also the aspect where the conclusion on this study finds the most depth. The study was looking for the effect of a waste coach, and this proved to be the strongest in personal contact. Citizens showed that they found it important to separate their waste because that was the norm, and made it clear that there was shame when it was discovered that they were wrongly executing the policy, consciously or unconsciously. The waste coach could perfectly respond to these feelings of pride and shame, because they were often seen as authoritarian figure, partly due to the yellow coat. During this study, this direct effect of human panopticism was discovered. Mostly, the direct presence of the waste coach leads to awareness that they could be watched or confronted. The fear of this confrontation meant that they adjusted their waste behavior on the spot. In addition, indirect or direct confrontation with the waste coach leads to self-reflection among the citizens. The subjective norm regarding waste separation, which the citizen already knew existed, is remembered by the mere presence of the waste coach. This confrontation with their own behavior leads to self-reflection that goes beyond just the places the waste coach can check.

And this is exactly the purpose of a panopticon. You behave, even though you do not know if you will be seen.

Due to the extensive research during the fieldwork, the theory of panopticism could be further developed and several characteristics of the waste coach as a human panopticon are distinguished. Human panopticism does not function through physical or digital mediums. It functions directly from human towards another human and only needs social features in order to function. These features are conversations, eye contact, but also the underlying meaning of the yellow jacket.

The waste coach, in this social panopticon was an empathic partner in the conversation, but also remained positioned on the side of the municipalities and Dar. Using conversations, the citizens could test their own behavior to the subjective norm that was symbolized by the waste coach, which strengthens their reflection on their own waste behavior. Furthermore, due to the different public controlling actions of the waste coach, the citizens started to control not only themselves but also each other. This led to a human panopticon in which the people were both the controlling body and the controlled group, leaving the waste coach as nothing more than the inventor of the panopticon.

6. Discussion

The main result of this research is that the waste coach does create a human panopticon. This panopticon functions because of human characteristics, such as the need to belong to a group and to show no deviant behavior. Feelings associated with it are shame and fear of being confronted with behavior. In addition, human panopticism is also performed directly by humans, which makes the term human panopticism extra fitting. From the results, we can figure out that there are several ways in which a human panopticon works. The presence of a waste coach confronts people with their own behavior, lets them think about their behavior and their consequences, and allows them to adjust their behavior accordingly. Besides, the panopticon that was established by the waste coach, spreads like an oil stain over the community, which creates mutual social control in the community.

The expectations of this research were partly in line with the outcomes of the research. At the beginning of this study the hypothesis of human panopticism was posed. But it was not yet clear how this functioned and how it could be used. The hypothesis of the existence of human panopticism proved correct. But the width at which panopticon can work was surprising and unanticipated. Initially, there were only assumptions of a direct and local mini panopticon at the container locations. This proved to be true and was also supported by interviews with respondents on the spot. However, the panopticon that the waste coach established in Beuningen and Druten had a longer lasting effect and therefore a broader effect. Through education and conversations with citizens, the waste coach made an impact that the citizens took home with them. The waste behavior became a more discussed topic.

The assumption of human panopticism as a form of panopticism is debatable. Although it has been made clear that human panopticism is a detached form of panopticism, and thus not necessarily comparable with the other two forms (physical and digital), the version of human panopticism proved to be evidently different from the other two forms of panopticism. This is because the functioning of the waste coach, described in the research as human panopticism, had a broader effect in the municipalities than just on the container location site. The human panopticism that is established throughout the municipalities slowly turns into mutual social control by the community itself. Which of course is ideal for policy makers. But the place where the line between the two concepts can be drawn to a more abstract level is unclear.

Taking human panopticism as a hypothesis has had some consequences for the outcomes of the research. This research started off as a very theory-based research, and mainly aims to find new ways to

use and interpret the existing theory of the panopticon. If the choice was made to explore which theory was best fitting for this particular waste coach case, the theory of the panopticon would not have been the obvious outcome, because, as mentioned before, the outcomes turned out to go beyond just local panopticism. However, the approach also led to the outcomes that would not have been found using any other approach, such as the way in which a panopticism works through human needs like status and a positive self-image, and how this relates to the theory of the panopticon in general.

This research has been very innovative in applying a structuralist approach as the panopticon theory to a complex social case. The theory of panopticon is not a theory that can be understood literally, but can therefore be interpreted in more ways when it is applied. This research was very focused on the needs and motives of the citizen, which is why it used a more social approach than other studies using the panopticon as a framework. Another strong and innovative aspect of this research is that it deals with a less exposed aspect of waste management strategies. New policies often depend heavily on the carrot-and-stick tools. This research illustrates waste management strategies from the needs of citizens for status and a positive self-image.

In this study, there has been made use of unconventional methods. Mostly, the approach for the research was theory-based, which was a sufficiently thought out approach. But on the other hand, the limitation of this research was that a well-prepared methodologically approved instrument has not been developed nor used. The mixed-sources approach combined with interviews that was used in this research was very fitting and the only possible method to retrieve the information on which the results of this research are based. This method is definitely unconventional, and it can be questioned if this method is scientifically correct. It touches debates on the minimal amount of structure that any data collection must have, which is an interesting topic within ethnography.

This data has led to various outcomes that have led to certain conclusions through analysis. However, the validity and reliability of these outcomes is less than preferred and initially hoped. One might wonder, for instance, whether the previously discussed spreading of social control is as widely valid as thought, and to which extent this oil stain was put into operation by the waste coach and whether this was not simply a consequence of the general change in waste behavior.

7. Recommendations

The conclusions of this research lead to a few recommendations. This research will have both recommendations for further researchers on this topic, also provides recommendations for practical use, which are relevant for municipalities, waste management businesses and waste coaches.

7.1 Further research

As discussed in the previous chapter, this research did not achieve the highest possible in the methodology, which led to less reliability and validity within this research. The conclusions drawn are therefore based on a combination of exploratory research and theory. For a possible follow-up study on this subject, I would advise to take the various aspects discussed in chapter four of this thesis as a guideline to identify which aspects are important and which are less important. After that, it could be examined to what extent these aspects could be used in making new policy instruments. A good method that can be used is a focus group.

Another possibility for further research that I strongly recommend is the relationship between the waste coach and the sense of status and self-image that is connected to it. This topic is interesting because little is known about this. And this research shows that the waste coach can mean a lot here. A focus group is also a good method for this research. Now that waste coaches are an increasingly used tool for better implementation of waste management policies, it is important to investigate the best strategy for a waste coach.

This research also found that a waste coach is a good way to educate, increase social control and stimulate self-reflection. However, it is also necessary in policy areas outside of waste collection to involve citizens with policy change. And so far, carrot and stick approaches have proved helpful in every field of action, the world of responding to the need for status and a positive self-image has just opened before us. The approach for any coach should, in order to achieve the same effect, differ per policy field because there are other motives for citizens. I recommend doing research here for different policy fields.

Finally, a consideration to this research was use of the jargon of the theory of the panopticon. It has been found in practice that readers of this study experience the language of the panopticon theory as shocking within the context of reversed waste collection and therefore find it inappropriate. Words like “guards” and “prisoners” could give a distorted view of the angle of any research on panopticon related subjects.

7.2 Practical use

The results of this study have made it clear how to use human panopticism with the waste coach as an instrument. The waste coach is the most influential through education and works best using the needs of citizens for status and a good self-image. When deploying a waste coach, this knowledge can be used to determine the duration of the deployment and the way in which the trash coach is put to use. The panopticon is only temporary, but the waste coach can start movement of increasing social control when used in the right way. This research also found that the yellow jacket can leave a big impression behind and emit a certain authority. It is also important that the waste coach is communicated as a person the citizens can contact themselves, so that it can actually be a sounding board that bridges the gap between policy and the citizen. Therefore, the waste coach does not have to be promoted as a threat or as someone who delivers punishment.

8. Literature

- Aitken, S., & Valentine, G. (2006). *Approaches to Human Geography*. London: SAGE Publications Ltd.
- Ajzen, I. (1991). The Theory of Planned Behavior. *ORGANIZATIONAL BEHAVIOR AND HUMAN DECISION PROCESSES*, pp. 179-211.
- Andersson, C., & Stage, J. (2017). Direct and indirect effects of waste management policies on household waste behavior. The case of Sweden. *NATIONAL INSTITUTE OF ECONOMIC RESEARCH (NIER)*.
- Andersson, C., & Stage, J. (2017, March). *Direct and indirect effects of waste managements policies on household waste behavior: The case of Sweden*. Stockholm: NATIONAL INSTITUTE OF ECONOMIC RESEARCH (NIER).
- Bernstad, A. (2014). Household food waste separation behavior and the importance of convenience. *Waste management*, 1317-1323.
- Bernstad, A. (2014, March 25). Household food waste separation behavior and the importance of convenience. *Waste management*, pp. 1317-1323.
- Boyne, R. (2000). Post-Panopticism. *Economy and Society*, 29:2, 285-307.
- CBS. (2017, June 30). Bevolkingsontwikkeling; regio per maand.
- Dar NV. (2016). Binnenkort omgekeerd inzamelen in gemeente Druten. Nijmegen: Dar NV.
- Dar NV. (2017). *Dar: Duurzaam afvalbeheer en beheer openbare ruimte*. Opgeroepen op April 10, 2017, van Dar: www.dar.nl
- Deleuze, G. (1992). Postscript on the Societies of Control. *October*, MIT Press.
- Dijksma, S. A., & Kamp, H. (2016, September 14). Rijksbrede programma Circulaire Economie. Den Haag.
- Dobson, J. E., & Fisher, P. F. (2007). The Panopticon's changing geography. *The geographical review*, 307-323.
- Elbersen, F. (2015, October 1). *[Ingezonden] 'Verlicht de groeipijn, los drukte bij studentendiensten op'*. Opgehaald van nultweevier.nl: <http://nultweevier.nl/ingezonden/ingezonden-verlicht-de-groeipijn-los-drukke-bij-studentendiensten-op/>

- European Commission. (2015, December 2). *Closing the loop: Commission adopts ambitious new Circular Economy Package to boost competitiveness, create jobs and generate sustainable growth*. Retrieved from European Commission Press Release Database: http://europa.eu/rapid/press-release_IP-15-6203_en.htm
- Foucault, M. (1977). *Discipline and Punish: The Birth of the Prison*. (A. Sheridan, Trans.) New York: Vintage Books.
- Gemeente Druten. (2016, Jan 1). *Leeftijdsopbouw per leeftijdsgroep per dorp en wijken Druten per 1-1-2016*. Retrieved from Druten.nl: Leeftijdsopbouw per leeftijdsgroep per dorp en wijken Druten per 1-1-2016
- Gemeente Veenendaal. (2016, July 4). *BOA's en Schone Buurt Coaches belonen hondenbezitters*. Retrieved from Gemeente Veenendaal: <http://veenendaalsekrant.nl/gemeentenieuws/boa%E2%80%99s-en-schone-buurt-coaches-belonen-hondenbezitters-139486>
- Gilbert, P. (2003). Evolution, Social Roles and the Differences in Shame and Guilt. *Social Research*, 1205-1226.
- Goldbart, J., & Hustler, D. (2005). Ethnography. In B. Somekh, & C. Lewin, *Research methods in the social sciences* (pp. 16-23). London: Sage Publications Ltd.
- Hansmann, R., & Steimer, N. (2015). *Linking an Integrative Behavior Model to Elements of Environmental Campaigns: An analysis of Face-to-Face Communication and Posters against Littering*. www.mdpi.com/journal/sustainability: Sustainability.
- Joseph, K. (2006). Stakeholder participation for sustainable waste management. *Habitat International*, 863-871.
- Luppi, B., Parisi, F., & Rajagopalan, S. (2012). The rise and fall of the polluter-pays principle in developing countries. *International Review of Law and Economics*, 135-144.
- Ogbonna, D., Ekweozor, I., & Igwe, F. (2002). Waste Management: A tool for Environmental protection in Nigeria. *AMBIO: A Journal of the Human Environment*, 55-57.
- Rijksoverheid, VNG, & NVRD. (2014, November 30). Uitvoeringsprogramma VANG: Huishoudelijk afval. Rijksoverheid.

- Rijksoverheid; VNG; NVRD. (2014). *Uitvoeringsprogramma VANG - Huishoudelijk Afval*. Den Haag.
- Rousta, K., Bolton, K., & Dahlen, L. (2017, april 14). A Procedure to Transform Recycling Behavior for Source Separation of Household Waste. *Recycling*, pp. 147-165.
- Saunders, M., Lewis, P., Thornhill, A., Booij, M., & Verckens, J. P. (2011). *Methoden en Technieken van onderzoek*. Amsterdam: Pearson Education Benelux.
- Schravendeel, L. (2015). *Towards a sustainable, community-based waste management strategy in the Jomblang sub-district in Semarang, Indonesia*. Nijmegen: Radboud University Nijmegen.
- Schravendeel, L. (2015). *Towards a sustainable, community-based waste management strategy in the Jomblang sub-district in Semarang, Indonesia*. Nijmegen: Radboud University.
- Sidique, S. F., Joshi, S. V., & Lupi, F. (2010). Factors influencing the rate of recycling: An analysis of Minnesota counties. *Resources, Conservation and Recycling*, 242-249.
- Struk, M. (2017, January 4). Distance and incentives matter: The separation of recyclable municipal waste. *Resources, conservation and recycling*, pp. 155-162.
- UCL. (sd). *The Panopticon*. Opgeroepen op September 20, 2016, van The Bentham Project: <https://www.ucl.ac.uk/Bentham-Project/who/panopticon>
- Weiss, R. S. (1995). *Learning from Strangers: the art and method of qualitative interview studies*. New York: The Free Press.
- Whyte, W. F., Greenwood, D. J., & Lazes, P. (1991). *Participatory action research*. Calif: Sage Publications.
- Zuboff, S. (1988). The panoptic power of information technology. In S. Zuboff, *In the age of the smart machine: The future of work and power* (pp. 322-386). Basic Books Inc.
- Zwaan, M. (2016, June). *Persoonlijk contact zorgt voor meer betrokkenheid*. Opgehaald van VANG Huishoudelijk Afval: <http://www.vang-hha.nl/nieuws-achtergronden/2016/persoonlijk-contact/>

Appendix A: Actor analysis

This chapter will shed a light on the different actors that were situated within the working field of the waste coach. These are constantly influencing each other and sometimes determine each other's failure or success. Within the field of this research, the main two parties are the municipality and the citizens. This is because Dar, the waste coach, and the BOA work for the local governments of Druten and Beuningen. This chapter will use the data collected in the six-month period and evaluate the perspective to act for each actor within this field. Important aspects of this action perspective are the perception of the field by this actor, the perception of other actors in the field, the interests of this specific actor, the instruments they have access to and their motivations. For this chapter, the local governments and Dar will be seen as one actor, because they have the same interests, perspectives, and motivations. This chapter will start off with a reporting of these perspectives per actor, and will follow up with a short elaboration on the dynamics between the actors in the field.

Dar and the local governments:

Dar NV is the environmental service in the municipalities of Beuningen and Druten. Dar had been commissioned by various municipalities to perform all kinds of services in the field of waste collection and cleaning of public areas (Dar NV, 2017). In the municipalities of Druten and Beuningen, Dar proposed to start reversed waste collection. These ideas were further elaborated in 2015 and 2016 by a collaboration between the municipalities and Dar. In the summer of 2016, the idea of employing a waste coach was coined.

Interests

As mentioned before, the central government of the Netherlands aims to reduce residual waste to 100kg per citizen per year, by the year 2020. This means 75% of all household waste should be separated by then (Rijksoverheid; VNG; NVRD, 2014). It is up to local governments to reach this goal within their municipality. The municipalities of Druten and Beuningen choose to do this in the form of reversed waste collection, including *diftar*. Diftar refers to the 'polluter pays' principle, any system in which the household that produces more (residual) waste should pay more, is considered a diftar system. The main interest of Dar is carrying out the commands given by the various municipalities. In this case, the establishment of the reversed waste collection system and maintaining it. By this, the municipality and Dar have the same interests. They want to keep the citizens as happy as possible, because they are

the ones that must carry out the policy. The behavior of the citizens will eventually make the municipality reach the goal or not.

Since Dar is a private company, their final interest is to make profit. When they make agreements with municipalities, they should conduct these as well as possible, while aiming to make the least amount of costs as possible. Everything Dar does, should therefore also be examined while keeping the price tag in mind.

Motivations

Motivations are strongly linked to interests, however, motivations can be broader and more situation specific. An important motivation of Dar and the local governments is to leave a positive impression on the inhabitants of the municipalities. This public support will lead to less complaints and more people willing to participate in reversed waste collection. The behavior of the inhabitants can therefore also be an important motivator. If Dar and the municipalities notice that citizens behave a certain way, they can respond to this behavior and adjust their policy approach accordingly.

Perception

Dar and the municipalities are the decision makers in this field. They decide and the rest should follow. Policy making can be hard, and some parties may feel left out. As mentioned before, Dar and the municipalities benefit from public support. Depending on the perception of the decisionmakers on other players in the field, different instruments are used.

Perception of Dar and local governments on waste

A lot of separated waste is beneficial to Dar. Their slogan “Afval=grondstof” reflects this (Dar NV, 2017). Separated waste can be sold as a raw material for new products. This is therefore both an environmental issue as a financial issue for Dar. Since waste is their business, they have no gain in a no-waste society, but only in waste separation. The environmental concern therefore only goes so far. Their main gain of waste separation is financial.

Perception of Dar and municipalities on their citizens

As mentioned before, for Dar, the inhabitants of the municipalities are the executors of the policy. This is also the way they are perceived by Dar. The tasks of Dar engage in the provision of certain infrastructure to make reversed waste collection happen, along with communication and enforcement of the policy (emptying the containers). The rest of the tasks lie with the citizens. They should separate their waste,

be conscious of their consumption and bring their waste to the underground container. This situation leads to a perception by Dar of citizens as an 'extension' to their company.

In communication from Dar to the citizens of Beuningen and Druten, an authoritative tone can be felt. In the letters where reversed waste collection was first communicated to the citizen, it is clear that a lot is expected from the citizen, but Dar remains a positive approach. The first letter starts with the following opening: *"In the in municipality of Beuningen, most people already separate a lot of household waste. It's going well, but it can be much better and with that we need your help."* (Dar, 2016¹), this indicated that Dar acknowledges that it is going well, and used that to compliment the citizen, which should lead to public support for this policy change. Immediately after that, Dar states that the help of the citizens is needed to make the waste separation even better.

In following letters, statements as *"...you are expected to put in more effort (Dar, 2016²)"* make the tone of the letter, and the expectations by Dar very clear. There also is made use of the imperative form in the letters while addressing the citizen (Dar, 2016²). Also on the website of Dar, the need for the citizens' cooperation is voiced and the positive sides of waste separation are emphasized (Dar, 2017).

Among the employees of Dar, citizens are often viewed as complainers. This is because the only communication Dar employees have with citizens, is often because something has gone wrong with the services provided by Dar, and therefore the tone of the conversation is often negative. Also on social media, the citizen often posts negative reactions on the activity by Dar. Satisfied citizens are less likely to post positive comments, or contact Dar about their positive experience, which reinforces the way citizens are perceived by Dar.

Perception of Dar and municipalities on the waste coach

Dar employed the waste coaches without predetermining all their tasks, and without fully outlining their profile. The first memo was formulated in August of 2016, and consisted of a first idea of the goal, tasks, and profile of a waste coach. The goal was formulated as follows: *"The waste coach helps citizens with the new waste rules that come with reversed waste collection. With this, we prevent enforcement measures to be necessary during the adjustment period."* (Gemeente Beuningen and Druten, 2016). The tasks of a waste coach very already very broad, they included: observing the container locations, approaching citizens, function as a sounding board, resolving errors, and dumping and picking up residual household waste at disabled people, while at the same time assess which people are eligible for this service.

During the period in which the waste coaches were active, the method, goal and tasks of the waste coaches became increasingly clear and began to take shape. The waste coaches usually acted according to tips and assignments they received from Dar, but also came up with their own ideas and insights. In the procedures of Dar, the waste coach has sometimes been used to increase public support, or to enlarge the sympathy for Dar in specific cases. For example, if a citizen had a problem that could not be solved by Dar straight away, the waste coaches would be given the task to pay a visit to this citizen, and explain the perspective of Dar, some citizens were hereby appeased.

At first, the waste coach was used to provide information and to speak to people and had therefore a positive image among citizens. In the final month in Beuningen (March 2017), Dar asked the waste coaches to also perform some enforcing tasks, because the local investigation officer had to take a sick leave. This shows that the image that the waste coach had created of themselves for the citizen was not clear for Dar. They had not been keeping up with the positive responses towards the waste coach, and therefore were under the impression that it did not matter very much which tasks the waste coaches would perform. The waste coach eventually declined to perform these enforcement tasks, and proceeded to try to approach the citizen in a positive way.

Instruments

The instruments of different actors may overlap, this is because the main instrument that Dar has used within the project of reversed waste collection, is the waste coach. The instruments that Dar has used through the waste coach, will therefore be elaborated on in the subchapter about the waste coach.

The instrument that is most used by Dar in general, is communication. Communication through letters, via social media, website and through their customer contact center. These forms of communications are used to talk to the citizens and to keep them updated about recent developments, but can also be used to let the citizens know about the hard work that Dar does, and therefore to boost their own image. This will all result in more support for Dar and thus in a better transition towards reversed waste collection.

Another instrument that Dar has to support a smooth policy transition, is data recording. All citizens received chipped cards which they can use to open the underground containers. Dar is able to record the openings of each container and can keep track of the use of every location. People that have used their containers a remarkable number of times, can also be tracked, just as the amount of households that never even use the underground container. This data can be used to find people that

have a hard time understanding the system. Most of the time, the waste coach would be sent to these cases.

Citizens of Druten and Beuningen

The citizens of Druten and Beuningen are all the citizens who encountered the new system of reversed waste collection. It may be clear that not all citizens have the same perspective, and therefore do not share the same motives, perceptions, and interests. Different citizens will be discussed within this chapter, and even though it is impossible to reflect on every citizen's outlook on this situation, it is aimed to elaborate on the most common responses that were heard during this research.

Interests and motives

"In any waste separation system, consumer collaboration is crucial in achieving a higher separation rate" (Struk, 2017). It is therefore of utmost priority that the interests and motivations of citizens are motivated to engage in the new policy and have a positive attitude towards it. From their own perspective, citizens are not an extension of Dar. They act out of their own motives and interests. Within this field, the main interest of the citizen is to get rid of their household waste. Other interests of the citizens are money, or getting rid of their waste as cheap as possible, the environment, status, and convenience. The importance of these aspects can differ a lot per citizen, which makes every citizen and their motives very different. The variety of perspectives within these interests is explained below, using data from different sources.

Cheap as possible

As mentioned before, next to reversed waste collection, there is also *diftar* in Beuningen and Druten. This system has proven to work in multiple municipalities in the Netherlands. If people separate their waste into different waste streams, there is little residual waste, and therefore little costs. Also for the disposal of bulky waste at the *recycling street* is a tariff. The rest of the waste services are free. The reason that citizens are separating their waste so well, is because of this principle. Respondent 6 states: *"People want to get rid of their shit in the cheapest way possible"*. For some people, however, the costs seem too high, and alternatives are sought. This is something that was noticed during the container control activities (which will be explained in the subchapter about the waste coach). People with young children already incur a lot of costs for diapers and food, and have a lot of residual waste because of these diapers. Some households therefore chose to dispose of their diapers in the plastic+ container. Which is free, but not considerate, knowing these diapers will not melt with the other plastic waste. Economic incentives for waste separation are also the most common factor that is named in waste

separation research, and also turned out to be the most successful policy instrument to influence waste behavior (Bernstad, Household food waste separation behavior and the importance of convenience, 2014), (Struk, 2017).

Status

Being a good citizen brings along a certain status, or image that people want to require. Waste separation is something that could contribute to being a good citizen. Even though it has not been mentioned explicitly in one of the interviews or conversations, implicitly, people mention status all the time, they want to separate themselves from the *other*, the group that would dump their garbage. In the at-home interviews in Druten, I was wearing the yellow jacket and noticed that people were eager to impress me, make sure I knew they did nothing wrong. Something that can be seen from the following conversation.

“I cannot even understand it, that someone would throw a bag of garbage in the ditch for only 75ct. I can’t wrap my brain around it. When our children were young and they had a candy wrapper, they had to take it home and throw it in the bin. They were not allowed to throw it on the street. When other kids came to play here we would tell them to do the same and they would look at us as if we had gone mad.”

The need to tell this, without me asking anything about this, tells us that the respondent thought I needed to know this. Emphasizing this in our conversation indicates that good citizenship is important to them, but it is also important that other people know about their good citizenship. In their paper on waste management policies in Swedish households, Andersson and Stage note that *“policy instruments can affect the individual’s self-image of being a responsible person”* (Andersson & Stage, 2017), which will potentially strengthen *“an individual’s self-perception as a responsible person when s/he recycles waste – thus increasing the likelihood of recycling”* (Andersson & Stage, 2017).

Convenience

In the street interviews, it became clear that different groups of citizens have very little comprehension for each other’s behavior. Most people detest the sight of dumping next to containers, but respondent 6 stated that they don’t see any harm and it is only logical that there is dumping on the location. *“Big glass bottles are left next to the container because they do not fit in, they will take them away anyway”* is the way he puts it. This perspective is the total opposite of respondent 3, 4 and 5, who state that it is *“laziness and indolence”, “the mentality of certain people”* and that *“they choose the easy way out”*. Convenience appears to be an important factor in research about recycling and waste separation in

general (Andersson & Stage, 2017), (Struk, 2017), (Bernstad, 2014), (Rousta, Bolton, & Dahlen, 2017).

The costs of distance, effort and time are thus high.

Environment

The environment is the main reason we even separate household waste. Due to agreements on global level, the implementation trickles down to our households. But no matter how urgent this global problem is, it is not always felt that way within the households. As mentioned before, the price tag and the convenience are most acknowledged when talking to citizens. However, an argument that was mentioned a lot when debating about waste separation was that everything would be thrown back on one pile afterwards. This concern makes clear that, even though waste separation saves money for the citizens, the citizen is also interested in what happens after the waste collection, and would be disturbed if all the separated waste would be thrown back on one pile. With this, it must be pointed out that this argument may also be used as an excuse to renounce waste separation, and point out the evil in governmental decisions. Scholars also often have indicated environmental concern as a factor that can influence waste behavior (Rousta, Bolton, & Dahlen, 2017).

Citizens' perception of waste

It has been stated before in this research that the main perception by citizens on waste is to get rid of it. Very rarely citizens have mentioned the recycling possibilities for waste, or spoke about it as something different than rubbish. Citizens also have a financial concern about waste. Not that they could literally gain anything from it, but they can save money by separating their waste well.

A perception of waste separation that was heard a lot, was that waste separation does not bring any benefits. A lot of people are convinced that all the waste is thrown back on one pile after separation, or that Dar already owns a machine that can separate waste. These allegations are untrue, but show how uninformed some citizens are, and how this can affect reversed waste collection.

Citizens' perception of Dar and the local government

The first time that reversed waste collection was announced in the municipality of Beuningen, citizens were offended. They were astonished that the municipality could make such a stupid decision, without consulting or involving the citizens. The reactions on social media were a lot.

“Let the mess begin! Is had already been proven that waste separation makes no difference. We have to separate waste, they basically force us and then the waste treatment plant will separate it again! This is a rip off, that is all. So, what will people do? See this picture! Or smuggling away the residual waste into

the other containers! It is a shame that the residents were asked nothing. Expensive failure, Municipality of Beuningen!" (Facebook user, 2017)

This is one of the more extreme reactions, but more people have shown their aversion towards the system on social media. As mentioned before, the negative people are more likely to comment, that is why there are not so many positive comments on social media.

Citizens' perception of waste coach

From the survey that was taken in Druten, the street interviews and the at-home interview, it can be concluded that not a lot of people know about the waste coach. Only 1/4 of the survey 2/7 of the street interviews and 0/2 of the respondents of the at-home interviews knew about the waste coach. This means that despite the media attention and the mentions on social media and the Dar website, a lot of people were unaware of the service that was handed to them.

However, when people heard about the waste coach, the reactions were very positive. On Facebook it was stated that *"It is good that there is consideration to explain the new system to people. Super!"*. But also in the street interviews, a mainly positive attitude towards the waste coach could be distinguished. According to respondent 3, the waste coach could help people become more aware. According to respondent 1, 2 and 5, the additional explanation that a waste coach can offer, would be beneficial. Some people do not understand the container at first use. Other respondents in the street interviews were not as convinced of the waste coach. They claimed that they already had enough knowledge about the system and that *"it speaks for itself"*.

From hindsight, it can be stated that the role of the waste coach was ambiguous at times. This was mentioned before at the perception that Dar had on the waste coach. Multiple things distorted the friendly image, for example: bad news conversations, in which the waste coach had to tell citizens that Dar did not acknowledge their problems. The yellow jacket, which makes the waste coach recognizable, but also could induce feelings of fear and inferiority. The fluctuating attitude of Dar, regarding the tasks of the waste coach, etc. All these factors made it so that the waste coach could not totally control their own image. This could have led to confusion among citizens.

Instruments

In this field, one citizen does not have enough resources, whether it's social, cultural, or economic, to influence the positions within the field. However, the citizen does have some instruments to reach Dar

and the municipality, and therefore have impact. A second option is cooperation between citizens, to accumulate their resources or use the power of numbers to influence the field.

An example of an instrument that could be used by citizens to let themselves and their concern be heard, is to contact the customer service center at Dar. Here they can voice their questions, compliments, remarks and complaints and can do nothing but wait and see what happens with it. One of the instruments that is a little more forcefully and has been used a lot by citizens is social media. This is a way they can express their feelings in public, where a lot of people can read it. The fact that a lot of people can read certain complaints, makes Dar or the municipality fear for their image and respond more adequately. Finally, the waste coach could also be used by citizens to get what they want and have their interests served. The waste coach is their way in at Dar. If the waste coach takes your problem seriously, it will also be taken seriously at Dar internally.

The waste coach

This subchapter elaborates on the waste coach. In the Netherlands, the concept of a waste coach has been used since the last few years. It exists in multiple expressions. Different municipalities give different meanings to their waste coach, while some only give information, other are required to give fines to people that do not stick to rules. In this field, the waste coach is an instrument used by Dar to support citizens in the transition towards reversed waste management. Within this field, the waste coach had a difficult position, because it has to serve the interests of both Dar (and the municipalities) and the citizens, to a certain extent. The waste coach could namely also be used as an instrument by the citizens.

The interests of Dar and the citizens were not always aligned, as states earlier, most citizens want to get rid of their waste as cheap and effortless as possible. They expect Dar to help them with this. From the perspective of Dar, however, the citizens are expected to put in a little more effort. This conflict of interest was to be solved by the waste coach, and was the main reason the waste coach was in a constant dilemma. To clarify this dilemma, the perspective of the waste coach will be explained in this chapter. The perception of the waste coach will be written out of my own experiences and out of the experiences with other waste coaches I've had.

Perception on waste

In this field, the waste coach was employed through Lentekracht. An innovation agency that is engaged with human-environmental issues. Therefore, the waste coaches that were hired, had a certain amount of environmental awareness. This had an impact on their perception on waste, and made their perception on waste so much different to that of the citizen and of Dar, whose perception on waste was

only based on financial benefit. With this perception, the waste coaches therefore did not always act according to the interest of Dar, of the citizen's interest, but out of their own interest, which was based on environmental concern.

Perception on the two municipalities

The first three months, the waste coach was active in the municipality of Druten. This municipality made the transition towards reversed waste collection on the first of October 2016. In the first weeks, the waste coaches received a lot of questions, both in person and through e-mail, but after a month, there were almost no indications of problems or questions anymore. There were barely any cases of dumping and the citizens separated their household waste almost perfectly, which means that the amount of residual waste reduced greatly.

In Beuningen, the transition towards reversed waste collection started on January 1st. In the following period of three months, the waste coaches were active within the four parishes of the municipality of Beuningen. In Beuningen, a difference in attitude towards the municipality and the new policy can be noticed, when compared to the municipality of Druten. The attitude was critical and more negative than in Druten and therefore, there was more resistance among the citizens of Beuningen. This was manifested in more questions for the waste coaches, more complaints, and more dumping in general.

In the smallest parishes, Winssen, Weurt, Ewijk, Horssen and Puiflijk, there were almost never any cases of illegal dumping or leaving bulky waste at the container. In the village of Druten, the dumping and leaving of household waste was minimal. In the village of Beuningen, the dumping was more present. After comparing the two municipalities and functioning as a waste coach in both, the differences in attitude may be explained through the different composition of the parishes and their prior experiences with policy by the local governments. This experience shaped the perception of the waste coach on the two municipalities.

Instruments

Within the six-month period, the waste coaches wanted to get in touch with citizens. There are different instruments that the waste coach has used in the six months that the projects lasted. An example of one of these instruments is the campaign where the plastic+ containers at the households were checked whether they contained the right type of waste. The waste coaches were also present at a horses and cows market which was visited by a lot of people from the municipality of Druten and participated in the regional cleaning day, where litter was cleared away with inhabitants of Beuningen. Below, a few of these instruments are reported and analyzed.

Container hangers

In both municipalities, a container hanger activity was organized. On the day where the plastic+ containers were put outside by the residents, they were checked by the waste coaches if the container contained only the type of waste it was intended for. If the container had only plastic+ waste, the owner of the container was complimented by a hanger on the container with a positive message on it. The containers that were misused, which means that they contained items that were obviously not plastic+ waste (debris, diapers, cardboard, etc.) got a yellow hanger. This hanger meant that the container in question would not be emptied that day. The hanger included information about where to bring that specific kind of waste, and an explanation why the container was not emptied. This part was hand written by the waste coach.

This activity was received very well among the residents. The first reaction of some people was a little reluctant or anxious, because they thought it was an inspection with consequences. After explaining to the residents that the main purpose of the activity was to thank and compliment the residents for separating their waste, they were very thankful and positive. Only a small amount of people did not separate their waste. We did not hear from these people afterwards, but the explanation on the yellow hanger, the consequence of a full container for two more weeks and the idea that the waste was being inspected should have contributed to more conscious future decisions about waste separation of both groups.

Leste Mert, Druten

The Leste Mert is an annual horse market that takes place in the center of Druten. To promote waste separation, litter prevention and conscious waste behavior, Dar and the waste coaches were present at that market. They did a quiz with inhabitants of Druten about waste separation, where they could win a small organic waste container, which can be held on the kitchen counter. On this event, the waste coach was able to speak to a lot of people while entertaining them with a quiz. In this way, people learned new rules about waste separation, while realizing that it can be fun at the same time.

Social media

Apart from direct contact with citizens, the waste coach and Dar decided to use social media as an instrument to influence the citizens. In most cases, the waste coach had done an activity somewhere in the municipality, and social media were used to enlarge the group of people that knew about this activity, to enlarge public support for Dar, the new policy, and the waste coach. There are multiple

examples of this. On the launch day of reversed waste collection in both Druten and Beuningen, there were Facebook statuses posted and press were also invited. In Beuningen, a video was posted in which the waste coach explains how the new underground containers work. This was very well received among the residents. The Facebook post of the video is shown in figure 22.



FIGURE 4: A VIDEO OF THE WASTE COACH EXPLAINING THE CONTAINER TO AN ELDERLY WOMAN WAS SHARED ON SOCIAL MEDIA

When the waste coaches participated in the regional cleaning day, and when the waste coaches were asked to explain about litter waste to children from the local scouts, it was shared on Facebook, which can be seen in figure 5 and 6.



Gemeente Beuningen added 3 new photos to the album
Maas & Waalse Schoonmaakdag.

20 March at 12:01 · €

De Maas & Waalse Schoonmaakdag was wederom een groot succes. Ruim 800 vrijwilligers hebben geholpen. Bedankt voor jullie inzet!



FIGURE 5: WASTE COACHES HELP CLEANING THE MUNICIPALITY



Scouting '71 Ewijk

10 March at 19:25 · €

Uitleg van de afval coaches bij de bevers en de esta's.



Like

Comment

Share



Daan Middelkamp and 16 others

FIGURE 6: WASTE COACHES EDUCATE A GROUP OF YOUNG SCOUTS

Appendix B: Coding

B.1 List of all memos Interview Rot Steins

HU: Interview Roy Steins
File: [C:\Users\Linda\Documents\Interview Roy Steins.hpr7]
Edited by: Super
Date/Time: 2017-08-04 13:11:30

MEMO: 1 op de 100 (1 Quotation) (Super, 2017-03-10 12:22:02)

P 1: Interview Roy Steins compleet.docx:
(10:13)

No codes

No memos

Type: Commentary

Van de meldingen die Roy binnenkrijgt, kan hij maar 1 op de 100 keer een spoor vinden wat leidt naar een persoon

MEMO: Afval als last is te veel voor sommigen (1 Quotation) (Super, 2017-03-10 12:47:17)

P 1: Interview Roy Steins compleet.docx:
(36:43)

No codes

No memos

Type: Commentary

Scarcity.

In bepaalde wijken groter afvalprobleem dan in andere wijken. Naast oorzaak in bijv. kleine ruimtes enzo noemt Roy ook dat bepaalde mensen "meer bezig zijn met het milieu dan anderen, die hebben andere zorgen".

Dit heeft niet met milieubewustzijn te maken, maar met de hoeveelheid zorgen. Quote Roy hier voluit.

Voor de een is het een zwaardere last dan voor de ander. Afvalkelijk van resources, zorgen, lichamelijke en geestelijke staat.

MEMO: Alle lagen van de bevolking (1 Quotation) (Super, 2017-03-10 12:40:45)

P 1: Interview Roy Steins compleet.docx:
(33:33)

No codes

No memos

Type: Commentary

Als je geen auto hebt, wat verwacht je dan van mensen? Nemen ze het weer mee naar huis als het niet past? Of zeg je, laat maar staan. Volgens Roy zijn het alle lagen van de bevolking die zich hier schuldig aan maken

MEMO: Als mensen kijken doen mensen het goed (1 Quotation) (Super, 2017-03-14 12:46:47)

P 1: Interview Roy Steins compleet.docx:
(91:93)

No codes

No memos

Type: Commentary

Deze vorm van criminaliteit is alstig te achterhalen. Roy vergelijkt het met overlast van hondenpoep. Als je erbij staat ruimen ze altijd op, zegt hij. Daarom is het zo moeilijk te ontdekken. Als iemand erbij staat gaan mensen niet

bijplaatsen. En ásl ze het doen, hebben ze vaak een gelegitimeerde reden.

MEMO: Armoede en zakken betalen (1 Quotation) (Super, 2017-03-14 12:25:38)

P 1: Interview Roy Steins compleet.docx:
(75:79)

No codes

No memos

Type: Commentary

Voor sommige mensen is zo'n zak gewoon te veel om te betalen. Dan moet er gezocht worden naar andere oplossingen om mensen beter met afval om te laten gaan.

MEMO: Betrappen tijdens posten (1 Quotation) (Super, 2017-03-14 12:40:39)

P 1: Interview Roy Steins compleet.docx:
(80:85)

No codes

No memos

Type: Commentary

Roy post meestal in de avond. Hij heeft nog nooit iemand kunnen betrappen op een bijplaatsing. Eén keer plaatste iemand een zak bij, maar toen stond de container in storing. In de meeste diensten ziet hij helemaal niemand bijplaatse. Hij vindt dit niet efficient omdat hij er wel 8 uur staat.

MEMO: Bijplaatsingen nooit overdag. (1 Quotation) (Super, 2017-03-14 12:13:29)

P 1: Interview Roy Steins compleet.docx:
(55:55)

No codes

No memos

Type: Commentary

Dat de burens het zien is vervelend, de kans om aangesproken te worden is dan groter. Bijplaatsingen gebeuren om die reden vaak 's avonds.

MEMO: boodschap gemeente meer handhaven (1 Quotation) (Super, 2017-03-14 13:01:39)

P 1: Interview Roy Steins compleet.docx:
(104:105)

No codes

No memos

Type: Commentary

Een boodschap dat er meer gehandhaaft gaat worden, heeft maar kortstondig effect.

MEMO: Camera's (1 Quotation) (Super, 2017-03-14 12:50:42)

P 1: Interview Roy Steins compleet.docx:
(98:103)

No codes

No memos

Type: Commentary

Een camera heeft niet het goede effect volgens Roy. Mensen hebben vaak door als de camera's nep zijn. En echte camera's lijken ook het gedrag niet te veranderen. Handhaven via camera's is al helemaal onmogelijk. Super lang beeld en als je terug gaat kijken herken je de mensen toch niet.

MEMO: Fouten maken door laksheid (1 Quotation) (Super, 2017-03-10 12:30:51)

P 1: Interview Roy Steins compleet.docx:

(31:31)

No codes

No memos

Type: Commentary

Mensen weten dat een aquarium niet in de container past, en toch wordt die erbij gezet. Roy zegt dat het gewoon laksheid was.

MEMO: Geen andere uitweg? (1 Quotation) (Super, 2017-03-14 12:16:27)

P 1: Interview Roy Steins compleet.docx:

(58:61)

No codes

No memos

Type: Commentary

Sommigen zien geen andere uitweg. Ook al weten ze dat het sociaal niet geaccepteerd is. Anderen zijn zich er zeer bewust van dat ze iets fout doen. Die hebben lak aan de hele wereld. Die hebben er schijt aan.

MEMO: Handhaving niet mogelijk via adres in zak (1 Quotation) (Super, 2017-03-10 12:23:36)

P 1: Interview Roy Steins compleet.docx:

(14:17)

No codes

No memos

Type: Commentary

In jurisprudentie kan je zien dat er niets wordt gedaan met het bewijs van een adres in een zak. Wel kun je als BOA even aanbellen bij iemand

MEMO: Ijkl (0 Quotations) (Super, 2017-03-10 12:21:20)

No codes

No memos

Type: Commentary

MEMO: Mensen spreken elkaar niet aan (1 Quotation) (Super, 2017-03-14 17:29:47)

P 1: Interview Roy Steins compleet.docx:

(123:125)

No codes

No memos

Type: Commentary

Mensen hebben geen zin om iemand aan te spreken. Iedereen vindt het vervelend maar iemand aanspreken gaat te ver.

MEMO: Mensen weten geen andere oplossing (1 Quotation) (Super, 2017-03-14 12:18:29)

P 1: Interview Roy Steins compleet.docx:

(63:63)

No codes

No memos

Type: Commentary

Sommigen doen t bewust fout, anderen weten geen betere oplossing. Dan weten ze gewoon oprecht niet hoe het moet.

MEMO: Minder restafval vroeger (1 Quotation) (Super, 2017-03-14 17:39:58)

P 1: Interview Roy Steins compleet.docx:
(132:135)

No codes

No memos

Type: Commentary

Vroeger was er veel minder restafval, we gebruikten gewoon minder. Alles zat in papier en glas. Nu zit veel in plastic. Zweden heeft het wel goed opgelost. Die scheiden letterlijk alles.

MEMO: Niemand wordt benadeeld, opgelost (1 Quotation) (Super, 2017-03-14 17:28:53)

P 1: Interview Roy Steins compleet.docx:
(121:122)

No codes

No memos

Type: Commentary

De overtreding van bijplaatsen, daarbij wordt niemand benadeeld. Daarnaast ben jij van de afval af, dus het is opgelost.

MEMO: Oplossingen voor "afval teveel werk" (1 Quotation) (Super, 2017-03-14 12:10:33)

P 1: Interview Roy Steins compleet.docx:
(47:53)

No codes

No memos

Type: Commentary

Volgens Roy moet de oplossingen gevonden worden in sociale veranderingen. Niet iedereen over 1 kan scheren. Soms past het beleid niet op iedereen, dan moeten we gaan kijken naar eenzaamheid, zorgen, mogelijkheden. Alleen staande ouders, drukke baan, kinderen.

MEMO: Overtreding is gemakkelijk gemaakt (1 Quotation) (Super, 2017-03-14 17:21:58)

P 1: Interview Roy Steins compleet.docx:
(110:113)

No codes

No memos

Type: Commentary

Het is een kleine overtreding voor mensen. Net al door het rode licht fietsen als er niemand kijkt. Het is dus zo gedaan.

MEMO: Overtredingen, schaamte en boetes (1 Quotation) (Super, 2017-03-10 12:26:03)

P 1: Interview Roy Steins compleet.docx:
(22:29)

No codes

No memos

Type: Commentary

Mensen geven hun fout niet vaak toe als ze geconfronteerd worden met een gevonden zak of een andere overtreding. Het is zowel door schaamte als door de kennis dat ze een boete kunnen krijgen.

MEMO: Rijden zonder fietslicht - Bijplaatsingen (1 Quotation) (Super, 2017-03-14 17:23:47)

P 1: Interview Roy Steins compleet.docx:
(117:119)

No codes

No memos

Type: Commentary

Gevolgen van rijden zonder licht zijn ook heel groot, automobilisten zien je niet altijd. Toch doen fietsers het. Als je het zo vergelijkt is het echt geen grote overtreding.

MEMO: Sociale controle (1 Quotation) (Super, 2017-03-14 17:30:35)

P 1: Interview Roy Steins compleet.docx:

(126:129)

No codes

No memos

Type: Commentary

De sociale controle is niet genoeg om bijplaatsingen en verkeerd scheiden te voorkomen. Mensen nemen niet de verantwoordelijkheid voor andere mensen. Iemand aanspreken gaat dus te ver. Misschien krijg je wel een grote mond terug.

MEMO: Standaardpercentage vervuiling (1 Quotation) (Super, 2017-03-14 12:23:32)

P 1: Interview Roy Steins compleet.docx:

(65:73)

No codes

No memos

Type: Commentary

Bijplaatsingen terugdringen tot een bepaalde hoeveelheid waarbij het een soort minimumaantal is. Net als bij werkeloosheid. Dit neemt niet weg dat je het altijd moet bestrijden. Vervuiling is iets wat niet getolereerd wordt.

B.2 Codes and questions for manual coding

Dar & municipalities

- Perception on waste coach
- Perception on citizens
- Interests
- Motivations
- Instruments

Citizens

- Perception on waste coach
- Perception on Dar and municipality
- Interests
- Motivations
- Instruments

Waste coach

- Perception on Dar and municipality
- Perception on citizen
- Interests
- Motivations
- Instruments

Other important questions when looking into the data

- How does Dar view the waste coach?
- What should the relationship between Dar and the citizen look like, according to Dar?
- Where can I see the carrot-and-stick principle?
- In what ways do citizens experience shame and guilt about their waste behavior?
- How is public support created?
- Can any prove of an intentional panopticon be found?

Three rounds of coding were done, one for every group of actors.

Appendix C: Interview guides

C.1 Interviewguide huis-aan-huisinterview

How can the concept of human panopticism be explained, using the information about how control by a waste coach can influence the correct use of the reversed waste management system in Druten?

Effect van controle/aanwezigheid afvalcoach op naleving beleid?

ALGEMENE VRAGEN

- Naam
- Hoe lang al in Druten?

OMGEKEERD INZAMELEN

- Weet u van omgekeerd inzamelen?
- Kent u de regels van afval scheiden? Voorbeeld?
- Scheidt u zelf thuis afval?
- Hoe vaak gaat u naar de ondergrondse container?
- Is dat veranderd door omgekeerd inzamelen?

AFVALCOACH

Vanaf begin oktober zijn er afvalcoaches actief geweest in Druten. 20 uur per week waren deze coaches aanwezig in verschillende wijken. Ze hebben zich beziggehouden met het tegengaan van dumpingen en het bevorderen van scheiden.

- Denkt u dat de afvalcoach, door in gesprek te gaan met mensen, mensen kan inspireren om hun afval beter te scheiden?
- Waardoor komt dit?
- Denkt u dat alleen al de aanwezigheid van zo'n coach in een gebied geleid kan hebben dat mensen zich beter aan de regels houden?
 - **Waardoor zou dat komen? Angst, schaamte?**
- Denkt u dat controle van de cliënten door zo'n afvalcoach geleid kan hebben dat mensen zich beter aan de regels houden?
 - **Waardoor zou dat komen? Angst, schaamte?**
- Denkt u dat mensen geen afval zouden dumpen als ze wisten dat de afvalcoach in de buurt was?
- Zou u zichzelf anders gedragen als u wist dat er een afvalcoach mee keek?
 - **Waardoor zou dit komen?**
- Maakt dit de afvalcoach een goede manier om dumpingen en scheiden beter tegen te gaan?
 - **Waarom wel/niet?**
- Worden mensen zich meer bewust van hun eigen gedrag op deze manier?

C.2. Interview guide BOA Roy Steins

1. Veel gemaakte fouten
 - Wat is de meest gemaakte overtreding die jij ziet?
2. Confrontatie
 - Hoe vaak confronteer je mensen met een gevonden adres in een zak?
 - Wat is hun reactie?
 - Waarom denk je dat dat hun reactie is?
 - Zijn het altijd dezelfde soort mensen die de fouten maken?
 - Waarom doen zij het steeds verkeerd?
 - Is er genoeg sociale controle? Sociale norm?
 - Weten de meeste mensen van de gevolgen?
 - Waarom doet de rest van de bevolking het goed?
3. Preventie
 - Afvalcoach, Boa?

C.3 Questions street interviews

- Weet u wat een afvalcoach is?
- Heeft u de afvalcoach gezien?
- Weet u over de dingen die de afvalcoach heeft gedaan in Beuningen?
Zo nee, even uitleggen
- Wat vindt u daarvan?
- Zoals u ziet is er bij deze container bijgeplaatst. De afvalcoach stond ook regelmatig bij verschillende ondergrondse containers. Denkt u dat mensen minder snel hun afval naast de container achterlaten als er een afvalcoach bij staat?
- Maakt het verschil of het een afvalcoach is of gewoon een voorbijganger?
- Denkt u dat de afvalcoach een goede manier is om te ondersteunen bij de overgang naar omgekeerd inzamelen?