

Tending to mobile societies: a petrol station study

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1 Introduction

Mobility is a multifaceted geographical and social phenomenon containing movement, displacement, distribution and move-ability of people, objects, metaphors and move-able technologies (e.g. mobile phones).¹ Mobility shifts focus from the domestic and stable to the fragmented and fluid, it liberates the individual from places and relationships only to re-territorialize and re-connect in new forms. This paper presents an ethnographic engagement with a petrol station. As a side sequence² to driving, petrol station visits reveal the diverse aspects of everyday activities relating to road-use. This paper will highlight the ongoing work at the petrol station needed to sustain mobility for people and objects on the road. The ongoing work and interactions at the petrol station reveal the mundane accomplishments of mobility while mobile.³

Petrol station is in many ways an integral part of road-use. Road-users turn to petrol stations for obvious reasons as refuelling and some car maintenance but also for various requests and problems derived during driving, i.e. hunger, headache, navigation help, sending or receiving fax-messages etc. In many parts of Europe petrol stations have turned more into convenience stores, providing leisure articles, letting videos, groceries, lotteries, postal and banking services, car-wash, toilets, etc. This might not be surprising in light of the larger profit margins that merchandises generate, averaging at three times more than fuel.⁴

The place is also public in the way it attracts people – customers at a petrol station is truly a varied and heterogeneous gathering. To this, heterogeneous place, some petrol station brands have implemented information and communication technologies for customers. For example Statoil and Telenor are implementing wireless local area network(w-LAN) in Norway, enabling high-speed access to Internet with the use of w-LAN-cards and portable computers (i.e. laptops and PDA's). In light of these changes it is for the petroleum retailer, where we conducted our study, and our, interest to understand how petrol stations “work” and how the activities at the petrol station might be affected by the implementation of W-LAN capabilities. Thus, the study was conducted partly as a *pre-development study*.⁵ Ethnography is not a method that *in it self* generates system design, however it can inform design, development and deployment.⁶

2 Roadsides and road-use

The setting of the road environment is exceptional, where isolation and the speed of the vehicle contradicts with the necessity of social interaction to handle problems and contingencies. Automobility is thus a contradiction in terms of mobility, it enables huge physical displacement but under a condition of extreme immobility for the road-user while driving.⁷ In the discussion paper,

Consuming Automobility, Elisabeth Shove points out that there are two different approaches to study the alternative ways of car-related consumption, either focusing on the car-as-object or the car-in-use.⁸ Studies of the car-as-object focus the car as: objects of desire; quasi-home environments; markers of identity and status etc, while they rarely acknowledge the fact that cars also function as a means of transport. Whereas studies of the car-in-use, focus on more abstract concerns such as: motives for mobility; infrastructure demands; management of time; necessity of mobility; accessibility etc. In these studies, however, the car itself seem to impose the demands and constraints.

There is a third approach, I would argue, that study the car-in-road-use. These studies focus on the use of the car, not from abstract concern for society, but as an ongoing accomplishment in and through the use of roads and cars. First, these studies show the mutual co-operation necessary to use the road simultaneously by communicating through horns, car movements and lights. Second, that drivers make their driving 'account-able' through the cars different movements etc. Third, that the rudimentary communication tools available can increase ambiguity of the situation leading to different levels of frustration and anger. Fourth, that driving is far from the only activity in road-use, and that it is part of the drivers 'skill' balancing between activities ranging from laptop-use to scratching the nose.⁹ Despite the details of these studies, the observations are limited to following the people (and their cars), which restricts the perspective of road-use to the passenger seat.

Studies of roadside locations, such as petrol stations, can be seen as a complement to studies on the car-in-road-use. In previous studies on petrol stations Anne Sofie Lægran provides two accounts of youth cultures, in rural villages in Norway. One of the youth groups, the "rånere", has an identity that revolves around cars. In *Escape vehicles*, a petrol station, called "the auto", play the role of a meeting place for each group. For the "rånere" the petrol station is important but the "car itself constitutes the major space where the interaction takes place".¹⁰ In *The petrol station and the Internet café* Lægran compares two rural villages with "rånere" and Internet cafés implemented by respectively municipality. In one of the villages the "rånere" identify themselves as "the shell gang", implying that the car may be central for each "member", but the petrol station is important for the identity of group and as a member of the group. The petrol station becomes a technosocial space that is extended by the car. The petrol station becomes important as the only place for young people, in rural Norway to meet informally.

Apart from petrol stations there are other roadside locations where the 'fixed' and the 'mobile' meet. For example Megan Morris essay on the Hendry Parks Motel. In her essay, Morris shows how the activities and accomplishments of the place are not properties of static dualisms (mobile/fixed,, touristic/everyday, itinerant/domestic) but rather, "along a spectrum divided by degrees of duration, intensities of 'staying' (temporary/intermittent/permanent)."¹¹ Her discussion brings forth the everyday realities in travel. In this paper I have avoided to follow certain people, individually or in group, and

instead focused on the ‘ground floor’ understanding of a place. The petrol station, like other public gatherings¹², is populated by a wide variety of people, not seen or treated as a crowd of homogeneous ‘strangers’.¹³ While studying a commercial strip Lynch and Southworth describe the public gatherings:

“As we watch the street we see people- Passing through in cars, trucks, bicycles, motorcycles, taxis, busses

Walking, running, standing, climbing, sitting, lying down, in wheelchairs or on crutches.

Looking for destinations,

Getting in or out of vehicles, parking and deparking them,

Window shopping, buying selling,

Using phones, mailboxes, trash cans,

Socializing, playing, “hanging out,”

Cleaning, repairing, constructing,

Policing,

Waiting, resting,

Taking care of children,

Carrying parcels, delivering.

How can we classify these users of Main Street, and how does this environment suit them?”¹⁴

Visiting the petrol station can be seen as a *social occasion* collaboratively *achieved* and *accomplished* continuously as customers and staff use the place in ways they think are appropriate in relation to those that are co-located. “Social action is ... always action in space and requires for its production collaboration and cooperation with others”.¹⁵ It is therefore important to study how the understandings of the petrol station in the “ways in which places and their inhabitants (temporarily or otherwise) are displayed and seen for what they are”.¹⁶ Staff as well as customers and visitors inhabit the petrol station, thus I have focused on the work of the staff but equally on the accomplishments on the utterly mundane activity of “doing being customers”. Studies of “doing being customer” highlight some features of the social interaction between customers and staff, particularly the queue and the counter.¹⁷ These studies show that the seemingly simple structure of some sort of order of the queues, requires considerable delicacy to handle. The counter manifested the relations between staff and customer but was also manifested through their interaction. As we will show in the findings, the fleeting relationship between customer and staff was a central feature of the petrol station setting.

3 Method

The work of this paper can be resided under the catchall, general and vague category of ethnographic work. Put simply, ethnography is studies of what people do and the meanings these activities have for them. The activities can range from special activities such as experiments in High-Energy Physics but also studies around everyday activities like walking.¹⁸ The main objective is to capture these activities in the settings where they are performed. However studying mobility through

ethnography has both theoretical and practical implications. Traditionally the experiences of the ethnographer have revolved around one site and the method has “been one of the main target for criticism in the debate on the place-focused notion of culture”.¹⁹ The experience of the site sets up a relationship between the reader and the ethnographer – i.e. the site provides credibility and authority for the ethnographers text.²⁰

Ethnographies have also tended to exclude those that are not available to observe. People traveling around, with no or fleeting detours through the ethnographers site have, despite their importance for those that stay in the ethnographers focus, often been ignored. Thus the method of *field studies* have in many ways overlooked mobility. Additionally, in disciplines using ethnography, mobility have only has received limited interest. Hastrup and Olwig writes:

“The difficulty of seeing movement as an aspect of social life in general is related to the fact that mobility, in so far as it involved settled people, has been regarded as a temporary phenomenon... the ‘natural’ state of the world was conceived of in terms of stability and social coherence”.²¹

The problematic issue with mobility is therefore that it is either disregarded since the researcher focuses on those that are settled, or it is understood as a temporary phenomenon where general aspects of social life does not assume to appear. Thus it seems contradicting to use ethnography, since the method in part is one of the reasons why mobility to some extent has been overlooked.

Despite these problematic aspects, ethnography can still ad to our understanding of mobility by using an adaptive ethnography approach as suggested by Hine. An adaptive approach acknowledges that the method of study has to adjust to the conditions where the ethnographic object can be studied.²² Thus, partial accounts can still be provided through ethnographic engagements as one outlines the strategic purposes, particular concerns and a delimitation of the ethnographic object. The ethnographer has to take part in constructing its field(s) of engagement. Marcus, suggests various strategies such as following people; things; metaphor; plot, story of allegory; life or biography; conflict or to construct/conduct strategically situated (single-site) ethnography.²³ Similarly, Weilenmann suggests four strategies to study mobility by following the actors, following the technology, studying a place and studying the communications.²⁴ Thus, these scholars suggests combining partial adaptive ethnographies to observe mobility.

The strategy for our study of the petrol station was a strategically situated (single-site) ethnography or a study of a place, in the sense that I didn’t move around in search for the mobile society. Instead the petrol station provided a continuous flow of fleeting relationships passing through the forecourt. While being located at one site I engaged and observed the continuous fragmentary interactions which can be understood as activities in a mobile society (or societies). Marcus point out that: “strategically situated ethnography attempts to understand something broadly about the system in ethnographic terms as much as it does its local subjects”.²⁵ Thus, the encounters at the petrol station can provide an

insight, partially, to the everyday lives of automobility. However keeping in mind that one can only obtain a partial, heterogeneous and fragmented picture as a part of an ethnographic pursuit.

The fieldwork was carried out at a suburban petrol station on the west coast of Sweden. I visited the petrol station regularly between April & June 2002. The first weeks as a staff member, following a shift, working variously between 06:00 and 22:00. This was important in order to be treated as an “insider” of the setting by the staff but also to learn the “life cycle” of the petrol station setting.²⁶ My “ritual induction” to the setting was when I was left alone by the counter with the comment: “If you know how to run a computer, then you know how to run a cashier machine.” During the last two weeks I observed the store and forecourt as a customer, either standing at a “café table” or sitting on the grass outside. Thus changing “costume” to get a different perspective of the site.²⁷ Throughout the entire fieldwork extensive field notes were taken. On four occasions, conversations between staff and customers were recorded at the counter (aprox.13h). The material, field notes and selected recordings, were then transcribed and made anonymous. Themes were identified; firstly in relation to the location the activities took place. A few sequences have then been chosen to exemplify the issue of this paper.

4 Contextualization of the petrol station

Primarily focusing on Internet cafés, Lægran describes the petrol station and Internet café as technosocial spaces. She defines technosocial space as “space produced through technosocial practise involving humans as well as technological artefacts”. In the intersections of Science and Technology Studies (STS) and cultural and social geography, the term is used to highlight the spatial aspects of sociotechnical relations but also that technology, as actants, are actively involved in the production of space. Technosocial practise refer to spatial practises with users and technologies that are part of the mediation and transformation of space.²⁸ In section 5 I will describe the accomplishments of tending to mobility at the petrol station, i.e. the petrol station as a space that tends to mobility. But first, in this section, I will briefly describe some of the interconnected sociotechnical spaces (spatial, social and technical) that make up the petrol station.

Petrol station brands are large networks, a petrol station brand (Shell) is the world’s largest retailer in the amount of stations/stores, all categories. Petrol station brands are often very consistent, so that travellers should find the station instantly recognizable. The design, colour, shapes are carefully chosen, and the selection of commodities equally standardised. Minale describes how e.g. retailers such as BP and Shell have “harmonized” their networks. Thus the petrol stations become standardized, the driver can find “the same” petrol station wherever s/he goes.²⁹ At the station I studied this, standardization was countered with a weekly change of some commodities at what the staff called “the

square”. One week they sold Harry Potter videos, another week they had a chef making and selling BBQ. Thus the standard stock was “spiced” with specific weekly offers.

The petrol station is part of the road infrastructure i.e. asphalt, concrete, bridges, gravel, and ditches. An infrastructure that requires maintenance and attention e.g. road inspectors drive around along these roads repairing potholes, burying run over animals and fixing fences. Roads are also regulated through road administrations, rules, signs, policemen and signals. For the petrol station, the road is its entrance and exit. Through the road, vehicles, commodities, people and petrol arrive and leave this place.

The station is located in the outskirts of a city on the west coast of Sweden, situated between a large industrial and a suburban area. The station is located beside a junction to a highway. There are sport facilities and a horse racing track close by. A department of the university is located fairly close to the station too. McDonalds restaurant is the closest neighbour beside the petrol station. Most often visitors arrived to the petrol station with vehicles and the petrol station I studied was also locally connected to a car salesman in the vicinity. Several time a day, staff from the salesman visited the petrol station to refuel cars that they sold. There where also flyers at the station advertising the car salesman and there was also a car (from the salesman) on display at the entrance of the petrol station.

The station is open twenty-four hours a day. It is equipped with seven pumps, all customer operated. The forecourt has three areas marked as parking lots, two along the left and the right side of the entrance to the store (which is located at a corner of the building), with a narrow pavement between the building and the parking lots. The third parking area follows the outer rim of the “backside” of the forecourt towards the main road. There is a pavement in front of the entrance. There are large windows facing the forecourt on the store parallel to the two counters inside the store. The station has a car wash in a separate building. Rental-trailers are parked along one side of the forecourt and beside them, a metal-cupboard containing gasoline tubes.

Many objects move through the petrol station. Petrol stations are stores selling commodities, where gasoline is the most important commodity. The petrol station has a large assortment of groceries inside the store. The store is equipped with a grill, two counters, one shelf with video, CD and DVDs and one shelf with rental-movies, a coffee machine and an oven to bake or heat up bread. In one corner of the store, you can find windscreen cleaners, light bulbs, oils, cleaning liquids and other products for car maintenance and repair. The store also has a “square” where seasonal commodities are sold. One of my fist assignments when starting the fieldwork was to move the snow-shovel back to the storage area and at the end of my study, they sold e.g. fishing rods and out-door games. In short the station is heterogeneous, already, and offers a vide variety of commodities and services.

Paying for petrol or a hotdog implies that the petrol station is connected to the networks of finance, e.g. the station I visited offered various ways of payment such as, invoices for regular companies (like

the car salesman), payment through visa cards either by the petrol pump or the counter, or through cards with loyalty programs for the petrol brand, and finally through bills and coins. The visa cards and the loyalty cards were managed through the two cashier machines, that basically were two computers. The store also had a cash guard for bills and coins, due to the risk of robbery at nights and evenings. A cash guard makes the bills unattainable for the staff, instead they push the money through sensors, that calculate and provide change if necessary.

The station is connected to a wide network of computers, cables, satellites, radio towers etc, a network we have called information and communication technologies (ICT). For example the petrol station had portable alarms that alerted security companies in case of robberies and buttons in the store where used to alert the police. Three computers were used to connect to the distributors since the stations regularly needed to restock. One computer automatically alerted a refinery when the petrol tanks were low. The other two computers used scanners, that the staff used when they wanted to order goods. There was also a fax machine that was used similarly, particularly to order tobacco (of which they sold a lot). In the store the station had two cashier machines that tracked the sales and the money transfers through ISDN or broadband networks. The information and communication technologies connected the money and the commodities with the vehicles and the roads intermingling the technosocial spaces.

Many of the customers and staff regularly arriving and leaving the forecourt also carries their own ICT's. The almost omnipresent ICT network at the petrol station is mobile phones, that both customers and staff regularly used at the petrol station.³⁰ But other ICT networks are increasingly being used such as car driver's possession and use of PDA's, and laptops equipped with W-LAN cards. The petroleum retailer Statoil in Norway, has in collaboration with Telenor started implementing W-LAN at their petrol stations, providing broadband access to visitors at the petrol station.³¹ Thus we can speak of networks *of* the station, that the petrol station owns and uses, and networks *at* the station, that the customers carry as they temporarily stop.

The station I studied had approximately 1600 customers daily. It was indeed a heterogeneous gathering of people that passed through the station area. Both men and women used the place. From what looked like homeless alcoholics, borrowing the toilet and asking for a pay phone, to a female elite athlete. There were men in suits, postmen, gardeners, road builders, road inspectors, policemen, security guards, university students, salesmen, children, teenagers, bikers with beards, Polish truck drivers, German tourists, transvestites, people that graduated, people with horses, teenagers with mopeds, men working on Volvo Ocean race, Danish salesmen, etc. For the staff, most customers were new faces. There was also a group of regulars, there were the drivers at the car salesman visiting the place ten to fifteen times a day, there were security guards working in the area, simply those visiting the place frequently.

The staff was also a diverse group, one had only a couple of month to retirement and another was finishing her college (high school/gymnasium). One staff member started the same time as I began my research whereas others had worked for thirty years at petrol stations. Both visitors, customers and staff used the roads to get to the petrol station, roads and cars where used so that this heterogeneous gathering regularly could stay and pass through the forecourt. These people, customers and staff, used and produced the petrol station.

Thus, the petrol station consists of various technosocial spaces superimposed onto each other, spaces that have both local and global bindings. Roads and vehicles connect, through the necessity of petrol, while carrying both customers to the petrol station but also the things that the petrol station provides. Thus commodities changes ownership, at the petrol station from the vehicles of the producers to the vehicles of the consumers that comes and goes out again through the network of roads. While the moneys and currencies flow in the opposite direction.

5 Tending to mobility

The petrol station revolves around the movement of vehicles, commodities, people, information and money that detours through the station area. It tends to mobility. The petrol station is also a store and the primary task is to sell commodities. Most commodities are intended to be used or consumed in other locations than the petrol station or while mobile. Thus, the encounters that I could study were fragmented encounters of temporary visitors moving through the place, purchasing objects that they consumed at their homes, their trucks, their cottages or at other locations. I could, for example, observe how a man and his daughter stood by the dairy-products talking to each other.

01 **Father:** we don't have any milk home, do we?

02 **Daughter:** No, I drank it up this morning.

Observation 1: Father and daughter talking about buying milk

This observation shows the mundane, everyday activities occurring at the petrol station. The father asked his daughter, so that they could decide whether they should buy milk or not. Milk, bread, chips rental videos and other products where mostly consumed or used elsewhere, such as the milk at home. These ordinary encounters were frequent at the petrol station showing the mundane practices that dominate the times and efforts in the mobile society. Tending to the mobility of milk, from the cow at the farm, through the dairy with trucks into tetra-packs to the petrol station and finally to the home of the father and daughter, is indeed what our mobile society revolves around.

5.1 Tending to the means of mobility

To work, most cars require fuel and a regular repair and attendance. Petrol stations provide the necessary fuel and at times some assistance in tending to cars. Refuelling was a self-service activity, where the customers parked beside a vacant pump, opened the lid, lifted the pistol into the tank and pressed buttons. The sequences in which you started the pump were several and each sequence could be misunderstood both by the person filling up, the staff or the machine, a fragile delegation between the machines, the customers and the staff was accomplished continuously. The staff monitored the pumps as customers refuelled and pressed a button on the charier machine before the customer could refuel the car. This was necessary in order limit cases of “fill and run” – when customers refuelled and shirked paying. The store kept a list with the licence plate of all cars that refueled and a list with the cars whose owners had skipped paying. The petrol station provided additional services to vehicles beside petrol, such as a car wash and a trailer park for customers that wanted to increase their capability to move objects.

Cars also broke down and needed fiddling with. Inside the petrol station there was a shelf with products that could be useful to fix minor problems with the vehicles, such as light bulbs, windshield wipers, oil, cleaning equipment, start cables etc. If they had the time, staff assisted customers that had problems with their vehicles, but most of the times they provided tools. For example when a man parked on the forecourt for twenty minutes, working on the engine of the car. He borrowed a sledge hammer and some tools at the petrol station. He also used his mobile phone, leaning it towards his ear while he worked on the engine. Its probable that he was assisted by someone in the phone while he fiddled with the engine.

5.2 Tending to mobile bodies

People too needs tending to. The toilet was frequently used, and the station sold various foods, such as salads and hotdogs. The store was particularly crowded at lunchtime when many people working in the surroundings of the station bought their lunches, some even staid on the forecourt to eat. The staff produced hotdogs, baked bread and bun, but also tended to minor wounds and tried to relieve headaches with aspirins. The staff also assisted requests, e.g. when a woman asked the staff to heat a bottle of gruel. It was late evening (8:20PM) and the woman probably found her self on the move when it was time to put her child into sleep. The staff walked into the personnel lunchroom, heated the bottle and walked back to the visitor. Thus, the woman could attend to her child and put the child to sleep even though they where on the move.

Another aspect of mobile bodies is the time they require. Visitors could take time when tending to their bodies, on one occasion two visitors parked and stayed for an hour, using the toilet and redressed during their stay. Other requests can be urgent. One could distinguish between ‘smooth & fast

customers' and 'relaxed customers' e.g. by the way they moved in the store or how they used the forecourt.

01 A car stops outside of the entrance, on a sunny day. **Visitor1** rushes into
 02 the store, leaving the door on the drivers seat open. He walks strait to
 03 the counter where I'm currently working, and asks
 04 **Visitor1**: Do you have pacifiers?
 05 **Daniel**: Yes, I think so, down by the aisle in the middle.
 06 I point in the direction of the shelf where I assume pacifiers are
 07 located. The man walks in that direction in the store. I turn around and
 08 look out towards the car, it is a black Volvo station wagon. A young
 09 child is sitting in a child stool on the front passenger seat, looks
 10 tears eyed, or is perhaps squinting. I serve another customer in line
 11 before **Visitor1** returns to the counter with a parcel containing three
 12 pacifiers, he pays and returns out to the station wagon. Shortly
 13 thereafter they drive off.
Observation 2: Visitor1 in search of pacifiers

The possibility of keeping an eye on the vehicle while in the store was a probably an important reason for the man to park just outside of the entrance. Keeping the vehicle close to the entrance was an expression of being close to the car since he had a child crying in the vehicle. But he had to leave the car, in order to buy the pacifiers. Many services of the petrol station, even refuelling or washing the car, required that the driver, or passengers, had to leave the vehicle, at least once. This could conflict with engagement to objects, animals or people that were left in the vehicle.

Those left in the vehicle could object to becoming alone. As in a situation when the child walked into the store after the mother, surprising her with his skills of getting out of the car. As they left the store she commented, "lets rush", thus providing a clue to why she probably walked into the store before her son. One could assume that she didn't intend to stay that long at the petrol station and that she had obligations to attend to soon, making the judgment that, leaving the son in the car would speed things up a little, again showing that customers expect the petrol station to be of fast service. Thus some of the customers were dependent of leaving the vehicle while at the same time stay with the vehicle, an impossible task. Attending to urgent matters at the petrol station increased the notion of the place as being "on the way".

5.3 Tending to mobile objects

Beside people and vehicles, the road network is also used to transport objects. Most obviously, petrol stations provide objects – commodities - to be moved to and from the station. The station was also used as a drop of pick up place for object in an informal manner. A couple of times every week visitors left objects at the counter that other visitors fetched later on. Once, a woman left a mobile phone by the counter at around 12:50. Half an hour later, a man arrived and picked it up. Apparently the man and woman didn't have the opportunity to meet face-to-face to hand over the object, still they

were able to be at the same place asynchronously. Thus the phone could be handed from the woman to the man - mediated through the petrol station staff.

The petrol station tended to the mobility of objects by holding them immobile, temporarily. This service can also be understood when considering the movement and mobility of working groups such as e.g. truck drivers. In a parallel study of petrol stations, a truck driver fetching a mobile phone was travelling from Sweden to Copenhagen and then further down to Italy and Spain. Thus the truck driver didn't have a location where objects could be sent to him (at least not while he was working). However he could rely on a network of friends that asynchronously could leave and fetch objects to each other at places such as the petrol station. Here it is the petrol station, as a place, that supports the mobility of people and objects.³²

5.4 Handling time - tending to flows of money

Selling commodities imply that in exchange of an object the store receives money. A two way movement of objects and money is produced. The fleeting relationship between staff and customers at the counter dominated the interactions that occurred in the station area. Here the possibility to distinguish between 'fast and smooth customers' and 'relaxed customers' was difficult, at the same time as paying for groceries and/or petrol takes time. The purchase sequence is sensitive and uncertain and thus requires a lot of attention both from the staff and the customer.

Paying can hardly be considered a novel activity; it is highly mundane and ordinary.³³ When paying for petrol both the staff and the customers had to make sure that you paid for the right amount of petrol, after the customers already have refuelled. The sensitivity of uncertainty in the purchase requires the attention of both customers and staff, when performing the collaborative act, a subtle negotiation is needed as the following excerpt exemplifies, (staff is given a fictional name):

Line	Conversations	Action
1	Philip: Hi, Hi*	taps on the cashier machine
2	Visitor2: I'll take petrol on this one*	hands over a credit card
3	Philip: Three, wasn't it?	
4	Visitor2: probably yeah* that's right	upward intonation
5	Visitor2: e' thats it, () (and soo)*	dials a code on a number-pad
6	Philip: Is that all?	
7	Visitor2: Yes, that's all ... *on <u>that</u> one	turns away from counter and walks away

Excerpt 1A:purchase sequence for petrol (10:00:56-10:03:04)³⁴

Trough Line 1-6 and the beginning of line 7, this excerpt provides an insight in a common sequence of purchasing petrol.³⁵ During the *negotiation* (line 3-4) both customer and staff had to link the outdoor activity of filling up into the counter and the activity of paying. In line 3 Philip, the staff, (seems to have a clue of the customer's car), makes a statement of which car that belongs to the customer. The statement is followed by a question for verification. Thus the customer is given leeway

to question the statement. The response from visitor2 (line 4) can be divided into two sections. First, (*'probably'*), can be understood as a conformation of the reliability in the statement by the staff, but not the content of the statement (i.e. if the car really is three). The second part of the answer, (*'yeah, that's right'*), starts with an intonation, as if the customer has been able to verify the statement in the course of the conversation. Behind the counter there is a large window, providing a good overview of the forecourt, therefore the customer is facing the forecourt as he is paying. Between the two sections of his answer, he had the ability to check out at the forecourt, and confirm the statement made by the staff. One could assume that the first response was based on his unfamiliarity with the place, i.e. he didn't know how the different pumps were categorized at the forecourt, by looking out he could see a big number (3) painted on a pole beside his car – giving him the possibility of making the same statement of the whereabouts of the refuelling.³⁶

Excerpt 1A also provides conversational clues that shows how the conversation did not end, as the purchase sequence was on its way of being finished. As visitor2 continues on line 7, while he is turning away from the counter, *'on that one'*. The second part of the utterance by visitor2 becomes a juncture point³⁷ between the petrol purchasing sequence and a side sequence, where the customer goes off to buy something else in the store. *'That'*, probably refer to the credit-card that visitor2 uses for the purchase of petrol, this object was introduced on line 2 already where the customer states that he wants to buy petrol on *'this one'*. The second part of the utterance at line 7 reintroduces the credit card and makes it an object for the transition into a side sequence. Philip continues his work by assisting the next customer, whereas visitor2 picks the object that he wants to buy in the store. When the other customer leaves the counter, visitor2 resumes his purchase sequence:

Line	Conversations	Actions
18	Philip: [good bye*	to another customer
19	Visitor2: [The receipt did you (save) it for me, the	
20	petrol receipt just recently or?	
21	Philip: Nnno but I can print it out	
22	Visitor2: Thank you (##) then I would like this	holds a object that he intends to buy
23	one* on my private card that receipt on the other	
24	hand you can (##) archive	
25	Philip: Nno, they aren't too delighted for that huu?	
26	Visitor2: Petr-Petrol receipts are good ehaaa' the	
27	company doesn't require it but I like to save them	
28	to double check cause I'm taxed for the petrol then	
29	ah'	
30	Philip: aha, yes, okey	
31	Visitor2: so I want to keep track (##) so that one	
32	doesn't mix up the expenses:::	

Excerpt 1B: Return to purchase sequence and request for receipt

Visitor2 resumes the petrol purchase sequence by asking for a receipt (line 19-20). Thus the customer divided his transactions between those that referred to the outdoor and those that were found in the store. He even used different modes of payment, two different credit cards. As he states, making

his request 'legible' by saying: '*so that one doesn't mix up the expenses*'. Thus he makes his request understandable to Philip. In his request, visitor2 refers to taxes (line 28), to his company (line 27), and the money they provide for his work and his private money handled through the private credit card (line 22-24). Thus the division of the two payments was an ordering between private and corporate money. But the division of tasks, paying first then walking into the store could also be understood, as a way to finish the refuelling sequence so that the car no longer is needed as an index of the purchase.

The complexity of the fleeting relationship by the counter takes time. This in turn creates a push to speed up the process, however, as Brown points out, the staff balance between good and quick service.³⁸ But working the queue at the petrol station is a highly collaborative activity, where the staff alternate, walk away from the counter with customers that required more time and even jump in beside each other so that the queue "moves". In excerpt 1C printing the receipt became more problematic as it perhaps was expected to be and a queue formed behind visitor2. Charles, a colleague to Philip, opens the second cashier machine adjacent to Philip, and the queue regroups.

Line	Conversations	Actions
33	Philip: WHAT:::, can not print out the terminal	is said towards the cashier machine
34	receipt again (#.#) of course you can*	
35	Charles: can I help the next one?*	is said at the adjacent counter
36		
37	Visitor3: yea, small marlbrou[light*	is said at the adjacent counter
38	Visitor2: [stupid of me perhaps*	said in a low voice but clearly hear-able

Excerpt 1C: Problem with the cashier machine and the formation of a new queue

The cashier machine did not respond the way Philip expected, Philip reacted and made his work aloud - making his action (and the action of the cashier machine) visible and audible. Visitor2 in turn apologized for his request. The fast flow of customers by the counter is not only referred to by customers taking time, those that speeded up the process were just as active. Customers sometimes jumped the queue, putting the money for their purchase, beside the counter while the staff was busy serving another customer. The staff would then have to account for the purchase afterwards.

Queue jumping at the petrol station can be perceived as somewhat differently. From the perspective of the petrol station that favours fast flow of cars and customers, jumping the queue is a way of getting things done quickly. Especially when people pay for petrol. At some petrol stations customers are, through signs at the pump, requested to jump the queue in the store so that they can pay for the petrol as soon as they've finished refuelling. The "obviously bad" act of jumping the queue can at the petrol station even be seen as justifiable.



Figure 1: A petrol muff with a note: "OBS! KINDLY PAY PETROL IMMEDIATELY AT THE COUNTER break queue"

5.5 Information of/for mobility

The petrol station assisted requests concerning activities that took place on the road. Navigation as part of road-use was probably the most obvious one. The station had maps, both maps that they sold and local maps that they handed out for free. Maps and the use of them is a well-researched field.³⁹ The interactions between staff, visitor and map was conducted mostly for two reasons. First the interaction localized the visitor both to a position on the map but also to a place along the road (the petrol station). Second, the staff often provided a direction and a route for the visitor to continue its travel. For example when a woman asked for Amigostreet at the petrol station. She was prepared, prior to entering the petrol station, with a map ripped out of a phonebook to guide her. From the conversation we could assume that she already tried to drive to the place. Thus, when the staff gives his direction, she has already tried and has a “picture” of the setting. It seemed like she tried to follow the directions of the staff by visualizing her previous tour. The conversation was not so much a direction-giving but a reassurance that the woman was on the right way.

Generally, most of the navigational questions at the petrol station that I studied focused on local settings. Whereas the road might be global the petrol station becomes the port to the local setting, e.g. truck drivers from Poland, can follow the global highway system but when they arrive to their city of their destination they are dependent on the local navigation knowledge at petrol stations or similar places.

Similarly, the use of mobile phones at the petrol station seemed to revolve around information regarding mobility.⁴⁰ For example I overheard people asking for directions and who a woman, after selecting groceries called a pizzeria to order a pizza before she walked up to the counter and paid. Even though the conversation I overheard was partial (I could only hear half of the conversation), the comments of those located at the petrol station indicated that the conversations tended to the mobility of the phone user and that the petrol station was “on the way”.

5.6 Limits of automobilty

As mentioned, there were two approaches to the activities occurring at the petrol station; ‘fast & smooth’ or ‘relaxed’. Customers that were ‘fast & smooth’ accomplished an impression of the place as ‘being-on-the-way’. However customers that walked around, relaxed or that seated themselves on the trailers or at the lawn, accomplished a somewhat different impression of the place. I regularly saw people meeting each other at the petrol station, both opportunistic and what could have been pre-planned.

For example when a man was eating a hotdog out on the pavement by the entrance, a woman parked outside the entrance walked to the store and bought a ticket to the car wash. The man greeted her when the woman exited the store. They talked to each other while the man was eating his hotdog

and the woman walked to her car. She opened the driver's seat. They stood by the car and talked for 5-7 minutes, then he disposed the trash around the hotdog and she sat down into the car. However he walked back and they continued to talk for 10-15 minutes before she drove to the car wash and the encounter ended.

The way the woman sat down during the conversations could be an indication of her way of accomplishing 'being-on-the-way'. Similarly, the man seemed to work on accomplishing 'being-of-the-way'. The meeting appeared to be opportunistic, but many other gatherings in the store and on the forecourt was part of the mobility of driving together in different vehicles. Especially motorcyclists sat on their bikes and talked to each other before driving away. This might not be so peculiar considering the difficulties of talking and meeting each other on the road.

My impression of the accomplishments of meetings at the petrol station was that more than saying something specific of the petrol station they highlighted some of the limitations of automobility. Like the motorcyclists or the opportunistic meeting between the man and woman, road-use limits the ability to meet due to the speed and enclosure of the vehicles. Stretching the legs, taking a coffee break or reading a newspaper similarly shows that several activities at the petrol station occur at the petrol station since they cannot be performed while moving on the road. They seemed to take a break from mobility. The petrol station compensates for the limits of mobility.

6 Sustaining heterogeneous mobility

"The petrol station's solidity as *place* is founded by its flexibility as *frame* for varying practices of space, time – and speed."⁴¹

The petrol station attracted a heterogeneous gathering of visitors and customers. From transvestites and bearded motorcyclists to pregnant women and athletes. Their visits concerned mundane activities such as milk purchases and to heat gruel but it could also be to tend to minor motor repairs. The visitors arrived in group or travelled alone. They met other visitors, in opportunistic meetings or as part of caravan-travels. The petrol station attracted different people in a diversity of pursuits.

They rested or rushed through the petrol station. People 'on-the-way' could e.g. purchase pacifiers to calm the crying passenger but equally people could disembark from the 'flow of road-use' to e.g. stretch their legs, gaze in the sun and zip coffee. This diversity of activities, people and time was a sociotechnical-accomplishment⁴² where staff, customers and visitors mutually achieved different appearances of their visit at the petrol station. In line with Megan Morris the customers accomplished a spectrum in intensities of 'staying'- from 'fast & smooth' to 'relaxed'.⁴³ A tension between these

intensities of ‘staying’ could at times occur by the counter, thus both staff and customers tried to delicately handle queues and requests at the counter in concern with the appearances of co-customers.

The petrol station tended to mobility, it is strongly interconnected to the technosocial spaces of road-use. Most of the activities that the petrol station assisted was self-serviced, even though the staff monitored most activities and in case of malfunctions rushed to the rescue. If approached, the staff tried to assist questions, requests, enquiries, keeping objects or tended to minor repairs. Thus, it was not the ‘service’ of the petrol station, but the availability that attracted visitors and customers. It was both availability in relation to the road (i.e. easy access for road-users) and availability of the superimposed technological spaces. The station was both global and local, the branded totem was a symbol of consistency – a standardisation in expectations. The same symbol created an expectation of locality e.g. when customers asked for directions and localization of the roads in the neighbourhood or when visitors left objects to be temporarily immobile on order to change ‘owner’.

The petrol station was a place of the transition between ‘fixed’ and ‘mobile’. Through this duality it tended to mobility, a mobility that is accomplished, partly through the mutual co-operation necessary to use the road simultaneously,⁴⁴ but equally accomplished through the temporary stops at the petrol station, either to tend to the means, moneys, bodies or objects, or in order to temporarily disembark from mobility. However, much is still to learn regarding the details of accomplishing mobility.

7 Acknowledgements

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References and endnotes

¹ On mobile societies see Urry (2000). *Sociology beyond Societies: Mobilities for the twenty-first century*. London:Routledge. On the virtual and mobility see Cooper, G. , Green, N., Murtagh, G. M. & Harper, R. (2002) Mobile Society? Technology, Distance and Precence, In Woolgar S. (ed) *Virtual society? Technology, Cyperbole, Reality*. Oxford University Press pp286-301., On mobility and mobile technologies see Weilenmann, A. (2003). *Doing Mobility* Ph. D. Thesis, Gothenburg Studies of Informatics, Report 28, Sweden.

² Terminology In Goffman, E.(1963), *Behaviour in Public Places: Notes on the Social Organization of Gatherings*, New York: The Free Press. and Jefferson G.(1972), Side Sequences, in D. Sudnow (ed.), *Studies in Social Interaction*, pp294-338.

³ See Livingston, E. (1987). *Making Sense of Ethnomethodology*. London: Routledge & Keagan Paul. and Laurier, E. (forthcoming#) Driving and working on motorways (unrevised)# on accomplishing driving and Weilenmann (2003) Op cit. note 1 on accomplishing mobility in using mobile technologies.

⁴ Minale, M.(2000). *How to design a successful petrol station*, London: Booth-Clibborn Editions/Internos Books.

⁵ Brown, B. and Chalmers, M. (2003) Tourism and mobile technology. In *Proceedings of ECSCW 2003*.

⁶ Ethnography, as a research method originating from anthropology and sociology, has become a known method in system design, particularly within Computer Supported Cooperative Work (CSCW) and Participatory Design (PD), for reviews of the method in relation to design see e.g. Harper (2000) "The organisation in Ethnography: A Discussion of Ethnographic Fieldwork Programs," *Journal of CSCW* 9, Crabtree, A., Nichols, D. M., O'Brien, J., Rouncefield, M. and Twidale, M. B. (2001) "Ethnomethodologically Informed Ethnography and Information System Design," *Journal of the American Society for Information Science and Technology*, (51:7), pp. 666-682, Shapiro, D. (1994). The Limits of Ethnography: Combining Social Sciences for CSCW, in proceedings of CSCW'94, ACM, Chapel Hill, pp. 417-428., Berg, M. (1998). The Politics of Technology: On Bringing Social Theory into Technological Design, In *Science, Technology, & Human Values* (23:4), pp. 456-490., Wasson, C. (2000). Ethnography in the Field of Design, In *Human Organization* (59:4), pp. 377-388., Hughes, J., King, V., Rodden, T. and Andersen, H. (1994). Moving out of the Control Room: Ethnography in System Design," in proceedings of CSCW'94, ACM, Chapel Hill, pp. 429-439., Pors J. K., Hendriksen, D., Winthereik, B. R. and Berg, M. (2002). Special Issue on Ethnography and Intervention, *Scandinavian Journal of Information Systems* (14:2). and Glimell, H. & Juhlin, O. (eds) *The Social Production of Technology: On the everyday life of things*, Sweden: BAS. Proponents of ethnography often argue that the method is necessary when taking the social context of technology use into design consideration. The understandings of the people, the settings and organizations can prove to be useful in design. As Harper (2000) writes: "[It] is useful and can uncover important materials that need to be taken into account when systems are being designed, implemented and evaluated; it can make the difference between good and bad, between nearly good and the just right." Such differentiations reside on a dichotomy between technology and social practises and organisation, if we as Berg (1998) notes perceive technology as unpredictable and fluid, then it will become much harder to specify design implications that will have a predictable impact on the "human" practises. However outlining directions for design or predict an outcome of such directions are two different things. And even though one could concur with the complexity, fluidity and the hybrid forms of "human" and "technology" one could still argue that there are degrees of differences between design with or without informed representations of "the social". The use of ethnography for design also adds to the rhetoric of business as Glimell & Juhlin (2002) point out: "one cannot raise trust – the essence of all investments – in claiming that things will make sense for the many, without revealing some kind of knowledge about the practices within which those products are to co-exist with humans and perhaps with other non-humans." (p 1)

⁷ Beckmann, J. (2001). Automobility – a social problem and theoretical concept. In *Environment and Planning D: Society and Space*, volume 19, pp 593-607, Pion publication, Great Britain

⁸ Shove, E. (1998). Consuming Automobility. Project SenceSusTech Report 1.3.

⁹ On co-operation see e.g. Juhlin, O. (2002) Traffic Behaviour as social interaction – Implications for the design of artificial drivers. pp 19-38. In Glimell, H. & Juhlin, O. (eds) *The Social Production of Technology: On the everyday life of things*, Sweden: BAS On 'account-ability' see e.g. Livingston (1987) & Laurier (forthcoming) Op. cit note 3, On frustration see e.g. Katz, J. (1999). *How Emotions Work*. London: University of Chicago Press. On doing different side engagements in parallel to driving see Laurier (forthcoming) Op. cit note 3, Laurier, E. (2002). The region as a socio-technical accomplishment. Brown, B., Green, N. and Harper, R. (eds) *Wireless World – Social and Interactional Aspects of the Mobile Age*. London: Springer Verlag. and Esbjörnsson, M. & Juhlin, O. (2003). Combining mobile phone conversations and driving – Studying a mundane activity in its naturalistic setting. In Proceedings of ITS'2003.

¹⁰ Quote p 10 in Anne Sofie Lægran (2003) Escape Vehicles?. In Oudshoorn, N. & Pinch, T. (eds). *How Users Matter the Co-construction of Users and Technology*. MIT Press. see also Lægran, A.S.(2002), The petrol station and the Internet café: rural technospaces for youth, *Journal of Rural Studies*, 18, pp.157-168. Elsevier Science Ltd.

¹¹ Morris, M. (1988). At Hendry Parks Motel. In *Cultural Studies* 2:1-47

¹² Terminology In Goffman's (1963) see Op. cit note 2.

¹³ See e.g. Laurier, E., Whyte, A. & Buckner K.(2001), An ethnography of a neighborhood café: informality, table arrangements and background noise, *Journal of Mundane Behaviour*, 2(2), 195-232, June, www.mundanebehaviour.org , and Ryave & Scheinkein (1974). Notes on the Art of Walking. In *Ethnomethodology*. Turner (Ed). Penguin Education.

¹⁴ p 590 in Lynch, K. (1990). *City sense and city design – Writings and Projects of Kevin Lynch*, edited by Trindib Banerjee & Michael Southworth Cambridge, MA: The MIT Press

¹⁵ Quote from p 3 in Crabtree et al, (2001) Op cit note 6., see also e.g. Goffman (1963) Op. cit note 2.

¹⁶ Quote from p 202 in Laurier et al (2001) Op cit note 13.

¹⁷ See e.g. Brown, B. (#in draft) Custostomer interaction: fragments of a fleeting relationship. and Underhill, P. (1987). *Why we buy: the science of shopping*. London: Texere.

¹⁸ On the method see e.g. Hammesley, M. & Atkinson, P. (1995). *Ethnography – Principles in practice, second edition*. London: Routledge. And Harper, R. H. R. (2000). Op cit note 6. On High energy Physics see Traweek, S. (1988) *Beamtimes and Lifetimes: The World of High-Energy Physicists*. Cambridge, Mass.: Harvard University Press. On walking see Ryave et al (1974) Op. cit note 13.

¹⁹ Quote from p5 in Hastrup, K & Olwig, K. (1997). Introduction. In Olwig, K. & Hastrup, K. (eds). *Siting Culture*. London: Routledge

²⁰ Hine, C. (2000) *Virtual Ethnography*. London: Sage.

²¹ Quote from p 6 in Hastrup et al (1997) Op. cit note 19

²² Hine (2000) Op cit note 20.

²³ Marcus, G. E. (1995). Ethnography in/of the World System: The Emergence of Multi-Sited Ethnography. In *Annual Review of Anthropology*, vol, 24 pp 95-117.

²⁴ Weilenmann (2003) op. cit note 1.

²⁵ Quote from p 111 in Marcus (1995) Op. cit note 23.

²⁶ Terminology in Harper (2000) Op cit note 6.

²⁷ An adaptive approach described by Zuiderent in Pors et al, (2002 pp. 59-78), op cit note 6

²⁸ See Anne Sofie Lægran (2003) *Connecting Places: Internet cafés as technosocial spaces*. Dr Polit.

Dissertation, Dep, of Geography NTNU, Norway. Several other writers have used similar metaphors to describe different aspects of technology. See e.g. Sociotechnical-accomplishments in Laurier (2002) Op. cit note 9, Technology zones in Barry, A. (2001). *Political Machines*. London: the Athlone Press. On studies of the topologies of the technosocial spaces see e.g. Mol, A. & Law, J. (1994). Regions, Networks and Fluids: Anaemia and Social Topology. In *Social Studies of Science*, 24, 641-671., de Laet, M. & Mol, A. (2000) The Zimbabwe Bush Pump: Mechanics of a Fluid Technology. In *Social Studies of Science*. 30(2). London: SAGE. and Law, J. & Mol A. (2001) Situating technoscience: an inquiry into spatialities. In *Environment and Planning D: Society & Space*, 485 – 504. to name a few.

²⁹ Minale (2000) Op. cit note 4. The size of Shell: ~50.000, BP ~15.000, AGIP ~15.000 and Total ~10.000 stations. This can be compared with McDonalds' 14.000 restaurants in 1990.

³⁰ The use of mobile phones at petrol stations have among some retailers been banned on the forecourt due to a risk of ignition whereas in e.g. Denmark it is possible to pay for the petrol by the pump by using the mobile phone. The different approaches towards mobile phone use can be due to different risk assessments but also to different levels of development between the retailers.

³¹ Up to date, a hundred petrol stations have been implemented with w-LAN, and 200 more stations are on the way to be implemented with these 'hotspots' link: http://presse.telenor.no/PR/200307/910034_1.html

W-LAN stands for wireless local area network, also called wi-fi technologies. Many researchers have identified petrol stations as an ideal place for implementing hotspots due to its significant role in road use. See e.g. Ye, T., Jacobsen, H.A. and Katz, R. (1998). Mobile awareness in a wide area wireless network of info-stations," Proceedings of MOBICOM98, Dallas, Texas, USA. ACM, pp.109-120., Minale (2000) Op. cit note 4. and Bisdikian, C., Boamah, I., Castro, P., Misra, A., Rubas, J., Villoutreix, N., Yeh, D., Rasin, V., Huang, H. and Simonds, C. (2002) Intelligent Pervasive Middleware for Context-Based and Localized Telematics Services. Proceedings of WMC'02, Atlanta, Georgia, USA. ACM, pp. 15-24. Ye et al (1998) present the possibility of relaying road-navigation information through the use of hotspots at petrol stations. Minale (2000) Op cit note 4, provides an example of a petrol retailer that builds in-store banking, and touch-screen information kiosks (both in the store and on the forecourt). Bisdikian et al (2002) use a petrol station as an example of a local service provider with contextual applications. They describe how drivers can e.g. pay for gasoline electronically at a petrol station pump or download music to their car stereo.

³² See Magdic, M. and Sjöstrand, P. (2002) The petrol station – a hotspot along the road, Master Thesis Department Of Informatics, Göteborg University, Sweden. As part of their exam, two graduate students, Mile Magdic & Peter Sjöstrand studied an other petrol station in conjunction to the one reported here. They found that their station held, tires, ski boots, mobile phones etc. behind the counter that visitors left and fetched. Magdic & Sjöstrand found that both visitors and staff perceived this service as a confirmation of the petrol station as a centre. One of their informants, a staff member commented: "Both private persons and business people do this, cause people travel this way."

³³ As Brown (in draft#) Op. cit note 17. writes about the activities by the counter: "Putting objects onto the counter show a in-between status, goods would collect there until the transaction was completed." The counter at the petrol station was even divided into a "before" and "after" section, goods moved from right to left as they became registered in the cashier machine. Equally important was the 'in-between-objects' themselves i.e. the commodities. Often customers handed forth objects that they wanted to buy, in a physical and gesticulating manner, as symbolically displaying their purpose by the counter 'this is why I'm here'. At times including the

gesture with a verbal comment such as *'this one'*. Thus the symbolical and practical role of both counter and goods were used to manifest the act and intention of the visit.

³⁴ Philip, and other named, people in the excerpts refer to staff. The names are fictional apart from Daniel, who is the author of the text and the researcher of the ethnography and the researcher/author in the flesh. In the recorded transcriptions following symbol was used: '[' indicates simultaneous utterance bridging two lines, '()' indicates that something is said but not transcribable, '(word)' indicates probably what is said, but not clear. The categories presented by Schegloff, E.A.(1972) Notes on a Conversational Practice: Formulating Place, in D. Sudnow (ed.), *Studies in Social Interaction*, pp75-119.

³⁵ The sequence can in turn be divided into smaller units: The staff, or at sometimes the customer, initiates the sequence with a polite *opening phrase*, (line1). The customer "*declares*" *his purpose*, (line2). The staff and the customer *negotiate which* petrol purchase that the purchase is part of (line3&4). The negotiation is followed by a *payment* (or transaction) (line5). Whereas (line6) is a *request for closing* the sequence and the first part of (line7) is a *closing response*.

³⁶ The purchase becomes more complex when the 'in-between-object' is missing at the counter. As when the customer paid for petrol when the object is located in a car – the customer's car. The only traces of the fill up are numbers on a display at the pump, in case nobody else have started to fill up at the same pump, representing the amount of petrol and the total price for that amount of petrol. At the counter a computer that lists the same amount to respective pump. One of the computers at the store listed the volume pumped whereas the other computer listed the total price. Collaboratively, customers and staff linked the outdoor activity of filling up to paying sequence by the counter. The staff tries to find keep indexes for the purchase often by referring to the amount of petrol, price of that amount, the location of the pump of the characteristics of the customer's car as indexes for the purchase.

³⁷ Terminology in Jefferson (1972) Op. cit note 2.

³⁸ Brown (forthcoming#) Op. cit note 17.

³⁹ See e.g. Brown, B. and Perry, M. (2002). Of maps and guidebooks: designing geographical technologies. In: Proceedings of Designing Interactive Systems (DIS) 2002, p246-254, London, UK. ACM Press.

⁴⁰ On mobile phone calls and locations see Esbjörnsson & Juhlin (2003) Op. cit note 9, Weilenmann (2003) Op. cit note 1. and Laurier (2001) Why people say where they are during mobile phone calls., *Environment and Planning D: Society & Space*, 485-504.

⁴¹ Quote from p 7 in Morris (1988) Op. cit note 10, however she writes the motel's instead of the petrol station's

⁴² Laurier (2001) Op. cit note 9.

⁴³ Op. cit note 10.

⁴⁴ See writers in road-use Op. cit note 9 See also Weilenmann (2003) Op. cit note 1 on other accounts of the accomplishments of mobility.