Aesthetic Journeys

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ABSTRACT

Researchers and designers are increasingly creating technologies intended to support urban mobility. However, the question of what mobility is remains largely under-examined. In this paper we will use the notion of aesthetic journeys to reconsider the relationship between urban spaces, people and technologies. Fieldwork on the Orange County bus system and in the London Underground leads to a discussion of how we might begin to design for multiple mobilities.

Categories and Subject Descriptors

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

Keywords

Ethnography, aesthetics, mobility, urban design.

1. INTRODUCTION

Recent years have seen significant transformations in the physical form and abilities of computational devices, and in turn this has been associated with a proliferation of settings in which information technologies are deployed. "Mobile computing" is an increasingly important site of research activity, but the question of what "mobility" is and means remains largely under-examined. We might talk easily of "mobile" computing, but it takes only the briefest consideration of alternative epithets – refugee computing, transnational computing, diasporic computing, tramp computing, gypsy computing, rootless computing – to realize that "mobility" is a complex term that goes well beyond simple spatial concerns. In our recent work, we have been grappling with these issues by thinking about the relationship between information technology and the many different "mobilities" that may coexist in everyday spaces [8].

If the first wave of studies of mobile computing were spawned by the realization that people might work in different places – say, home and work, a second wave focused on activities undertaken "on the go" – in the interstitial spaces of everyday life. Transit features heavily here, as we think about the ways in which

information technologies might help deal with those "times out of time" when one is stuck in traffic or on the train, caught in between places but either unable to "work" effectively or in need of the distraction of mobile games or the cocooning effect of mobile music [10]. In the work we report here, we are also interested in such moments, but our approach is not to presume that they are moments of lack and absence that technology must fill—we are interested instead in how these moments are organized and what role technology might play in that.

In particular, we have been conducting studies of public transportation, in the very different settings of Orange County, California, and in London, UK, with an emphasis on the individual and collective experience of urban mobility. Despite their differences (particularly with regard to urban transportation), which will not, however, be the focus of this particular paper, we were struck by common features that went beyond the traditional consideration of transit as, essentially, a way to get from A to B.

Certainly, the idea that there might be more than an instrumental rationality at work in urban mobility is not unknown in HCI research. Messeter et al. [14] recognize a multiplicity of different social identities that a person must switch between, the different social contexts that this must be done in, and the different mobile devices a person might use. We can also see this in the range of problems which mobile technologies often try to address, from selection in electronic guidebooks [1] to locating friends and colleagues [9]. Or again, Brown & Perry's paper on maps and guidebooks from DIS 2002 [5] draws attention to the range of social contexts and configurations within which spatial technologies might be deployed. The context of tourism itself, which Brown and colleagues have examined in this and other work [4], is a richly organized social institution that has been widely examined from a range of social science perspectives, not least anthropologist considerations of the ways in which cultural experiences might be packaged and made available for consumption [7][15].

Studies such as these point to the diversity of mobile experience, and underscore the social "work" being done through movement, navigation, and spatial representation. We feel that this motivates further examination.

Our own perspective, drawing on our ethnographic encounters in both settings, is one that focuses on what we have termed the "aesthetic" components of transit. The aesthetic was something that arose as an aspect of the ways in which people spoke of and referred to particular trips, strategies, and experiences. It is not simply about moving through pretty spaces (although that may be part of it) but refers more broadly to the ways in which journeys have an experientially aesthetic component. The focus here is not

so much on "traveling" but on "traveling well" – meeting the right sort of people (or avoiding them), avoiding particular kinds of hassle, demonstrating expertise, turning a potentially unpleasant experience into a pleasurable one, gaming the system, gaming your friends, challenging yourself, reveling in the particularities of the situation, etc. The question here is not, how do people get from A to B and what do they do while on the way? The question is, what is a good journey like and how is it achieved?

This notion of aesthetic is not purely individual. Although it is not directly an influence on our work, our notion of aesthetics here is loosely connected to Bourriaud's concept of "relational aesthetics" [3]. Bourriaud, an art critical and curator, coined the term "relational aesthetics" to characterize art works in which the primary consideration is not the formal properties of the piece or performance itself, but the human relationships that it creates, develops, or comments upon, most commonly relationships between viewers. Artist Veronica Beeson's installations, for instance, frequently turn on the objectification of the female body, placing nude models in awkward or physically uncomfortable situations; the sense of anxiety and discomfort provoked within and amongst the viewers is a critical component of the piece.

In the course of this paper we will first discuss a preliminary study of the Orange County bus system, followed by a larger-scale ethnographic study of the London Underground, and finally concluding by drawing out some inspirations for future design directions drawn from the London study.

2. RIDING BUSES IN ORANGE COUNTY

When people visit Orange County, they visit the entire county—there is no urban center to speak of. It is thoroughly suburban, or, as it has been dubbed by Kling et al., postsuburban [12]. Cars are by far the most popular means of transport for the 798 square mile county; indeed, there are 2.4 million registered vehicles for a population of 2.8 million. A bus system, an alternative to driving, certainly does exist. It is, however, not used by a large percentage of the population; the Orange Country Transportation Authority reports about 217,000 passenger boardings each weekday, whereas in New York 5 million people, out of the 8.2 million in the population, take public transit every day. Bus riding is not the norm in Orange County, and in fact the OCTA website itself boasts a section entitled "How to Ride a Bus." Yet the American Public Transportation Association declared that the OCTA was the best large property transportation system in the United States. Intrigued by this apparent contradiction – if the bus was so lovely, why did so few people ride – in early 2006 we decided to undertake a study, over the course of 10 weeks, focusing on the open-ended question *who rides the bus and why?*

We began our study of the OCTA bus system using an approach similar to that of the 73 Urban Journeys project [11]. We rode along routes that cut through several different sections of the county, in order to get a broad sense of the experiences riding the bus might present.

Throughout our rides, the buses were quiet. Even through the busy parts of the routes, when the buses were overflowing with passengers, people remained relatively silent or conversed in a hushed manner. Although the buses stop at all major malls and seemingly scores of smaller strip malls, very few passengers bring shopping bags aboard and few people were seen reading, listening to music, talking on cell phones or even sleeping. Finally, the inside of the buses were extremely clean, lacking any visible graffiti, lacking even advertisements. There were, however, ads affixed to, or wrapped entirely around, the exterior of the buses.

After our initial observations, we conducted a series of about 20 semi-structured, *in situ* interviews. Participants were selected opportunistically both on the buses during their journeys and at transportation hubs while they were waiting for a connection. After talking with our participants about their experiences, the most striking theme which emerged was the overwhelming diversity of ways in which people rode the bus.

We asked the informants to try and recount for us the first time they ever rode the bus in Orange County, and one woman told us:

The very first time I was so scared because I just came in from the Philippines. It was a different situation! I didn't know where to sit. And sometimes it's difficult to understand the Mexican who drives the bus. It was scary but it was exciting because… I'm by myself. And it was exciting. –Maria

Upon riding the bus for the first time this woman was overwhelmed when confronted with the choice what seat to take. Coming from another culture, at first the bus was a difficult and frightening experience, but that challenge was also thrilling.

With time though, the bus began to act as a serene space for Maria and provided her with a time of calm reflection:

I reflect on the beauty of God's creation, because really America is so beautiful. ... The beach. I say, "God, you have made this place really beautiful." –Maria

Finally, one rider we met, Deon, who had ample access to other means of transportation, used the bus to seek out social encounters. He described to us how he the bus helped him to pick up women, giving us very detailed information about which buses have the best women (night buses, and any bus that runs down a boulevard), the best neighborhoods (beach communities), and some key lines and tactics one might use (best to sit by the rear exit so you can see everyone getting on, and everyone getting off).

For Deon, the bus was a moving playground, a place where mobility and shared experience were the keys to meeting women. He saw all the women as having the same motivation as he did. Why else, he asked us, would these women be on the bus?

From this preliminary study, then, we began to see the diversity in the ways in which people created, and reacted to, different experiences of mobility. These concerns are not simply with the traditional problematics of urban transportation – missing the train, unexpected delays, and complicated connections. Instead, they focus on the experiential quality of local travel, what we call "aesthetic journeys." Though this study was brief, we include it here, not only for the purpose of disclosure, but because it was essential in providing us with the foundation to go ask what makes a good journey and how is it done?

3. TAKING THE TUBE IN LONDON

To answer this question, and to get a different perspective, we choose as our site of study the London Underground. The Orange County bus system study was fascinating in that it tended to serve a limited group of people. The Underground, on the other hand, presents an opportunity to study the opposite extreme. Almost 3 million people ride every day, and the popularly held view is that "everyone rides the Tube." Indeed, studies such as that of Vertesi [16] showed that the Tube was such an integral part of the way in

which Londoners conceived of their city, whether they were frequent riders or not.

The Underground serves 275 stations with 253 miles of track, and so the sheer scale made it challenging to tackle the 'Tube' as a site of ethnographic study. Indeed, Crabtree et al. [6] point out the difficulty of conducting ethnographies of people engaging with mobile technologies. In the case of our study, however, we were focusing journeys themselves rather than the constituent pieces that they were shaped by. Precisely because so many elements contribute to a journey—the transport infrastructure, the time of day, the disposition of the person, the things they are carrying, the people they encounter, and so on—we decided to employ a range of techniques to sample the experience in different ways.

The study was broken up into two intensive three-week sections. The first half was mainly devoted to different techniques of participant observation. We engaged in photo-documentation of various types of journeys, collecting over one thousand photographs. The journeys we documented ranged from riding a given line of the Tube and alighting at each station, to focusing on observing the entire interior of a given train. This second type of journey, involved boarding a train and at each stop getting off to switch carriages, in this case focusing on people and their behaviours more than the architecture of the space itself. Additionally, one long journey from Brixton to Paris was taken, giving us the chance to travel by Tube, Eurostar train and the Paris Metro, allowing us to gain both continuity and contrast in our observations. Finally, since we spent a significant amount of time in London keeping a camera on hand at all times, we documented our own daily patterns and routines to reflect our own personal perspective.

We also employed object shadowing, by leaving newspapers on the seats – a common practice in the Tube – and recording all the interactions which took place around, with and through these objects. This was done in an attempt to get a very focused perspective on a specific object which was an actual part of many people's journeys.

During the first three weeks we also met with two of the 19 participants who we would go on to interview during the second half of the study. As mentioned previously we approached this study through a lens of diversity. In keeping with this, rather than attempting to choose a statistically general sample of participants we tried to find a theoretically interesting one. We chose to look for participants who had a unique perspective on the Tube or some sort of "expertise" in order to highlight and explore the idea of diversity. We used both snowball sampling as well contacting people who we had learned about through blogs and the art community.

Our participants included four artists inspired by the Underground, two members of the Transport for London Museum, a woman living between two homes, a self-professed Tube enthusiast, a woman with "Tube-phobia," a mother whose adult children had been riding the Tube from an early age, a woman with a two and a half hour commute that spanned three transport networks, and a small social network of eight designers who hailed from six different countries.

While interviewing our participants we tried to elicit their personal experiences of riding the Tube, focusing specifically on the feelings brought up by different sorts of journeys. However, in order to bring a common thread of reflection throughout the interviews we used two select sets of photographs (which were taken from the first half of the study) as objects around which all the participants could talk. We had two packs of photos with about 25 photos in each pack. One was a set mostly of spaces, things and details. From these we asked participants to look through and select the one which most reflected their experience and explain why. The second set was one of people, and for those we asked participants to choose a person to tell us a story about.

This rich and varied approach yielded three useful categories for describing the different aspects of journeys in the London Underground, which we will detail in the coming sections.

4. PLATFORM FOR ART

The name *Platform for Art* is taken from the Transport for London's program of the same name. This program is one in which artists have the chance to display their works within the Underground. In Figure 1 you can see one of the main pieces from the summer of 2006, a massive mural installed at the Gloucester Road station. Beyond explicitly curated works of art, the Underground also has a long history of architectural design. Great care was put into the design of stations, with distinct looks emerging for each different time period during which they were built. Even the Tube map itself is famous for its design. But for us the idea of *Platform for Art* does not end with the top-down decision of the London Underground to support artistry within its tunnels. In fact it only begins there.

Figure 1: City Glow, Mountain Whisper by Chiho Aoshima

Tube riders surely recognize and often embrace the program of art which Transport for London supports. Of the mural pictured in Figure 1, one of our participants said:

It's not typical because there aren't any other stations like Gloucester [Road]. In a funny sort of way that would be the opposite extreme. I mean that's a very common scene, but that's very characteristically and uniquely London Underground. It simply couldn't be anywhere else. –Oscar

Further though, we saw that this practice of fostering artistry was coming from the bottom-up as well. During observations we saw many examples of people's personal aesthetics, their fashion sense, transforming the feeling of the space around them. In Figure 2, the woman on the left brings a unique "look" with her that goes beyond just the clothes she is wearing and extends to her purse and matching pink RAZR. We do not mean to claim that

fashion is unique to the Tube, but rather that these cues play an important role in this tightly packed space, and they work in concert to actively create to the visual landscape of the Underground. On the right of Figure 2 you can see a photo of three people, strangers, who have managed to sit in a color-coordinated fashion. The bold orange and turquoise highlighted with flecks of white is truly striking. That is of course not to say that the effect was planned by these passengers, but rather that the Tube is a place where these sorts of serendipitous alignments can, and do, happen.

Figure 2: Personal aesthetics in the Underground

The passengers contribute to the constitution of the experience of the Underground (for themselves and for others around them) in a variety of ways that go beyond just their personal styles. Choices must be made, each and every day, by each and every individual riding the Tube about what path to take through the station, where to sit, what line to ride, etc. People are not merely cargo being shuttled about by an automated system—they have agency and the ability to make choices about how to exercise or relinquish this agency. In studying the various ways in which people move through the Tube, we began to see several distinct styles emerging.

One can easily imagine the lost tourist who bumbles along not knowing where to go, getting on this train or that, and often blocking traffic by stopping to gain their bearings at complex junctures. Pushed along by the tide of daily commuters, they often struggle to fight their way out of the places they have arrived at in error. We began to see, however, that there was a style of riding which on the surface may seem similar in character, but in reality was a sort of elegantly studied decision to *go with the flow*. Here one of our passengers relates his active choice to be swept up by the tide of London transport:

Sometimes I do that or if I am in a real hurry to get somewhere I will just get on one, get off the last place I know and look at a bus map and hop on another bus. I find there is no point waiting for the direct bus if there is one coming and you know you can get off just down the road and hop on another one rather than just walk down there. You won't get lost on the way you will just get there. Change busses, change again, change again. Doesn't matter. –Carey

Although Carey is talking about the bus in this specific case what we can see is that his faith in the system is one way to define *riding well*. It would seem that a novice would not blindly jump

on a bus assuming that he could easily find his way. But Carey's idea of the fastest way to get somewhere is taking the first opportunity available. Waiting for a direct bus, as he says, is pointless. You can see that he has developed a sort of expertise, a trick of the trade, for getting around, and it is something he is both confident in and proud of. Part of it involves giving up some of his agency to the movement of the buses, but this empowers him in a different way. It gives him a sense of style and accomplishment. The ability to be blasé is quite an achievement.

While *going with the flow* is one particular style, another one involves a more active approach. Here, Maxwell tells about his love of making *insider choices*:

And I just really love doing it. I love fitting all the pieces together. That's part of the pleasure, yes. Obviously most people would see this as a negative to actually sit down with maps and things and work out the best routes, but I do enjoy it and it would be a shame I think if they actually linked everything together perfectly so that the lines crossed each other actually had intersection, you know at interchange stations. I like the fact that they don't. I like the fact that the Northern line goes straight underneath the Circle line. There's no actual junction there at all <laughs>. If you go to the surface you can walk across and you can do it, but you need to actually know it's there. Where as the French would actually build a link, a walkway, and that would just spoil it somehow. – Maxwell

It is a special skill to be able to navigate the complicated system, to have insider knowledge and know the secrets and tricks. While Carey preferred to be carried along by chance, other participants like Maxwell felt an ideal Tube journey would be comprised of a series of little victories. It could be about a series of connections being made in record time, knowing which is the carriage most likely to have a free seat, or finding a secret exit route. However, when a person who likes to ride in such a style involuntarily loses their sense of agency, it can have quite a negative affect. When we asked Andrea to describe for us a miserable journey we had the following exchange:

The most miserable [journey] would probably go to the airport and be stuck on the train and it is being really, really slow and you being late for your flight. That would be the worst.

Has it ever happened to you? *Yeah. Well, no. I was actually meeting somebody but it was pretty stressful. It was horrible. I thought, "I am driving next time." That's just it. There's nothing you could do. There's just nothing you can do.*

So you were very late? *No I wasn't actually. It just felt like I was. Do you know what I mean? <laughs>* –Andrea

Another one of our participants, Sadie, had developed such a fear of the loss of control she had experienced when being stuck in a carriage underground that, that she had stopped riding the Tube altogether. Instead, she stuck with buses for getting around the city, saying:

With the bus I just feel in more control with it and more at ease with taking it. I know where they all go and stuff, but it's not as convenient at all. Going to east London ... it's a couple of buses, sometimes three and it can take well over and hour and half sometimes. ... But you can look into the distance, you can relax more. –Sadie

For Sadie, although she felt the buses to be inconvenient, they were not as frightening for her because being above ground allowed her to get off, theoretically, at any moment. Whereas

Carey gives up his agency to the buses because he felt they were so reliable, Sadie rides the bus to empower herself. What we want to emphasize here, then, is that the feeling of riding well isn't merely about an objective metric like the absolute time a journey takes. Carey, Maxwell, Andrea and Sadie all have different ways of judging, and expertly crafting, artful journeys for themselves, journeys that work the system in ways that they feel comfortable with.

5. ECOLOGY OF OBJECTS

As we mentioned earlier, the atmosphere of the Underground is shaped in large part by the passengers themselves. Likewise, this extends to the objects which they carry with them on their journeys. The important thing to note here is the plurality of 'objects.'

When riding the Tube one of the first things one notices is the multitude of objects passengers are engaged with simultaneously. On the left of Figure 3 we see a man reading one newspaper while holding another between his legs, and on the right we see a woman rummaging through her purse with one hand while clutching two grocery bags and her Oyster Card (the RFID-based train ticket used in the Underground) in the other. These types of activity are the norm in the Tube—passengers seemed to have their hands constantly engaged in a sort of ongoing juggling act. Even when people carried music players they busied their hands with the player itself, a newspaper, a book, or any another object available.

Figure 3: Passengers keeping their hands full

What we want to stress, then, is that it is not only the individual objects that are important, but the ways in which they work, and are worked, together. Over time passengers begin to cultivate mobile kits **Error! Reference source not found.** with unique inter-dependencies, such that bringing one object would necessitate that another be carried as well. In describing the essential contents of the satchel that he always takes, Carey told us:

I also have a sketchpad in there as well just so it didn't wrap around my leg, so it always stayed flat against my leg. But it's kind of creased and rumpled and horrible. –Carey

Here, the sketchpad is used not really for drawing, but primarily to change the shape of the bag. While Carey admitted that he could ride the Tube without it, he said that in order to bring the satchel containing the items—wet wipes, pens, a book, a stone

with special meaning for him—he considered important, he would have to include the pad to make his bag comfortable.

Oscar, on the other hand, carried different items with him depending on which day he was traveling. He normally brings with him two bags, on for his laptop and the other for paperwork.

I'm more likely to be using the laptop on the way home and in the morning I usually do read the paper. ... And this varies depending on the day of the week. I buy the Guardian on Mondays. I get the Independent the rest of the weekdays and on Saturdays I buy the Guardian and the Independent. But I don't buy anything on Sunday. ... Occasionally I pick up the Metro. Oh, on the way home I get the Evening Standard although I hate it. –Oscar

Oscar's journeys vary, then, according to which paper he is angling to pick up, and this depends on what time and day he is traveling. Maxwell, however, explained to us that he finds the paper less essential, especially when he is on the bus:

When I'm underground I read books and newspapers the same as anybody else. I don't, the minute I get above ground, or if I'm on a bus, I don't read. I do like to look out the windows and see what's going on. Because I don't believe in iPods and things. I always feel if you're actually traveling somewhere you should be appreciating where you're going and looking out the window. You shouldn't have music in your ears. You should be looking out because there will be something. There will be a bus stop in Turnham's Green that has, for some reason, a packet of bacon on top of the bus shelter. ... I'm quite happy sitting there without the paper or book because there will be people getting on and off the whole time and you can observe them and try and think of stories as to what they might be doing or going. So, yeah, normally underground I would read the paper, but I'm fine without it just because people come and go. –Maxwell

Sometimes Maxwell is content not to bring anything with him then, and he went on to tell us how sometimes the things which other people bring can act as social windows, especially when they break established norms of what one would expect to see. These objects could function as points which spurred on interaction, or acted as fuel for the imagination:

I was at Old Street station and there was, I don't know why that station is so cool, but it's quite lovely, and there was a girl sitting next to me on the seat reading a leaflet called "Fun Things to do in Hertfordshire." I don't know if you've ever been to Hertfordshire, but there are no fun things to do in Hertfordshire. I mean I don't know why she had this. I mean I'm guessing she was Chinese, but she might not have been, that's a guess, and you just think why do you come all the way from China, Singapore on a proverbial song... I mean the train goes out to Hertfordshire ... and she's obviously picked up this leaflet of fun things to do. There really isn't anything fun to do in Hertfordshire ... You just want to tap her on the shoulder and say how many fun things have you done? And how many are there? Are there 23 fun things? I'd be surprised. Five possibly. –Maxwell

From one little pamphlet Maxwell began to build a complex imaginary life for the girl seated next to him, something which he professed to doing often. Yet later on in our interview he told us:

I mean I tend to always have a bag with me. If it doesn't have a book or a newspaper it will have a notebook. So if I'm not reading something I can be writing something. So I would never be just sitting there just gazing blankly. I don't know how people, when you see people in the Tube and they're not doing anything, I think

I don't quite understand how they do it. I mean possibly they're having great thoughts and possibly they're devising... I can't believe people genuinely can just switch off and be completely blank for the duration of the journey. I couldn't do that. –Maxwell

Maxwell felt a need to be constantly engaged, tuned in to his journey in *his* way. Although his statements appear contradictory, what we would like to underscore here is the fact that a single person can create journeys of different natures often using different objects. Whereas Maxwell places listening to an iPod and gazing blankly on the same par, classing them as unfulfilling, another participant, Jin-Mae told us of how her iPod was an integral part of her commute. Because she listened to the same album everyday for over 3 months, one particular song became inextricably linked to the moment the train pulled into the stop her office was at. The song became a symbol of her journey.

We begin to see, then, that the objects which people carry can be used to support a multitude of styles—Oscar's mobility becomes a chance to engage with world at large through newspapers, Maxwell's journeys are times to actively uncover hidden surprises in the people and places around him, and Jin-Mae builds a mnemonic narrative, tying the music she loves to the city in which she lives.

6. EMERGENT SOCIALITY

People bring many of their belongings into the Underground but there are also items in the Tube of a more communal nature, such as newspapers. During rush hours, there are newsagents who stand outside the entrances of the station distributing copies of free newspapers such as the Metro. Because of the abundance of these free papers, it is common, even expected, in the Tube for people to leave behind the copies they have picked up when they have finished reading them. This practice is so pervasive that many of our participants relied on it to find reading material in the train carriages when they forgot to bring something with them. Further, this subtle social gesture of passing on the papers acts as a channel for unspoken exchange through which riders can express an awareness and an acknowledgement of current and future passengers. Indeed, Carey and Oscar both told us that they often intentionally left behind their copies of The Guardian (a purchase-only newspaper) encouraging other riders to read this paper which they believed to be more enriching than the Metro.

Like newspapers, tickets for the Underground also change hands. Before the advent of the Oyster Card (the RFID based ticketing system) the Underground operated solely on paper tickets. Many types of passes exist on both the Oyster Card and paper tickets but the day travel card, which allows for unlimited journeys on the Tube, gave rise to a very particular sort of behaviour in its paper form, as one participant describes:

We were just standing there looking at this huge line. I think it was at Liverpool station. We noticed in this big line up there were all these people waiting to get a ticket and we saw this one guy who was leaving the station. Without exchanging words or anything he gave his ticket to this woman who was kind of near the back of the line. It was just procedural. She just kind of looked at him and took it and she left the line and just went in. –Fred

Fred, who was new to London when he witnessed this, was surprised by this silent exchange which has grown much less commonplace now. Many people used to pass along their paper day travel cards when they were done with their day's journeys because they were no longer needed. However, with the introduction of a technology meant to supplant the paper ticket – the Oyster Card is meant to be personal, permanent and re-usable ticket – this practice of exchange occurs much less often.

It is worth noting that these, and other practices, are primarily exclusive to the Underground. Newspaper and ticket exchange do not happen in any given location within the city—even on the buses one would be hard pressed to recall such an encounter. Though the Tube is clearly part of, and influenced by, the culture of London itself, it is a sub-polis with a character of its own. However, having an awareness of the practices that contribute to that character, does not necessarily imply that one must follow those practices. This came out during a large group discussion about where to stand on the platform while waiting for the train:

I'm always afraid of getting pushed under the train ... and that is why I don't really stay close to the [edge]. –Ariel

I do! I stand at the back. –Jin-Mae

I like that sense of walking on the edge that annoys [other people]. We did it today. I kind of enjoy that feeling of being on the precipice. –Andrew

I get really scared for those people who walk along the edge, I'm like, "No! You can't! The yellow line, look!" –Kylie

It's a nice feeling [even during rush hour]. The busier the better! –Andrew

I do too, when I'm trying to get to a particular carriage and avoid all the [people]. [The yellow line which passengers must stand behind] is only artificial. I'm not [scared]. What's the difference between ten centimeters or twenty centimeters either way of some silly yellow line? It's good because most people obey the yellow line thing and if you want to get to a particular carriage further down, you can just pass everyone by and walk to your destination. –Nigel
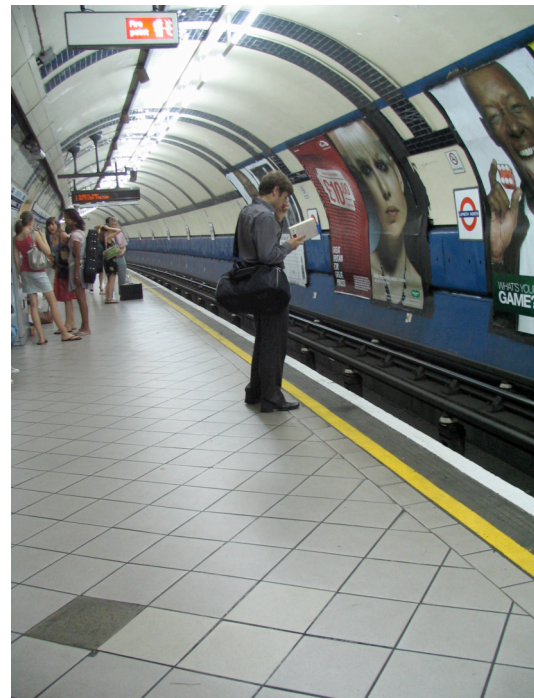

Figure 4: A passenger toes the line

Ariel, Jin-Mae and Kylie are afraid for their own safety, and the safety of others, and so they stay well behind the yellow line that marks the edge of the platform (see Figure 4). Andrew, on the other hand, gets a thrill from being at the edge, and Nigel uses his knowledge of the fact that people will stand behind the line in order to get where he is going more quickly. Conforming to, railing against, or manipulating common social practices all lead to different sorts of journeys. It is important to recognize that all of these techniques are at work simultaneously within the Underground.

Sometimes there are collisions between the common practices surrounding different aspects of riding. For instance, the Tube is often glossed as a place where people do not often speak to stranger. This presents a challenge, though, when one wants to gracefully give up their seat to another in need, as Manny describes:

You can't speak to anybody; you don't speak to anybody. You know and so, it is quite embarrassing to say "excuse me." That is the hardest bit, touching them. I usually just get up and they go, "Oh, thank you," and then they sit down. I find that easier. –Manny

In a sense, then, there is a right way to give up a seat within the Tube, and this is something one comes to learn over time. Though open verbal exchanges are not the norm, many of our participants, described the Underground as a place where one could be content to feast their eyes on the panoply of other passengers within the carriages, as we saw with Maxwell in the previous section. Manny, however, emphasized to us the need to exercise restrain when engaging in this practice:

There is obviously a kind of flirtation thing that is going on. Sometimes you might have contact with somebody or you might catch somebody looking at them and you do that whole kind of flirtation thing, but it never really comes through. I think a lot of the time it is curiosity. It is people looking at each other and you accept that someone has been looking at you and as long as they are not holding their gaze. –Manny

Like Maxwell, several of our participants related to us how they often spent time imaging what the lives of the other people around them might be like. In fact Andrea was even able to detail for us various cues—such as style of dress or the station a passenger boards the train at—that she would use to mentally expound on the histories of the people she encountered. While Andrea and Manny restricted themselves purely to musing, Carey told us that on some occasions he would change his route to continue to uncover more about another person:

[I will go out of my way] probably only one stop extra or something like that, or I will just walk a bit slower. Mmm. This makes me sound incredibly shallow. But it's fun and it's something to do. Ohh. You sit there and think, "You're cute I'll sort of walk behind you until the entrance and we will go our separate ways and I will fall in love again when I get back on the Tube. And there will be another small romance later on." <sighs> God, travelling into town I must fall in love about 20 times. –Carey

Going out of one's way to indulge in a bit of imagination might sounds slightly odd, however it is not only typical but, we would argue essential, for the life of the Tube. Being attuned to the others around was often a pleasure for our participants, not least because in rare moments this awareness would blossom into a more in-depth encounter. Typically this would occur when there was a departure from normal routine, allowing passengers to converse about the unexpected event. These small exchanges were taken as enjoyable surprises, and, when one was in the mood, could greatly alter a person's day as Maxwell told us:

[The train was closing and] I was aware the girl sitting opposite wasn't moving and everybody else got off the train and she obviously hadn't picked up what was going on. She was from Thailand and she was reading a guidebook and you could tell from the writing on the front that it was from Thailand and of course she was the only one left in the carriage. I actually went back inside and stopped and said you have to get off and she looked surprised and got off and I said "can I help you, where are you going?" And she said she wanted to go to Harrods, which seemed a bit depressing, so I tried to explain [that] to her and ... I actually ended up going to Harrods [with her] and getting my picture taken. –Maxwell

Maxwell enjoys strange detours such as these, but when discussing the possibility of chatting with other passengers, Sadie said to us:

Sometimes you always get somebody on the train going, "Why doesn't anyone talk to each other?" Well because we don't want to. Shut up. –Sadie

We begin to see the spectrum of ways in which our participants chose to interact with the others around them: from Fred's fresh-eyed surprise, to Sadie's studied silence, from the imaginings of Manny, to the detours of Carey, and finally the curious day-trips of Maxwell. This intense range of potential that the Underground offers – like a current one could tap into or merely ride along in – was summed up quite well by Oscar:

But people often say people who are car commuters they particularly like being on their own, in their own space, despite the fact that it may take them twice as long to drive, they actually seem to enjoy just being in their own space and not being bothered by anybody else, but I can see some of the advantages of that, but at the same time I don't particularly want to go through life kind of casting off those around me and the fact that it doesn't matter that you don't talk to all those people on the Underground, it's just other people being around you and it's quite life enhancing really. You don't have to make a particular meal of it. So all these expressions people used to use about it being the rat race and the pressures of London, I mean, sure, there's some of that, but at the same time you also get quite a buzz for being part of that. –Oscar

The palpable energy of the people around, the pulsing of the life of the Underground, has an inescapable effect on every journey taken.

7. INSPIRATION FOR DESIGN

These studies serve, then, as a further motivation to move away from the notion of mobile computing for a single "mobility" and they highlight the importance of considering the multitude of ways that people, even a single person, might move through and interact with the space around them. By studying in depth the types of journeys that are supported by single infrastructure like the Transport for London, we begin to test the limits of what an all-encompassing notion like "mobility" might have to offer. In turn, our approach towards designing technologies meant to be used in these settings is transformed.

An attempt to tailor a technology to the unique styles of each of our participants, would seem to be a humorous challenge at best, and radically misguided undertaking at worst. While our study of the Orange County transport system was preliminary and exploratory, it provided us with a contrast to our more in-depth engagements with the riders of the Tube. Accordingly, the inspirations for design which we detail below draw from our London study. Instead of trying to focus on an over-generalized notion of mobility, we have used our work to help reveal an alternative set of principles one might begin to design for.

7.1 Designing for the Expert Journey

As we stated earlier, the notion that there is more to moving around a city than just getting from A to B is not new. But what else besides better navigation and optimized travel times should we be designing for? These studies motivate the potential for designing for various types of expertly crafted aesthetic journeys. Instead of supporting measurable quantities, we could focus on crafting interfaces to support the feelings of *going with the flow* or alternatively *making insider choices*.

7.2 Designing Ecologies

While many interfaces designed for mobility are intended to be used anytime and anywhere, we saw that many people only used certain devices at specific times, and that the devices which our participants thought were appropriate for the Tube varied greatly. Maxwell shunned iPods while Jin-Mae swore by them; Oscar would only read specific papers at certain times, and Carey used his copy of the Guardian to make a social statement. The key here is that these devices and objects form a vast ecology. Instead of designing single interfaces for a universal mobility, it would be a worthwhile pursuit to consider designs which not only respect but actually rely on other objects—not only objects carried by the user, but all of those found in the space. Too often interface design stops with the interface itself, but by expanding our scope and beginning to design also for the complex relationships between objects and the different sorts of journeys they support, we can begin to leverage the meaningful interactions that span across multiple people and devices.

7.3 Designing for Engagement

We saw many different kinds of engagement at work in the Tube, but what is notable is that we rarely witnessed a *lack* of engagement. Riders seemed to constantly occupy themselves with the here-and-now, whether it be reading the paper, imaging the lives of strangers, or listening to music. This stands in sharp contrast to the time of reflection and musings which were often prized by the bus riders of Orange County. The need to keep occupied, then, is not a universal truth of public transport, but rather a contextualized practice present only in some places, like the Underground. Nonetheless, it gives us impetus to expand our focus from designing hands-frees to hands-ons, from all-in-ones to one-too-manys, from invisible interfaces to unmissable ones. Design need not always fade into the background; the Tube is a testament to the merit in keeping the hands occupied, the eyes engaged and the mind stimulated.

7.4 Designing for the Buzz

Currently there is a strong divide between the technologies that support anytime/anywhere cocooning or intense productivity (e.g., iPods and Blackberries) and those that act as explicitly social friend finders (e.g. LoveGety). We have seen though that the depth of social interactions which people engage in has a wide range. As we can see with someone like Maxwell, sometimes he seeks out verbal exchanges, but at other times he is content with his musings or happy to read his paper. We suggest, then, that there is an overlooked design space between the two extremes. The London Underground is the host to a range of tacit social exchanges which, while not completely at the foreground of everyone's experience, are not entirely absent. Instead of the all or nothing approach to social interaction, we could begin to design for the Buzz which Oscar speaks of.

7.5 Designing for the Flow

Building on this, we note how often that the focus of people's attention in transit is the transit of other people. Though we might think of the flows of public transit in terms of trains, busses, and their routes, what really flows here are people (see Figure 5), engaged in complex journeys that employ multiple forms of travel and that intersect in rich and complicated ways. Again drawing inspiration from the notion of relational aesthetics, we can recognize in the data a concern with the ways in which ones positionality with respect to these flows and with respect to the particular others who exemplify them is an aesthetic consideration. It is part of the experiential fabric of urban travel. This suggests that there is some scope to think about journeys rather than routes, to think about journeys as iterated and intersecting, and to think about the link between people and larger collectives, all as sites for design engagement and intervention.

Figure 5: The flow of people underground

8. CONCLUSION

What does mobility look like? If mobile technologies are major sites for research and development, perhaps we need to step back and consider what it is to be mobile. Rather than thinking about mobility as a property of certain kinds of action, the property of geographical flexibility, we have been engaged in a series of projects that try to think about it instead as a form of living. Mobility is an aspect of how people live; it is a way that people act, and a site at which cultural meanings are produced.

This was brought home to us in our initial studies when we began to recognize how many elements of travel and transit featured in people's accounts, beyond the instrumental. Mobility is not simply about getting from A to B.

With this work we have begun to move away from many of the stereotypes surrounding both the uses and users of mobile technologies. By trying to understand the different ways in which people might be mobile, we have highlighted new opportunities for design. In this paper, we have focused on what we have called the "aesthetic," although we mean more than simply traditional formalist aesthetic considerations, but an aesthetic that is both performative and relational.

While the ethnography of the Tube has directly inspired two concrete design projects for us [2], it also serves the broader purpose of motivating the benefit of expanding our current notion of designing for mobility. When the aesthetic diversity of mobilities becomes the focus of our concern, where are able to go beyond merely making interfaces "pretty." Technologies and infrastructures are equally the sites at which these performative, experiential, and aesthetic considerations come in to play. This has at least two major consequences for ongoing interactive systems design. First, we need to acknowledge the relevance of these considerations and the fact that our systems are always already enmeshed in social and cultural settings that make them meaningful in the ways we have highlighted here; and second, thinking of the aesthetics of collective experience provides a fruitful new starting point for design.

9. ACKNOWLEDGMENTS

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