

Ambient Text and the Urban Environment

By

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Abstract

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By

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This dissertation explores the notion that texts become a key element in person-environment relations in the contemporary urban context. As we witness the rise of mobile communication and ubiquitous computing, there are more people spending more time using more text to do more things in more places. Texts of the most diverse styles, dimensions, and sources mediate people's relations with the environment and their activities in it. Drawing from observational work carried out in East Harlem/El Barrio in New York City, I consider texts as a type of 'stuff' that we frequently encounter and enter in contact with on our way to encountering and entering in contact with other things in the urban environment. Texts are one of the means whereby the urban environment makes itself usable and available to us. Furthermore, in the contemporary context of technological change, texts become a basic means through which the network society (Castells, 1996, 2001) becomes visible, operable, tractable, and usable in the environment and in daily life. The central argument, then, is that our relationship to texts is being

reconfigured by a number of emerging urban dynamics for which texts in turn do important work.

Instead of the view that other media are driving attention away from text, I explore the alternative view that texts gain new relevance as a component of the urban environment and of the emerging network society. I look for the roots of this new relevance in three larger spatial processes: ubiquitous access to information and communication technologies, increased global mobility of populations, goods, and information, and the open, shared and participatory nature of the Internet and wireless communication. Texts are a key part of how the relationships between people, things and environments are re-spatialized in the contemporary context of global mobility and connectivity. In such context, text using becomes a key mode of engagement with environment, self, and others, while texts become a key urban infrastructure, supporting the hooking up of the space of flows and the space of places, and thus supporting the emergence of the network society.

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I came to New York with the idea that I would live a big city life for a while, get a doctorate in the process, and go back to my little island in a few years time, equipped with experiences and credentials and ready to get involved in the struggles of my people to claim a life of dignity and happiness. As years have gone by I have set roots in this city and it becomes less realistic that I will be able to return to my island anytime soon. In a way this dissertation is a long reflection about whether a life of reading and writing at a distance can be a connected life, whether one can have, through text, an impact elsewhere. In an approach where human actors share the stage with nonhuman actors (texts among them) in co-shaping our worlds and our lives, it would seem that it *is* possible to contribute, aided by the proper artifacts, to the places one feels most indebted to, even when these are places where one is not. That is the hope that texts carry for me. For me, as for so many migrant New Yorkers, to contribute to the places where one is not, while one finds oneself belonging to this intense place from which one can reach all others, shuffling between languages and connected to loved ones here and everywhere, that would mean living a life that is good.

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Chapter 1 / Introduction:

Text in the Urban Environment

The notion that people increasingly find themselves immersed in settings and situations where they are surrounded by text has been pointed out by observers from a variety of disciplines. Historical accounts of the rising numbers of texts and readers in nineteenth century urban metropolises like New York (Henkin, 1998) and Berlin (Friedtsche, 1996) suggest that this is hardly a new phenomenon. In a broader historical perspective, it is almost standard to assert that the invention of print and the increased circulation of books, pamphlets, newspapers and other written materials that it allowed played an important role in shaping major cultural and historical developments in the ensuing centuries, from the emergence of the modern mind to the emergence of the modern state (McLuhan, 1962; Eisenstein 1980; Anderson 1991[1983]).

But if text was already a notable component of urban environments before the Internet and mobile wireless communication, now its pervasive availability becomes a defining feature of our relationship to the environment. Wireless information and communication technologies significantly increase the places and times in which we have access to texts and the situations in which we are inclined to use them. In recent years, wireless handheld devices have massively expanded our access to text and our ability to generate and circulate text in the environment. Our increased access to information very frequently takes the shape of increased access to text. Text becomes a type of ‘stuff’ vastly represented in the immediate surroundings of people whose jobs, life styles, or cognitive styles depend on almost constant processing of written information, or

people for whom the basic fact of their location and activities entails their being surrounded by text¹. In recent years wireless technology and mobile telephony have made it easier for people to engage in digitally supported text use in almost every context. Every day, whether by force or by choice, more people live their daily lives in the constant contact-always on condition.

In this introduction I discuss the relevance of the issue of the pervasive presence and use of written text in the urban context for the study of person-environment relations. I introduce the notion of *ambient text* and discuss some of its advantages over other uses, in particular, the notion of linguistic landscape. I review various approaches to the relationship between writing or written language and space, focusing on some of the definitional and methodological difficulties that arise when authors have tried to put text and space together. One such difficulty is the tendency towards *textualism*, understood here as the application of reading and writing metaphors to processes that strictly speaking do not involve the use of text. I then briefly survey work that has dealt with reading and writing within psychology. Finally, I provide a summary of the chapters to follow.

Ambient Text: The texts that surrounds you

The most straightforward definition of ambient text is simply *the texts that surround you*. But such definition may prove too static, or at least not explicitly mobile, and mobility is a key aspect of the urban environment and how we experience it. If we add movement, then ambient text is the text that surrounds you in your trajectory. If we add multiple purposes and activities, then it is the text that you encounter in your multiple trajectories, some of which is generated by

¹ A pre-‘constant contact’ History of Reading states as a plain fact that the normal white-collar worker spends from 5 to 8 hours a day reading (Fischer 2003). Only sleeping takes up more time, it states. It is a provocative thought, although one may want to compare text-use to less exclusive states than sleeping, for example talking, or thinking, or walking.

you. In any definition, however, two things are important, your being there and its being deployed in a way more or less favorable to its being read by you. Your trajectory can be online, offline, or both. In this dissertation I start offline, in the middle of a busy street in Manhattan, and move on to consider online contexts in later chapters.

Ambient text includes any portion of readable written text (alphabetic or otherwise) visible to a person in the immediate environment, including, for example, commercial signage and traffic signs, but also words written on mobile objects, like a t-shirt or a shopping bag, the front page of a newspaper or a flyer blowing in the wind, a box of cereal or a bottle of beer, the text on a cell phone screen or a computer monitor, on all the books, smart phones and advertisements inside a subway car, on the carton held by a person asking you for a donation in the street, and so on. The presence of text becomes pervasive in the environments of modern life, from the home to the street to the workplace.

Of course, when I am immersed in the urban environment I do not perceive text as a separated class of things. Rather it is included in my perception of everything else. Only analytically can I disentangle text from all else and make it into a separate category. But in doing this I am not alone. As studies of children's awareness of environmental print and of nonliterate adults suggest, from an early age we are able to identify text with great ease, even if we do not know how to read it.² The fact that text is so easily recognizable even in situations where reading is not viable opens the possibility that text that is available in the environment be socially and psychologically relevant even *before* reading.

Throughout this dissertation, 'reading' is understood following literacy researcher David Barton's definition, as "taking meaning from text" (Barton, 2007). By 'text' I mean any portion

² Recognizing environmental print is typically possible for pre-literate children and nonliterate adults (Kuby & Aldrige 2004; Cardoso-Martins, Rodrigues, Ehri 2003).

of recognizable written language capable of carrying meaning for readers who are competent enough in the language and close enough in space. Texts can also support partial or imperfect meaning making and meaning taking, and are typically recognizable as text even by people who cannot properly read them (preschoolers and nonliterate adults, as mentioned, but also literate people who simply do not read the particular language in which a text is written). Texts are typically written in at least one language (some argue that brand names do not belong to any language in particular). *A* text can be very short or very lengthy. *A* reading can be brief and effortless or effortful and extended over time.

Walls, asphalt, things, screens, and skin can all be the surface on which a text is displayed. In the city, texts address walkers-readers constantly and from multiple directions. Urban immersion means by implication being surrounded by texts. The aspect, length, and ‘message’ or ‘content’ of encountered texts vary widely. But the deployment of written texts addressing whoever comes within a viable reading distance is, again, pervasive.

This overabundance of text is not entirely new, but the degree and the specific ways in which reading and writing support activities in the contemporary urban environment surely are. Of course people have for a long time carried books, newspapers, magazines, flyers, notebooks and the like, around in the environments they use and inhabit. The portability of printed materials coupled with the massive spread of literacy helped make text a very frequent element in core urban centers already by mid nineteenth century metropolises (Henkin 1998). As cheap newspapers, public signage, bills, paper money became a significant part of the city’s public spaces, people started sharing their space with a variety of texts. Even before widespread wireless digital access, then, text was everywhere in evidence in the streets of the city. But with the emergence of new ‘language technologies’ (Baron 2008) such as email and instant

messaging, together with extensive access to wireless digital network connectivity, access to text increases massively. There are more people spending more time using more text in more places, and to accomplish more things.

Text-as-stuff

I am sitting at home revising a draft of a new chapter and decide to take one last look at my *object* before I declare the chapter done. I get up from my chair and go downstairs to get a glimpse. I see the eviction sign on my neighbor's door, run into the mailman in the hallway, placing envelopes into small numbered boxes (nothing but junk mail in mine). I step out of the building and walk toward where the action is. It's summer and it's Saturday and the neighborhood buzzes with life and noise. As I walk to the corner, I see people, cars, trucks, a few trees, water spilling from an open hydrant, asphalt, walls, windows, doors, garbage, a dog, a blue sky. People walk home with heavy shopping bags, or read newspapers while leaning on graffiti-filled telephone booths. Some chat in front of the 24-hour bodega, or come out of the Mexican *taquería*, or wait for the bus while staring at the menu outside the Chinese take-out. Brightly colored posters announce *Sonidera* festivals or *Reggaeton* shows. A smiling Latino celebrity pitches a new breakfast offer to the obesity-ridden masses from an oversized 3D advertisement on the roof of the 24-hour McDonald's. Buses and commercial trucks pound heavily on North-bound 3rd Ave. I keep going south, onto the main cross street.

116th street is a place to see. Vendors sell *tamales* or Puerto Rican flags on the sidewalk, multitudes wait (or not) on the corner for the Walk sign to come up, kids admire the colorful birthday cakes in the bakery window, locals wait in line to buy an *alcapurria* to-go at the

cuchifrito place.³ As I walk by I hear people speaking Spanish, English, and both. The Spanglishness of the place is as audible as visible, everywhere to be heard or read. I keep walking until I reach the subway station, swipe my Metrocard while sorting through the weekend service change notices, posted in Russian, Mandarin, Korean, Spanish, English, still fresh in my mind that night ten years ago when an exasperated MTA employee refused to tell me what to do or where to go (inexperienced as I was), limiting his response to pointing at a posted notice and yelling ‘read, read, people don’t read!’

I hop on the Downtown 6, staring at the ad strip above the train doors and windows as I sit down, revising my chapter in my head. Other passengers read newspapers or books or answer emails on their mobile phones. Four stops later I get off and compare. 86th street is a place to see. Crowded sidewalks, lots of traffic, big signs, big construction sites, stores big and small. The two places look and feel different. I can make an effort and describe how, but the text readily available in the environment tells the story more swiftly. In any case, I left the house 20 minutes ago and I have probably come across more text than when I was staring at my chapter on the computer screen at home.

Much of what I can do in both places, two commercial streets on the East side of Manhattan, involves dealing with text at one level or another. Most of the time we do not notice the text available or pay much attention to it. But at least in principle, just by remaining there in front of us, visible to us, and posted in a language one recognizes, they demand our attention. In the urban environment everything asks for my attention, including texts, although of course, texts cannot force me to read.

³ *Cuchifritos* are fried finger foods from Puerto Rico. *Alcapurrias* are among the most popular *cuchifritos*.

Public texts don't force me to read, but they don't go away if I ignore them. They remain a part of the environment available for me to perceive and respond to if I choose to or cannot help it. Of course, much of what I can do in these places does not require me to process text. I can remember things from previous visits. Or I can guess where things are or what a place is based on previous experiences elsewhere. If I need confirmations I can always ask other people. Or I can read. And there is always the assumption, literally inscribed in the environment, that I or someone else will be capable (and may be in need) of doing that: reading.

If I step back a bit, I see other things. The fact that I am literate serves me well in this environment, as does the fact that I am bilingual and can read both English and Spanish. We live in worlds replete with labeled things. They are in my room or on my t-shirt, but also in places that I have never been and on things that I have never seen. Those labels very frequently contain text. Inevitably such texts are written in at least one language. And such language will not just be any language, but the language of the expected. Texts can carry meaning even before reading.

Some basic characteristics become apparent once one starts thinking of text as ambient. Ambient text is pervasive, it is materially diverse, it is unevenly distributed in space, a lot of it is fixed in place, and a lot of it is in movement. In terms of language, ambient text can be found in a multiplicity of languages, at least in a place like NYC. In terms of use, reading is also unevenly distributed in space. These characteristics are discussed in detail in the next chapter. In what follows I specify how my approach to text in the environment is different from other approaches to the relationship between texts, cities, and space more generally.

One important point is that the immediate referential value of a piece of ambient text is *not* a central issue in my approach. I assume that commercial signage and traffic indications and

for that matter all pieces of written language are referential, in one way or another. But I do not approach ambient text primarily in terms of their specific semantic or semiotic value. Rather I stay at a general level of observation, seeking at least initially, only to survey the text available in the environment, focusing on where and how it is encountered and on the implications of such availability and such encountering for our understanding of text and of the urban environment. This temporary bracketing or disregard of the specific meaning of the encountered pieces of text seems at least partly justified by the fact that in certain urban environments meaning may not even be an option for many of the people encountering the text. In a multilingual context like NYC some of the text that one encounters is written in languages that one does not understand. This becomes, we can assume, more frequent in more places worldwide as a result of increased global mobility of the workforce and of international tourism. Therefore a basic premise here will be that not all texts will be understandable to everyone at every point every time.

Another important clarification is that when I use the word ‘text’ I am not referring to the ‘semiotic’ use of this term, whereby text means any type of conventional, code-constrained meaningful sequence of signs, regardless of which code and which signifying matter is involved. In this dissertation instead I use the term ‘text’ strictly to refer to portions of *written* language that can be encountered by people in their perceivable environment in one situation or another. Likewise, when I use the word ‘signs’ in this dissertation I do not refer to the semiotic use of this term (involving ‘signifiers’, ‘signifieds’ and related Saussurrean terminology), but exclusively to the English word generally used to refer to those semi-permanent panels and surfaces that city planning boards and courts refer to when they talk about ‘sign regulation’.

Text and the rest: textual and non-textual components of the environment

But how justified is it to talk about written text as a separate component of the environment, or even as a separate component of urban signage? How about the icons, symbols, numbers, pictures and graphic features that typically coexist with texts in the signs we encounter when walking in the city or even when reading lengthier written materials such as newspapers or magazines? How about general visual properties, like color, size, type, or style, which presumably also impact the meaning-making process of readers?

One possible way to approach this is through Peirce's classical typology of signs. Peirce distinguishes three broad types of signs: *indexes*, which involve a direct connection to their referred object in the physical world; *icons*, which convey meaning by way of a resemblance to what they are taken to be a sign of; and *symbols*, which are unmotivated (what Saussure will call arbitrary), and convey meaning by way of habit or law. Written language in general falls in the category of symbols, but of course publicly displayed texts are also frequently mixed with iconic and indexical qualities. For example, the 'EXIT' sign in a building is symbolic insofar as it can be read as an English word, but is also indexical, as it indicates where the exit is by being in close proximity to it or indicating its direction. Furthermore, through repeated exposure, it may function as an icon, representing a building exit, in so far as such exits frequently contain the easily recognizable visible component 'exit sign'. A common example of this iconic potential is provided by anecdotal evidence of nonliterate individuals who learn to associate the graphic features of writings encountered in public signs with relevant meanings even when they cannot read the words contained in such signs when presented in a different setting and format. For any particular text, then, being a text does not necessarily exclude the possibility of it's being other things, its becoming part of other sets and its supporting other semiotic processes.

Numbers deserve a special mention, particularly since my examples come from a commercial street, where numbers abound in plain sight, most commonly in the form of prices in products and promotions inside stores or in the street. For our purposes, numbers are a particular type of symbolic material that coexist peacefully with text, playing a supporting role relative to text and even functioning as part of text at the level of environmental perception. By the same token, while numbers, icons, emoticons, and other symbolic materials are different than text, in so far as they can be incorporated into a phrase or sentence without interfering with the sentence's readability they do not pose a major problem in terms of categorization. At the level of environmental perception and attention then, non-textual symbolic materials frequently occur within and do work for text, as they make text-mediated meaning-making and meaning-taking more efficient or more informative.

They frequently function as part of text, effectively becoming part of the set we call text, and in this sense they are exceptions that confirm text's enormous capacity to absorb content and form into its domain. Text can absorb a good deal of non-textual material and still dominate the transaction in the sense of imposing itself as the dominant presence in a given sequence of markings (and perhaps the dominant force at the level of the processing of the information) making it possible for the line to still count as a text.

But texts can also 'infiltrate' other formats (a map, a photograph, a film sequence) and remain easily recognizable and unaltered qua text. Something similar, broadly speaking, is what I focus on in terms of the environment at large (all included). I start from the premise that it is in such an environment that text is found and that in fact there is plenty of it in it, so much that it seems justifiable to spend some time surveying where we encounter it in daily life and what it does.

One objection to my focus on texts-as-ambient is that my emphasis on text entails reducing the semiotic and multimodal richness of the environment to just one aspect of it, and a rather dull one: text. Why consider text but not include images more generally? Why privilege the visual and not include sound, the music, the voices of the people? My response is that I venture into this abstraction in the hopes that the momentary injustice inflicted by me on the multimodal and polysemic richness of the urban environment will be paid back with a few generalizable insights about such environment and how it is changing in the context of the growing impact of information and communication technologies. I am picking one type of element in the environment in the same way that an economic historian may choose to focus on the coffee trade in a certain period and a certain place, not because she believes that coffee is the only thing that is being traded at the time and place but because there are advantages to restricting one's topic and focus. This type of object delimitation is, I believe, methodologically justified and not alien to academic interrogation.

Finally the focus on the physically present, relatively durable (and recoverable) written text is what makes this text-oriented study specifically environmental, as opposed to primarily communicational, or sociolinguistic, or discourse analysis. In this sense my evidence is not linguistic evidence but environmental evidence. It is language-based evidence that I approach as environmental evidence. It comes from observations carried out in particular environments. In doing this I start with the environment and in the environment I find text. I consider text as stuff in the environment and suggest that the ways in which text adds itself to the environment can illuminate our relationship with symbolic materials in general and with the social and physical environment in general.

Yet, isn't it too much of an abstraction to say that a billboard is the same type of thing as an instant text message, or that what I do when I recognize the label in a food container is the same thing that I do when I read a newspaper article? In other words, the advertisement on 116th street, the pages I read or write, the emails we exchange, the news we read on paper or online; are they all examples of the same *thing*?

To summarize, when I talk about text, reading, and writing, my point of reference is not primarily the prototypical reading from a book sitting in an armchair at home, but instead something more like encountering a text on the wall while walking on the street or getting a text message from a friend while riding the bus. For a long time, the dominant view of reading was that of a mostly passive endeavor shaped by the clearly demarcated frame of a book page, a surface that with the exception of the page number and the occasional image, had nothing but text on it. The computer screen now provides a new prototype, that of a surface where not only reading but also writing occurs. But both, paper book and computer screen, can only *occur* in the environment, where people encounter them and use them while involved in multiple activities. We must then move from the two dimensions of the page or the screen to the intensified multi-dimensional space of text-use in urban immersion, where text becomes mixed with all the rest.

But how to conceive of text's relationship to, and relative weight in, the urban environment? A useful starting point is Latour's notion of actants (1996, 2005). Latour's work seeks to decentralize and distribute the notion of agency and to challenge the unquestioned priority granted to human agents in social analysis. In Latour's view social scientists should become aware of the role that myriads of "nonhuman actors" play in shaping actions and their outcomes. The "stages of interaction" (Latour, 1996) are an integral part of the interactions they support. Following this view I suggest that texts, understood as nonhuman actors or actants, are

an integral part of the stages of interaction that make up the contemporary multicultural and multilingual urban settings we inhabit when we live in places like NYC. They sustain the continuity of such places, and at times serve as conduits for change.

'Linguistic Landscape'

“Linguistic Landscape” is the name of a growing new field that studies the written language displayed in public spaces. It has raised considerable interest as a means for studying cultural and linguistic diversity. A recent edited volume by Sholamy and Gorter, *Linguistic Landscape: Expanding the Scenery* (2009), is full of signs of a vibrant international community of scholars, binding together work done in Canada, the Netherlands, Israel, Sweden, Japan, the Basque country, among others. This international variety of settings reflects a growing global awareness about publicly displayed written language as an arena of representation, contestation, and negotiation of identity as it relates to claims to place. In his contribution to the volume, linguist Florian Coulmas (2009) summarizes various competing definitions of what constitute the elements of the linguistic landscape. Landry & Bourhis, the Canadian researchers who coined the term linguistic landscape in 1997, identify “road signs, advertising billboards, street names, place names, commercial shop signs, and public signs on government buildings” as the elements of the linguistic landscape (1997:25). Cenoz and Gorter (2006:71) look at “any establishment that displays language signs” (wording is Coulmas’). And Backhaus (2006:56) focuses on “any piece of written text within a definable frame.”⁴

Most studies focus on bilingual and multilingual contexts and are concerned with issues of language policy, language planning, language rights and the representation of linguistic

⁴ The references here are quoted from Coulmas’ contribution to the volume (Coulmas, 2009)

minorities in public space. Language conflict and endangered languages are a major concern. The global presence and influence of English in the context of globalization is another common thread in the volume. In places marked by language conflict, the languages in which a particular text is written, and the ways in which texts in different languages are designed and displayed, may express patterns of social and political inclusion and exclusion as well as hierarchies of differential access, power and prestige. Public written language tells the story of who is expected where, in a particular public space.

In terms of disciplinary orientation, the authors featured in the volume come mostly from linguistics, sociolinguistics, and the sociology of language. One important area that is not considered, however, is the role of digital communication and of the Internet in reshaping the linguistic landscape in cities and in daily life. The issue is mentioned as important in the introduction and conclusion to the volume but not explored theoretically or empirically. The need for a theoretical consideration of the place of language technologies within the linguistic landscape is clear, and one could argue that the linguistic landscape becomes an important topic practically and theoretically in the contemporary context in the first place, precisely because of the emergence of new patterns of circulation and use of text afforded by new language technologies.

At any rate, the emergence of linguistic landscape research is an exciting development and I see my work as having multiple connections to the broad range of interests represented in the area. Yet the term ‘linguistic landscape’ itself presents a series of difficulties for me, as someone writing a dissertation in environmental psychology and therefore I decided not to adopt the term as a description of the *object* on which I focus in this dissertation. As much as I admire its grace and how intuitively it evokes the phenomenon we are looking at, I have doubts about

how well the term linguistic landscape fits this context for three reasons: the term ‘linguistic’ (I am not dealing with text in linguistic terms), the term ‘landscape’ (I prefer the term environment, or ambient, to the term landscape because of the immediate implication of immersion and of a surrounding quality), and lastly the order in which the terms appear, which may suggest a landscape that is primarily or exclusively *linguistic*, as opposed to other types of landscapes. A different wording, such as ‘landscape language’, or ‘landscape text’ although not as felicitous, would suggest a more general thing (a landscape), which contains texts. In the name ‘linguistic landscape’, by contrast, one component of the environment is being segregated from the start and made into a landscape by itself. This may seem unproblematic given the fact that most of the scholars currently doing linguistic landscape research come from disciplines that already take ‘language’ as their focus (mostly linguistics and sociolinguistics). But in my case, the focus on written matter requires some justification, as my field’s focus is on the environment first, and not on language. In fact, one of the key characteristics of the environment as understood in environmental psychology is its being multimodal, its appeal to multiple sensory modalities at once, and from that point of view the question then is, why focus on text specifically?

By choosing to talk about ambient text instead of linguistic landscape, then, I seek to achieve mainly three things:

- a. Frame text primarily as something that one finds in the environment and not primarily as something ‘linguistic’, and at any rate as something whose relationship with city walkers does not happen on linguistic grounds only.
- b. Call attention to the surrounding (ambient) quality of the occurrence of text instead of its being in the landscape, which suggests more distance and does not necessarily include me. To put it simply, a landscape can be included in one photograph, but not an ambient.

- c. Broaden the set of what is to be observed to include instances of text display that are not primarily shaped by intentionality, but are instead unintended, or at least not directly intended (as is the case, for example when I look over your shoulder to see the headline in your newspaper), as well as to the texts that are not displayed but are readily accessible, for example the texts I carry in my pockets while walking the city.

There are two aspects that go to the specific environmental-psychological character of this dissertation. One is the emphasis on perception / cognition *in* and *of* the environment (as well as on the roles of affect and action in shaping our experience of it). A basic point in my argument is that texts are a relevant component of our experience of urban spaces. The other aspect has to do with how the urban condition is redefined, remapped and redistributed in the face of digital communication and the rise of the network society, and how in such context, texts play important roles and do important *work*.

In any case, while I do want to highlight what is important for me in the term ‘ambient text’, I don’t want to make it too difficult to connect it to the term ‘linguistic landscape’ where it can be useful.

Cities, texts, and the city-as-text trope: textualism

One of the difficulties of trying to theorize the presence and functioning of text in the environment and of viewing such presence as worthy of intellectual interrogation is the tendency in social research and theory (and increasingly in common parlance), to use the notions of reading and writing metaphorically to refer to any form of perceiving or interpreting in which

people may engage.⁵ Metaphors about reading and writing have been in use for decades in the social sciences and related literatures (Lynch, 1960; de Certeau, 2002[1984]; Duncan, 1990). ‘Reading the city’ could mean perceiving, noticing, interpreting, or decoding a certain object, situation, event, ritual, routine, behavior, element of the built environment, or spatial arrangement. Kevin Lynch’s *The Image of the City* (1960) is perhaps the most classic example of this trend. In Lynch’s view cities can be classified in terms of their level of ‘legibility’ or readability. A city that is legible presents itself to visitors or city dwellers as a clear text that can be easily followed through lines, landmarks, nodes, and districts. The planner has a role to play in making the city’s functions and meanings as transparent as possible.

Another often cited example of this textualist tendency is found in the work of Michel de Certeau (2002[1984]) who distinguishes between two ways of reading the city and correspondingly two readable texts: the one seen from above, written by the planner (and by the powerful classes whose interests the planner represents), and inscribed in the city’s layout and buildings, and the one at street level, written by people’s trajectories and practices as they go about their lives. People write the city with the traces left by their footsteps and their practices, but inevitably they do so within the constraints of the text already written by the powerful in the built environment.

⁵ There are semiotic and hermeneutic variations of textualism, but in general they are part of the turn-to-language trend in twentieth century Western intellectual history. In France this turn-to-language took the form of Structuralist and later Post-structuralist approaches to signification systems. In Germany it took the shape of hermeneutic work *à la* Gadamer. In the Anglo American world, it overlapped with Analytic philosophy and the development of cognitive sciences, heavily influenced by Chomsky’s ideas about an innate universal generative grammar. The influence of so called ‘French thought’ in the US academia during the 70’s and 80’s was very strong in Language and Literature departments and this context of reception may have preferentially highlighted the ‘semiotic’ aspects of the work of Foucault, Derrida, Baudrillard and others. Not surprisingly the textualist position sparked a ‘realistic’ reaction that may have been just as extreme as the textualist reductionism against which it was raised. In his contribution to the edited volume, *The ethnography of reading* (1993), editor Jonathan Boyarin calls attention to the anti-textualist vent of otherwise important work in anthropology and history. Such anti-textualism, Boyarin claims, by trying to do justice to the complexities of nonliterate cultures ends up making injustice to the cultures of the book.

Although used only casually much of the time, the mutually confirming ‘reading-the-city’ and ‘city-as-text’ tropes may have been useful (may still be) for studying how city dwellers make sense of their environment, how the built environment is inscribed and invested with meaning (particularly political meaning) and how the social researcher himself/herself makes sense of the *facts* (or even ‘make’ the facts) by way of reading and writing.⁶

There is, however, at least one downside to such expanded, inflated, or relaxed uses of the notions of reading, writing, and text: it becomes more difficult to establish the specific ways in which reading, writing, and text strictly defined shape and impact the places we live in and what we do in them. On the one hand, the use of these metaphors has the advantage of calling attention to the constitutive character of meaning-making processes in social contexts. On the other, the assumption behind these metaphoric uses of reading and writing is that we already know what reading and writing are about. I believe that in order to investigate the relationship between text and city adequately it may be useful to stay away from the popular reading-the-city and city-as-text tropes, and in this dissertation I have tried to avoid them altogether.⁷

⁶ In cultural anthropology the reflection about the central role of writing in the production of ethnographic work is marked by the publication of the edited volume *Writing Culture: The Politics and Poetics of Ethnography* (1986), edited by James Clifford and George Marcus.

⁷ One promising alternative to the inflated use of the notions of text, reading and writing is Tim Ingold’s book on lines and linemaking (Ingold, *Lines: A Brief History*, 2007). “An ecology, in short, is the study of the life of lines” (p.103), he says, perhaps paraphrasing Sausurre’s famous definition of semiology as the ‘study of the life of signs in the midst of social life’. Ingold’s linemaking perspective has the advantage of providing a general framework where meaning-making and world-making can be addressed in general without recourse to inflated notions of text, reading, and writing. These are understood as a specific form of linemaking, which overlap with other ones (like drawing) in some respects but is not reducible to them. The study of linemaking is the study of “inscriptive practices”, of the lines that people inscribe with their voice (speech, song), their hands (gesture, drawing, writing –perhaps building), and their feet (walking, traveling).

*Text in historical perspective*⁸

Other authors have looked at the ways in which reading and writing strictly understood (inscribing or decoding written language in order to communicate or retrieve meaning) have played a role in re-shaping people's minds and worlds. McLuhan (1962) sought to explore the consequences for culture and mind, of the spread of the written word into all domains of society in the wake of the invention of printing. The Gutenberg Galaxy, in his view, had created a new type of culture and of mind, one that substituted the aural culture of pre-literate societies, dominated by the ear and physical proximity, with the primacy of visual culture, dominated by objectivity and the fix point of view. But with the rise of electronic culture in the twentieth century, in particular television, McLuhan argues, the Gutenberg Galaxy loses its dominance on society. Television brought back the aural and tribal aspects that the culture of the book had distanced us from. This way, McLuhan claimed, we were back in the village, although this time, a global one, the "global village", supported by television and other media. McLuhan attributed enormous consequences to the invention and diffusion of print, from creating the first

⁸ As a field of historical research the history of writing focuses on the origins, development, transformation, and influence of writing systems. Ignace Gelb's *A Study of Writing* (1963) is considered the first scientific study of writing systems. Issues have been raised about the linear and ethnocentric character of histories of writing, which tend to assume the superiority of alphabetic writing and approach the history of writing as a unidirectional teleological development leading from drawing to the invention of the alphabet and eventually to mechanized print as the crowning achievements. The linguist Roy Harris has sought to debunk the ideologies that reify the alphabet as a perfect technology and as an intrinsically superior invention as well as the role attributed to ancient Greece in defining modern writing systems. One important implication from the history of writing as it concerns the topic of this dissertation is the possibility that the emergence of writing coincided with the emergence of cities and urban formations. Writing facilitated the growth of commerce, the administration of social life and the emergence of more complex societal forms by supporting better record keeping as well as coordination and interaction across time and space in contexts larger than the here and now, thus expanding the scope of human communication and action. In the context of the rise of personal computing in the 1980's and the Internet in the 1990's a new interest in the history of writing and reading emerged, with some authors suggesting that the emergence of the PC and the Internet constituted pivotal moments in such history, one otherwise characterized more by continuities than discontinuities. Some of these authors explored the intersection between digital reading and writing practices and ongoing social, political and epistemological debates (Poster 1990; Bolter, 1989; Landow, 1996). Much of such scholarship took its inspiration from the work of the cluster of thinkers sometimes generically referred to as 'French thought' (including Barthes, Derrida, Foucault, Lacan, Lyotard, Kristeva, Baudrillard, among others), who during the 60's and 70's sought to problematize the relationship between author, text, and reader, as well as all other forms of hierarchy within theory and society.

mechanically reproduced commodity, to fostering analytic thinking and the fix point of view, to the rise of modern nationalism. His work has been criticized on many grounds, among other things, for its technological determinism. Other authors have sought to explain, extend, or debunk the notion of the world-changing and mind-changing character of print and literacy.⁹ In this dissertation I avoid sweeping statements about the transformative power of writing and literacy, while at the same time arguing against dismissing text too fast, either by denying it any efficacy (social, psychological, environmental) or by diluting it into vague textualist metaphor.

Historian Benedict Anderson (1991[1983]) saw an important connection between print and nationalism, assigning print a major historical role as a means of geopolitical transformation, and arguing that the emergence of what he termed “print capitalism” supported the circulation of books and newspapers written in vernacular languages –languages other than Latin. The

⁹ The issue of the consequences of literacy for the development of mind was a contentious point in linguistic and anthropological thought throughout most of the 20th century. The study of ‘illiterate’ cultures made possible by developments in linguistics and anthropological fieldwork spurred interest in studying the ways in which literacy impacted mental processes. It was assumed that cultures that had not been ‘touched’ by literacy could give Western researchers insight into how mind, person, and society operate in the absence of writing and/or in the transition to it. But the idea of a ‘pre-logical’ mind turn out to obscure more than it clarified, and the supposedly ‘savage mind’ untouched by literacy turned out to be much more complex than what Western thinking projected, or ‘otherized’. On the other hand the ‘oral’ cultures could be easily romanticized as more original and pure, untouched by the ‘artifice’ of alphabetization. In turn, the ‘literate’ ones bore traces of orality which preconceiving of them as literate made more difficult to capture (Ong, 1982). This privileging of the oral over the written became standard early on within linguistics, with the work of Ferdinand de Saussure, which privileged speech over writing and argued that the former and not the latter was the true object of study of linguistics. As later argued by Derrida, such position echoed a lasting bias to be found all over Western thought, a certain thread of disdain and distrust toward writing coupled by a privileging of the voice, which lead to an unquestioned reduction of writing to mechanic transcription of the voice. According to Derrida, this reduction of writing to a ‘supplement’ bore important consequences for western philosophy and betrayed its deeply metaphysical roots (Derrida, 1997[1967]).

The “literacy thesis” (Halverson, 1992) was proposed independently by Jack Goody and Eric Havelock in 1963 broadly claiming that literacy changes the mind and the institutions of society. Goody centered his work in contemporary African societies while Havelock focused on Ancient Greece. Havelock, a classicist, sought to establish how the Greek alphabet sparked the emergence of logical thinking, while Goody, an anthropologist, sought to establish whether literacy lead to development and modern institutions. Goody’s work lead the way for much important work (partly debunking his own ideas) by Cole, Scriber, Olson, and others, focused on disentangling literacy from schooling, and opening up the study of literacy in ‘situated’ contexts, leading the way to today’s literacy studies. Literacy scholarship is experimenting growth and attracting growing interest among scholars from different disciplines. In *The Cambridge Handbook of Literacy* (2010), co-editor David Olson talks about the emergence of a literacy episteme.

invention and spread of movable types print allowed for the publication of written materials in vernacular languages, giving rise to national literatures, which in turn allowed vernacular readers to imagine themselves as belonging to the same national space as distant others who also speak and read the same language. Such “imagined communities” gave impulse to shared political desires and aspirations, eventually leading to the emergence of the modern nation-states.

In the nineties, two important books focused on the sudden increase in written language in major cities during the nineteenth century. Peter Frietzsche’s *Reading Berlin 1900* (1996), looked at the development of daily newspapers in turn-of-the-century Berlin looking at how the metropolis and its representation in newspapers, the “world city” and the “word city”, shape each other. Metropolitan life shapes the development of metropolitan newspapers in terms of content and form while metropolitan newspapers shape metropolitan life in turn by allowing the city to represent itself and imagine itself. In *City Reading: Written words and public spaces in Antebellum New York* (1998), David M. Henkin takes a more material culture approach, focusing on the variety of new print-related objects (from billboards to awnings to paper money to cheap newspapers) that populated the space of the city (Manhattan in this case) in the years prior to the Civil War. As the written word became a significant part of the city’s public space, people started sharing their space with a variety of texts, and reading became an eminently public activity, not just something for a few people to carry out primarily in private.

A related topic is the development of public sphere theory, with Habermas publication of the *‘The Structural Transformation of the Public Sphere’* (1989). Written materials are very important in Habermas’ account of the emergence of the public sphere in eighteenth century Europe as he assigns a key role to the production and circulation of books, newspapers and gazettes and to the cafes and salons where such materials were publicly read and discussed.

Habermas provides a social and materially grounded explanation of the mechanisms that may have led to the rise of the self-referential field we call the public sphere. Another major study that establishes a strong relationship between writing (or print, more specifically) the public sphere is Michael Warner's *Letters of the Republic: Publication and the Public Sphere in Eighteenth Century America* (1990), which argues that in the early republic, 'the public' was identical or coterminous with print, insofar as print created a field for collective decision-making and reading, writing and publishing became paradigmatic public actions.

The study of reading and literacy within psychology

Within the discipline of psychology the study of reading and literacy has taken place mostly in developmental psychology, focusing around issues of emergent literacy and schooling. Vygotsky was already concerned with how children attain literacy and what that could mean for their cognitive development. The subfield called the psychology of reading (a major contributor to the multidisciplinary umbrella called 'reading research') has been particularly successful at the experimental level. It explores patterns of reading from the level of eye movements, to cognitive and cultural factors that shape the reading process in learners, experts, as well as people with disabilities that affect reading. The article "How Psychology Influences the Teaching of Reading" (Rayner *et al.*, 2001), authored by some of the key researchers in the field, is a sort of summary of the findings of various decades of research on reading.

But the study of literacy is of course not exhausted by laboratory research. A lot of interest lies also in school settings and on how reading and writing are taught and learned in the classroom. At the public level, there has been some controversy around the issue of whether the 'phonics' or the 'whole language' approach ought to be followed in the teaching of literacy.

Other research focuses neither on the laboratory nor the classroom, but on the home and the neighborhood. Some research focuses on children's and nonliterate adults' awareness of 'environmental print' and whether environmental print awareness is a good indicator of literacy readiness, whether it is a useful source for the teaching of literacy, and on the relationship between exposure to environmental print and vocabulary growth (Cunningham and Stanovich 2001; Orellana & Hernández, 1999).

Avoiding the unqualified claims about writing that had been typical in the study of literacy (to the effect that writing wholly restructures the mind), David Olson (1996a, 1997) considers that what writing provides speakers with is a model to think about language, and that this reflexivity opens possibilities for cognitive capacities that are harder to find in the absence of writing. Writing expands what we can do with language by bringing it into focus. Writing also makes possible the creation of language products that are text-specific, such as the essay, which did not exist in speech before writing was accessible.¹⁰

Another important contribution within psychology has been the work of Merlin Donald on external memory (1991). Donald has drawn attention to what he calls external memory storage systems. Donald suggests that the use of "exograms" (memory units outside the biological brain) points to the emergence of a new cognitive ecology in homo sapiens, in which humans were able to offload information into the environment in ways that expanded their ability to share information and find social solutions to complex problems. Writing is a recent but crucial example of this capacity and its transformative power.¹¹

¹⁰ This goes way beyond Aristotle's definition of writing as *aide-memoire*, as a facilitator of memory. Such view of writing as memory aide was precisely the reason for Plato's famous initial despise for writing, as an artifice that made people less capable of using their own minds to learn and remember things.

¹¹ Donald puts the stress on the change in the relationship of humans with their environment. Memory became extended by the accumulation and purposive use of symbols, which facilitated record keeping and coordination of

Within environmental psychology specifically, William Ittelson's article on visual markings (Ittelson, 1996) is a powerful attempt to look at conventional components of the environment taking the affordances approach as point of departure. It is also the only text from environmental psychology that I know of that addresses writings as a component of the environment. However, in describing our dealing with writings and other visual markings in the environment in terms of a "decoupling", Ittelson separates writings and visual markings too quickly and categorically from "real world objects". In the case of reading, the reader decouples the perceived writings from the context where they are found in order to make sense of them. Unfortunately, this way reading seems to end up *outside* of the environment. By contrast, in this dissertation I have assumed that text use can only happen in the environment and that we may limit our understanding of both texts and environments (of text use and environment use) by separating them too much, especially in the context of the rise of the network society.

Texts and brains

Finally, with increasing sophistication of brain imaging technologies, there are renewed attempts at settling the issue of whether writing and literacy change the mind by looking at whether they change the brain. With the growing technological sophistication of brain imaging technologies comes also the growing clout of neurological evidence in psychology and cognitive science. In the case of reading there has been important work concerning brain areas that are

social action, giving rise to "a new cognitive ecology" (although Donald is referring to something that emerged one or two hundred thousand years ago). "More significantly, there is a new element called the external memory field (EXMF) which is essentially a cognitive workspace external to biological memory. In early writing there was extensive use of the EXMF, especially in the processing of lists." ... "The EXMF usually consists of a temporary array of visual symbols immediately available to the user" (p. 296-297). In a way, the contemporary processes described in this dissertation can be seen as the unfolding of the processes and capacities described by Donald, extended by increasingly powerful communication technologies.

involved, and a specific area, the ‘visual word form area’, has been identified and intensely studied during the last decade.¹² It is no doubt exciting that brain scans can give us more insight into correlations between psychological processes and areas in the brain or patterns of activation within them. But as informative as cognitive neuroscience may be, the study of the relationship between people and texts cannot be reduced to the study of the relationship between brains and texts in the laboratory. Psychological complexity needs not to be reduced to patterns of neural activity, and in this sense environmental psychology may help provide alternatives to the encapsulation of psychological research within the confines of the skull, and to the reductionistic tendencies of mainstream neuroscience.

One way of doing this is by not reducing the environment to something that relates to the individual on a one-to-one basis, but as intrinsically social and shared. With regards to literacy, in this dissertation literacy is seen not so much as a set of individual skills, but in terms of how it may be of importance in contexts where texts matter to the relationship between people and the environment. Such contexts become increasingly common, as we commit larger parts of our spaces and our times to activities that in one way or another involve the use of text. Reading and writing are understood here as geographically and historically situated material practices and not as unchanging mechanical skills or individual capacities *sited* exclusively within individuals. Literacy is seen here also as a property *of* the environment, distributed in the environment, brought to life in its midst by the multiple mediations that frame the encounter of skilled enough readers and near enough texts. As stated in an introduction to the subfield of *Language ideologies*: “The relationship of social groups as well as individual readers –lay and professional– to specific texts depend fundamentally on ideologies of language” (Woolard, 1998: 22), therefore

¹² In *Reading in the Brain: The Science and Evolution of a Human Invention* (2009) S. Dehaene, the leading scholar in the field, summarizes the findings for a general audience.

“[t]he definition of what is and what is not literacy is never purely technical but always a political matter” (1998:23).

The frequency with which people engage in text use at work and on their own time, has increased significantly, and so has the amount of accessible readable text-bearing surfaces in our midst. To a degree never experienced before, text and text use have become part of the texture (the felt quality, the surface of contact) of our social worlds. More people spending more time using more text to do more things in more places. Texts become a key medium of engagement with self, environments and others. In attempting to account for the place of text in contemporary urban environments, larger processes reshaping such environments today must also be taken into account. This dissertation is an attempt to explore some of the larger-scale dynamics that are reshaping and opening up the environment in ways that make text more (not less) relevant to how we experience it.¹³

Overview of the chapters

Chapter 2, *(En)count(er)ing Text*, is written as a methodological reflection on the experience of going about the issue of adding an empirical component to this theory-dominant dissertation project. Efforts to sample, classify and account for ambient text empirically lead to definitional and practical issues which I treat here as findings in and of themselves. I describe how I shifted from an objectivistic to a phenomenological approach to the data collection process, and discuss some of my attempts at classification of the material.

¹³ A word about spatial terms: In this dissertation I refer constantly to the environment and only sporadically (and later) to place and to space. By referring to the environment I seek to keep my investigation grounded at a scale that is demarcated by perception. All text use happens in the environment. I use the notion of place in chapter 4. I start referring to space and to larger spatial processes when I introduce Castells’ distinction between the space of places and the space of flows towards the end of chapter 5.

Chapter 3, *Text as built environment*, considers some of the analytical consequences of thinking of text as part of what the environment is made of. Text is not just *stuff*, as suggested in chapter 2, but a particular kind of stuff, one with important functions in the urban environment. I briefly discuss work from architecture theory that deals with the intersection between architecture and new patterns of information flow to propose that text becomes a key infrastructure in the urban environment and that there are advantages to considering it literally as part of the *built* environment. Following Heft's emphasis on the dynamic character of the environment, I suggest a shift of focus from 'built environment' to *environment-building*, as a continuous dynamic material process where materials (including text) with different degrees of durability are added to more lasting contours and structures becoming part of what the environment is made of. in the constant process of becoming an environment. Even ephemeral things, such as much of the texts seen on the street, contribute to building the environments that people experience and share. This runs counter to the more *inert* understanding of the built environment as already *built*. The effort to *build down the built* is conceived here as a way to engage in conversations about materiality instead of bypassing them.

Chapter 4: *Placing Text*, looks at what I call vernacular ambient text (portions of the encountered ambient text that are written in languages other than the dominant language of a given city) and its implications for understanding the relationship between place and culture in the urban environment. Language diversity (and the related notion of language difference) is an increasingly salient feature of many contemporary cities and environments. Vernacular ambient text is a visible example of the place-making strategies of diasporic, mobile populations. This

visibility is used by groups to make a place for themselves, and thus overlaps with the issue of the political recognition of ‘ethnic’ communities in the urban context. Finally, I use personal narrative to address the role of ambient text in shaping the status of East Harlem/El Barrio as an ethnic neighborhood in a global city, and in shaping my own status as a bilingual migrant studying the mobile urban environment.

Chapter 5, *Text and Mobility*, focuses on the structuring role of text in the context of increasing mobility that is characteristic of the contemporary urban environment. Mobility has become a key theme in the social sciences and in recent years a ‘mobility turn’ has been in evidence in various disciplines including geography, sociology and anthropology, promoting a shift “from roots to routes” in social analysis and from an emphasis on what stays in place to a focus on what moves and circulates. I argue in the chapter that text functions not only as a critical source of information for mobile subjects about mobile things, but also as an active *agent* of mobility, both channeling movement and opening up the immediate environment to various scales of mobility. Text facilitates navigation and wayfinding. Text can mark movement and make it comprehensible. Text itself can be moved around. Finally, text can play a role in ‘mobilizing’ people. Using examples from my observations in East Harlem/El Barrio, I propose a typology of fields of mobility in which text plays a role.

Chapter 6, *Text and Connectivity*, focuses on the relationship of text-as-ambient with the notion of the rise of the network society. I locate the relationship between people and texts within the larger theoretical framework of the network society. How does the emerging social spatiality that characterizes the network society put text processing capabilities to use? How has text use

shaped the emergence of the network society and its socio-spatial characteristics? Digital connectivity extends text use. The continuous, massive circulation of vast amounts of written text, and the increase in the time people spend using text are preconditions for the network society. This extensive contact with text plays a fundamental organizational role (spatializing role) in this context: they support the *linking up* of the space of flows and its *coupling, its hooking up* with the space of places.

Chapter 7, *Text and Modifiability*, looks at the relationships between text and issues concerning social change and sociopolitical transformation. While previous chapters highlight the role of text use in providing continuity, coherence, and cohesion, in this chapter the focus shifts to the potential of text as tool for transforming societal forms and social relations. I link this idea to discussions about the nature of the Internet, and put forward the ontological claim that the rise of the network society entails a change of the materiality of the social itself. Through ubiquitous Internet access, the modifiability that characterizes the Internet becomes embedded in the social in such way that the urban environment itself becomes more participatory and open to bottom up transformation.

Chapter 8, *Notes and Nodes: Ambient archives*, looks at the consequences that the rethinking of text and environment explored in this dissertation can have for our ontologies and epistemologies of the social and the urban. In attempting to synthesize the ideas from previous chapters I reconsider the notion of infrastructure connecting it to the notion of the archive, redefined here in terms of its relationship to perception (ambient archives). I explore the compatibility of the approach put forward in this dissertation to recent approaches to cognition, in particular,

distributed cognition and the extended mind thesis. Finally I look at consequences for how we think about the environment, the urban, and the built, as well as reading and writing.

Chapter 2

(En)count(er)ing Text

Reflections on the phenomenology of text-counting while city-walking

In this chapter I give an experiential account of the process of collecting data for this project, focusing on the definitional and practical challenges that arose from it. I describe the transition from an initial attempt at quantifying the text available in the observed locations to a more phenomenological approach, a sort of phenomenological sampling, a self-reflective noticing of what's out there, focusing on experience and perception. Rather than providing an exhaustive list of the types of texted surface available, I describe my encounter with the texts available in the observed setting, focusing on the perceptual, methodological, and environmental conditions that shaped such encounter. At the end of the chapter I present some of the general characteristics of the written material encountered.

While I have spent a lot of time in observational mode with an eye on ambient text in many areas all over the city during my years living in New York, my fieldwork for this dissertation consisted primarily of observational research carried out between the Fall of 2007 and the Fall of 2008 in two streets in Manhattan: East 116th street in East Harlem/El Barrio¹⁴ and East 86th street in the Upper East Side. Both locations constitute important hubs of commercial activity for two Manhattan neighborhoods: the Upper East Side and East Harlem/El Barrio. By

¹⁴ This location has also been the site of seminal work on the sociolinguistics of bilingualism (in particular, A. C. Zentella's *Growing Up Bilingual* (1997). Also, J. Flores, Attinasi, J and Pedraza, P. *La carreta made a U-turn: Puerto Rican language and culture in the United States*, in Juan Flores, *Divided Borders, Essays in Puerto Rican Identity*; 1993). As mentioned, however, my interest is not in the linguistic aspects of text found in this setting, but on the general pattern of circulation of text as a component of the physical environment.

comparing streets in two neighboring areas I intended to capture similarities and contrasts in demographics. It also allowed me to address the issue of language difference, which is central to my interest on the dynamics of written language in contemporary urban spaces.

Language difference is an increasingly salient component of the experience of urban immersion in global cities like New York. I prefer the term language difference instead of the alternative, language diversity (which may sound more positive and potentially celebratory), to highlight the irreducible opaqueness of linguistic meaning for those who do not understand the language, especially when they are involved in situations or interactions where linguistic communication is the key register of action and language-based meaning is at the core of what is happening. We also make room for the rather common experience of situational exclusion (intentional or not) from an interaction or environment specifically on the basis of language competence or lack thereof, as well as the experience of inclusion (incidental or sought) into a situation, interaction, or environment based primarily on language competence. Urban multilinguality is not only about the diversity of the languages but about the very concrete inclusions and exclusions that language difference incessantly inscribes in the flow of action in urban time and space. Finally, languages are not only neutrally diverse, but have different relations to power, and hierarchies of language mediate people's claims to status, access, belongingness, and privilege.

But language difference is hardly the only difference between the two contiguous neighborhoods. The Upper East Side is one of the wealthiest districts in the country, while East Harlem is one of the poorest.¹⁵ The Upper East Side is mostly a 'white' neighborhood whereas

¹⁵ East Harlem has been widely studied and referenced as a textbook example of urban poverty, urban underclass, and just about every theory focusing on social problems in the urban context. This dissertation instead looks at the neighborhood from a perspective that is purposely non-stigmatizing. This is not to deny the hardships of those that

East Harlem is mostly Latino and African American. Other marked differences include differences in income, unemployment, level of education, home ownership, rates of incarceration, and so on. Would these differences play a role in the study, would I focus on them? I was not sure at the beginning but I wanted the site location to include and reflect those differences anyway.

At first, I wanted to look at the transitions between these two streets, so I started by taking long walks crossing the area South to North and East to West. 20 to 30 minute walks, after which I would stop and write my observations for 15 or 20 minutes. My first rounds of observation were mostly limited to recognizing what was there and getting a sense of the activity in the street. Then I started looking for data that would speak to the amount of ambient text in the urban environment. Finally, wanting to select sites with abundant information but also manageable in scale, I decided to focus on 116th street and 86th street alone, one whose signage is almost exclusively in English, the other much with a large presence of signage in Spanish. Eventually I decided to focus on 116th street and keep 86th street as a point of comparison.

All throughout the initial process I used the same basic observational procedure. I walked through a predetermined path, stopping at the end of each block to jot down observations on my pocket notepad. The notes would include descriptions about the specific block walked, the names of businesses found, the sequence of the larger signs displayed, the street furniture deployed, as well as general impressions about the area. Some notes described the experience of doing the observation rounds, others were notes on *how* to count, things to take into consideration when

live or have lived in the area, but as a decision to make the community a focus of other types of attention, neither too negative nor too celebratory. The hardships and the threats to the community posed by multiple forms of urban disenfranchisement surface at various points in these chapters, but are not my main focus in this dissertation. Chapter 4 looks at some of the social and historical dimensions of the neighborhood in a some more detail.

writing about the counting, as well as more theoretical ideas somehow triggered by, or associated with, what I was seeing. The initial rounds were much more governed by a free-floating attention, less directed toward text specifically. These less restrictive observational rounds complemented the counting rounds, which started later in the process.

City talking to itself

The blocks further to the East on 86th street are less hectic and have less concentration of businesses and commercial text than the blocks closer to the subway station on Lexington Avenue. The more residential blocks, being less marked by commercial text, allow for greater visibility of a very specific layer of ambient text, more discrete and straightforward. In contrast to commercial signs, they are not intended for everyone but mostly seem to address city workers. The web of text gravitating around the buildings is crucial for identifying access points to various infrastructures (electricity, water, gas, telephone lines).

Sprinklers, sewers, service gates, are typically accompanied by a periphery of text that surround them and identify them for possible users, thus reducing functional ambiguity and facilitating recognition for city operatives (fire workers, safety inspectors) and perhaps also reducing curiosity of onlookers (liberating them to go and look at other things). Many of these inscriptions are molded on metal, which suggests the expected permanence of the referential value of the text (contrasting with the disposability of other text, for example, time sensitive promotions and commercial offers). This layer of text, which I call the ‘city-talking-to-itself’ layer remains by general rule unaffected by the daily rhythm of night and day, remaining visible, uncovered and in display constantly. The fact that much of it has to do directly with safety and control of hazards explains this. Most of this ‘city-talking-to-itself’ text is found near the ground

or on the ground, where the different infrastructure access points are. This layer of text is to be found all throughout the street but it becomes more visible in blocks where it does not compete with more eye-catching, commercial signs.¹⁶

Texts and times

When I walk around early in the morning I get to see the text that is in display when people start to fill the streets, the text that remains visible when the stores are closed. It also becomes noticeable how much the volume of visible text changes throughout the day in the denser areas of the street. Since there are fewer people in the streets, and people are a major contributor of ambient text (in their clothing and things they carry –newspapers, bags, food/drink containers) as well as less traffic (cars and trucks also typically bearing text) there is also less text displayed and used. At 6 a.m. most businesses are still closed, many are covered with metal curtains that block visibility of much of the text. What the metal curtains leave uncovered is the larger signage. But such signage can be misleading. When businesses are closed it is not always easy to tell which signs refer to current businesses and which ones are just visual remains of businesses now gone. There is a ‘Restaurant’ sign hanging above a relatively new Baskin Robins/Dunkin Donuts in the corner of 116th and 1st avenue. The sign is very generic and does not tell us much about what kind of restaurant it was or when did it operate, but it does tell us that there used to be a restaurant at that spot and now there is a chain fast food store. The juxtaposition of signs in this case captures the circumstances of a neighborhood in transition. In

¹⁶ These are not the only types of ‘city-talking-to-itself’ text to be found. Lots of inscriptions can be found on walls, asphalt, or the sidewalk, indicating spots where work is planned or underway, businesses or projects for which permits have been granted, and so forth. The outdoor text of the city’s safety regulation and procedures are themselves tremendously codified and regulated. Construction sites must get permits, which must be in display at the sites. The Fire Department issues permits for all buildings -residential, governmental or business. In a broader sense, all document-based transactions in municipal offices that make the city’s functioning and management possible are cases of city-talking-to-itself as well.

this way parts of the ambient text display fragments of a history of the businesses on the street, some current, some short lived, or long gone.

As the morning sun rises, so does the amount of text, and so does the readership. Bundles of newspapers dropped in front of grocery stores, MTA buses driving by with their mobile texted surfaces, grocery bags, logo-bearing coffee cups, people with text-bearing t-shirts, all slowly pumping text into the street space. Not that the few people present in the street at this time care about all the surrounding text, of course. One cares only about the text one chooses to attend to. But at this point all I am looking at is the availability of text and not any actual reading of it other than my own. Finally, as the metal curtains go up and the store doors open, the amount of displayed text increases further.

Porous demarcations

From the point of view of readable text surfaces, when businesses and offices open in the morning, it is as if the street gained width, as the storefronts become porous and the insides of the stores become perceptible. The street widens during daytime and contracts at night. The long line of previously impenetrable surfaces now offers multiple point of access. Glass windows and doors become a porous zone, a permeable membrane that defines inside and outside but through which the gaze can reach, indoors to outdoors or vice versa. The membrane itself can hold text, but its being transparent also affords reading through it. Indoor text is frequently displayed directly towards the outside passersby. Text then accumulates on and about this membrane from inside and from outside.

The extension of the street's walkable space and text surface is enlarged when store doors open. The aisles in the store become a sort of indoor street, a continuation of the street on the

inside. If publicly displayed text constitutes an important part of what the street *is* and of the way the street presents itself, then the aisles inside of stores, with all their labeled containers, posters and promotions, also become de facto extensions of the street, woven into the outdoor street by de Certeau's walkers, as the capillary veins of the street flow of peoples and things and information.

Texts come and go through the door, carried or worn by the people who move through the space, but also as people use the screens and keyboards of their cell phones and other digital devices. People make calls and send text messages from their mobile phones while shopping or sitting in a waiting room. There are also all the TV screens dispensing news or talk show drama to incidental viewers, potential customers or clients. Text is of course no small component of TV content, with CNN and telemarketing channels as the extreme examples of TV screen text cluttering. Lastly the buying transaction itself involves moving text around by using either cash or digitally enabled credit-debit transactions that involve signatures and receipts.

Continuous counting: Ambient counting as experience

Once I was fully in counting mode I would carry out counting rounds in which I would focus on one block and walk continuously from one corner to the next counting all the readable text that I could identify, from traffic signs to graffiti, from stickers on windows to instructions on sprinklers to text-bearing trash on the curb. At the beginning the counts were done without any instruments. As I did more counting rounds the numbers started getting bigger, in part because of my counting of the text that I knew was there even though I did not see it in the present counting round.

These repeated counts were experienced very differently on 86th street and 116th street. 86th street had more of the feel of a tourist site for me. Perhaps because of that, it was easier for me to walk around taking photographs without getting too much attention or feeling too invasive. But whereas a lot of the people in 86th street do not seem to be from around there, in 116th street people are likely from around there, or at any rate may feel and express a sense of ownership in relation to the place, a sense that this is *their* place and that they have something at stake in it.

My experience on 116th street was different in that I got many more inquisitive looks from people, rarely hostile but mostly reflecting curiosity, puzzlement, or reservation. One morning in June 2008, as I took a photograph of a bilingual inscription on a front wall in a sidewalk, my camera flashed later than I had intended, as a strongly built, fairly tough-faced man was passing. He stopped to ask whether he was in the photograph. The tone was not hostile but he was visibly expecting a convincing negative answer. I told him he was not in the photograph and proceeded to show him the photos in my camera monitor for which he had to stand relatively close to me. I offered to delete the photo that was just shot even if he was not in it. And there we were, for more than a few seconds both looking at a small screen, while I tried to figure out how to delete the photo. After a few unsuccessful tries, where I intentionally threw in a few Spanish words, he gave me a friendly smile and walked away saying it was ok. Was this interaction about the man's sense of privacy? I think the interaction was also about senses of place; he would have probably not stopped to ask about the photograph if the same situation had taken place at 86th street. His friendly attitude at the end was I think also about place; this place is also yours, he seemed to be saying.

Blooming, buzzing (text) confusion

In denser blocks and denser times ambient text presented itself as a constant, inexhaustible buzzing of text, impossible to count, let alone read. A first question for me was how do I manage such impossibility of processing and respond to it methodically. Each count seemed to bring new ideas about how to carry out the counts and what rules ought to be followed. One possibility, after giving up on the idea of one-by-one counting (either on the spot or by looking at photographs), was to respond mimetically, with a reflexive acceleration of my thumb's clicking response on the tally count, instead of trying to count the pieces one by one. Whether this was a good solution or not is secondary, but I mention it here as an example of the type of decisions that the actual attempts at counting text constantly required.

Quite often I stumbled upon objects that upset my definitions of what counted as *a* text and what it was that I was in the look for. For example, how should I count the newspaper box filled with unread newspapers? Do I count what is inside or just the text on the outside of the box? In which case, do I also count the graffiti on it? Do I count the whole thing as simply 'one' texted object? Do I try to actually count the items in it? Do I assign a fixed value to such instances of copious text (a newsstand, a newspaper box)? Ultimately, would the numbers mean anything? The sheer amount and the overlapping of texted surfaces were enormous and overwhelming. All delimitations succumbed in the presence of cars, people, police barricades, the garbage spilling from the garbage cans or on the ground, what I see on the other side of the street while I try to focus on this one, the bus whose big advertisement jumps into my eyes from the end of the block while I try to avoid double counts on this side of the street, and so on and so forth. In any case, I concluded, perhaps this pervasiveness and this variety themselves *are* the finding.

Richness for precision

At first, it took me a while to be able to click the tally count without counting in my mind. Eventually, finger and eye figured out how to work in-synch and the text counting happened more or less automatically, or at least requiring much less monitoring than before. But then this automatic response started subverting the delimitations I had so carefully established. Do I click when I read or when I simply *recognize* a text as readable? What to do about double counts, that is, what to do when the same piece of text is counted twice, from a distance and again when I got closer to it, simply because I didn't remember if I had counted it or not? What about the letter-shaped shadows produced by letter-shaped neon tubes superimposed on a wall? Do the shadows of the letters in 3D count separately? Does the reflection of my text-bearing t-shirt on the store window count? Ultimately any demarcations were open to redefinition. The important lesson I thought was how these attempts at counting gave me an opportunity to focus on the text that was available and to confirm the extent to which city things are imbued with text, the extent to which text is implicated with city things.

In the denser, commercial blocks if I kept clicking every time I saw (not necessarily read) a new piece of text the number of counted text doubled. This way, in the denser blocks what defines the numbers I got was partly the *time* that it took me to walk from one corner to the other, and partly simply the time it took me to click on the tally count. I tested this by asking what would happen if I walked at my normal walking speed and kept pressing the button on the tally count without stopping (regardless of the presence or not of ambient text) as I walked from one corner of the block to the next. This procedure yielded very similar numbers to the ones I got in the same block (around 500 per count). So there was what in statistics is called a 'ceiling

effect' at play in the denser blocks, where the top numbers I got were set by the limit of how fast I could count, and because of this, my numbers tended to form a flat top. Of course, what determined the number more broadly is my capacity and my decision to separate one piece of text from another, and my circumstantial interest on counting them. So of what use were my numbers? And what does such counting have to do with the way real people use (or not) text in their environment? Almost certainly, there wasn't a single person other than myself counting text in this street. This is not at all how people relate to text in the street. So what do we gain?

The counting was of course never intended to be pure and precise. It was intended as a strategy to explore what I thought was an important methodological question: if we were to be serious about wanting to know how much text there is in a particular location like a busy street, how could we go about finding out? In the process it became clear that the priority ought to be to account for the richness and complexity of ambient text as a component of the street environment, and that the level of precision of the counts was a secondary matter. The primary goal then was to identify some of the key qualities of ambient text considered as a whole, that is, as a subset of the experience of immersion in a busy street environment.

Wider angles: counting as event

Well into my counting rounds a simple but until then overlooked realization concerning mobile perception became evident: As you approach a street corner your view includes one by one the blocks of the avenue you are about to intersect. What this means is that from the point of view of someone that walks on 116th street and looks around, the street's visible surface includes at least four additional visible blocks for each intersection (two from any one corner and two from the following corner if you look back). That meant four more blocks for every intersection

in the street. Until then I had simply assumed that ‘116th street is everything that is *on* 116th street.’ That strict mode of demarcating my site and my observational path had more to do with the linear, objectivistic approach that I had adopted by default and by common sense. ‘I’ll observe what’s on 116th street’. Compared to my original, more linear, vectorial, legal, formal or simply toponymical way of defining where or what 116th street *is*, this realization at least *duplicated* the observable area comprised by ‘116th street’.

From a phenomenological perspective, then, the demarcation of the site is more fluid or at least, literally more extensive. It involves an emphasis on the continuity of both, the environment and my perception of it. As mentioned this realization led me to redefine the area under study in a way that almost doubled the area to be observed and the amount of text to be counted. More importantly, the constant surpassing of successive defining lines made me eventually change my mind about how to go about counting, from a more restrictive approach centered on the amount of available text in a particular segment of the street to a more interactive, mobile, fluid approach focused on the text actually perceived from a particular position, regardless of where in the street it was located. This meant that any form of ambient text would count regardless of whether it was physically located on the sidewalk I was walking on or on the next one, or on the street itself, or the vehicles passing by (like the big ads on the sides of the MTA buses, or its reflection on the windshield of a parked car, or a parking violation stamp on a car’s window) as long as I could read it. This also solved another problem: double counts, thus sparing me the problem of trying to remember whether I had already counted this or that ‘we’re open’ sign during this round or not.

When I change directions, turning or approaching a corner, the text from the other sides gets in my way, comes to my encounter, closes up on me. Attention and perception constantly

spilled over the imaginary line on which I was walking/counting. Perhaps the more quantitative approach would be viable if I were looking at signage only, as they are more fixed and constant across observations. But once you add all the rest of text that is flowing around then it is near impossible.

But how to define the phenomenological gaze methodically (operationally)? What should one do? Should I look at the horizon in strict frontality, only counting what entered my visual field as I moved forward? Should I follow a predetermined pattern of neck rotation, like a rotating pedestal fan, allowing me to cover more area without privileging any particular segment in detriment of others? What became clear eventually as I pondered these not so serious alternatives was the idea that body posture (and not just the body) was a relevant component of the phenomenon I was studying, and an important factor defining ambient text and public reading. Text is placed and designed to encounter your eyes, your hands and all of you. Therefore in tune with the phenomenological approach, I sought to classify ambient text from the point of view of the body of the passing reader, distinguishing between different levels of contact between body and text, or gaze and text in the environment: above the head, on the floor, at hands-level (for example the fliers offered to me on the corner), at the eyes level, over the head (signs close to the head or further up).

An important challenge of adopting a phenomenological approach was to try to think and see in continuity, that is, avoiding too much analytical separation between the things counted and the rest of the medium where (and whereby) it was perceived. My attempts at the proverbial 'putting into brackets' of phenomenological investigation, trying to freeze analytically my previous knowledge and experience of the observed area, helped me figure out aspects of my perception of the environment that would have otherwise gone unnoticed. For one, it made me

aware of the importance of acknowledging my very artificial neutrality in the counts, where the concept heavily impacted the selectivity of my perception, and tended to erase differences and to polarize the perceived world into the preconceived categories of text vs. non-text.

In all I did five things with regards to the texts I encountered in the street: noticing, transcribing, annotating, counting, and categorizing. Some of the various categorizations that emerged are used in chapters 5, 6, and 7. In closing this chapter I summarize some of the basic characteristics of ambient text that arose from the on-the-ground observational approach described in this chapter.

1. *Pervasiveness*. Ambient text is pervasive in the urban environment. There is too much of it to count. Directional information, traffic information, administrative information, commercial identification and advertisement all leave their trace in the urban environment, and thus text is constantly offered. Perhaps because of the dynamic character of the urban context and the changing quality of the urban landscape (including population flux, changing patterns of land use and business turn over) city dwellers also need constant updates on what there is, what there isn't, and where it is located.

2. *Material diversity*. There are a great variety of surfaces on which we encounter text and a great variety of materials that are used for providing the visual contrast required for reading. Surfaces and texts vary in terms of size, materials, colors, placement, amount of text that they support, integration of text with other symbolic elements, level of

stylization, durability, condition/upkeep, relation and proximity to other surfaces, and whether they are mobile or fixed in space, among other things.

3. *Time*. Time affects the availability of text. The amount of text in display varies throughout the day depending on levels of activities, social density, and so on. Text *happens*. Some of it happens for an instant and some for a long time. Their happening opens the possibility of perception, attention, and processing. Some text *strongly* happens (big and perceived by many) and some text happening is *weak* (barely perceived in time and space). Some text goes from strong to weak and back (contingent on the rhythms of the place -opening times, closing times, and so on).

4. *Joint trajectories*. Texts don't come alone and on their own. They are brought here (or made here) by people, sometimes in vehicles, attached to different types of objects. Neither do they leave alone. Even as trash, they are swept away (although some become dust before that).

5. *Scale and distance*. Text is always at a *human scale* of perception (that is, not microscopic, not too close, and not too far). For it to be readable it has to be encountered in an environment that affords reading (enough space, light, stability) within a distance that is adequate to the size of text. In this sense readability decides distance: if I can read it, it's close enough. Readability defines *frontality* too: if I can read it, it's facing me, and only if it's facing me I can read it.

6. *Unevenly distributed.* Text is not evenly distributed across the observed spaces. There is a lot of variation on a street, although degrees of text density can be distinguished. Density is perhaps dependent on proximity to flows of people (either pedestrians or in vehicles), on zoning regulations and on the types of businesses and activities concentrated in different segments (either districts, streets, blocks, or particular buildings).

7. *Mobility.* There is a lot of text in movement. Text bears particular relationships to movement, at various levels. In the street, texts and readers intersect while at least one of them is in movement. Readers are always passers-by. Very frequently people carry portions of text, either on what they are wearing or what they are carrying. Merchandise coming in and out of stores usually bears text, and so do vehicles as well.

8. *Multilinguality.* There are a variety of languages on which messages are posted. I focus on English and Spanish. Because of patterns of migration and global mobility and communication, there are an increasing number of people living (speaking and reading) in more than one language. In this context, people learn to use different languages for different, sometimes overlapping purposes and contexts. This multiple geographies of language use, is reflected in and supported by the built environment as well, notably in the form of vernacular ambient text (explored in chapter 4).

9. *Multifunctionality.* People and environments put text to use for a wide variety of purposes.

10. *Not-reading*. People do *not* read most of the text they come across. People read based on motivation to read, coming either from dispositional or situational factors, and partly based on perceived relevance of a particular text and of its comprehensibility and attractiveness. This not-getting-in-your-way character of ambient text also relates to movement. A complex city would not tolerate too many distracted readers wondering around reading everything that they encounter. It is critical also that when we talk about environmental perception, attention is not taken for granted and left unanalyzed. The availability of text and even our noticing it does not necessarily bring about reading. Reading requires a very specific set of attentional capacities, based on skills that must be acquired through a long and painstaking process. Even looking for text is already an attentional and perceptual event, one that is shaped by culture and experience.

Based on this characterization of ambient text, in the next chapter I look at the broad assemblages of text distributed in the urban environment and consider whether it would make sense to consider them as part of the *built* environment. The proposition that text should be considered as part of the built environment is explored, leading to the broader question about what does the ‘built’ in built environment mean. The chapter proposes a building down of the notion of the built so as to include more in it.

Chapter 3

Building Down the Built:

From Built Environment to Environment Building (through text)

Text as Built Environment

In this chapter I consider the relationships between text and the built environment. The chapter suggests that the material presence of text in the urban environment gains renewed importance in the present context of technological and socio-cultural change characterized by ubiquitous digital connectivity. I start with a brief look at the way two architecture theorists point to the presence of text in the environment as relevant for a reflection about the intersection between information and architecture. I discuss how the notion of *ambient text* and an understanding of ambient text as a type of infrastructure may contribute to exploring how we understand what constitutes the built environment and the material status of written information in it.

Conceiving of text as infrastructure allows us to raise the question as to what is the urban environment made of, understanding the hybrid materiality of text in the urban context as reflective of the hybrid materiality of the built environment as such in the context of action. Text is an *ambient* infrastructure that supports actions in the urban environment. A shift of focus is proposed from built environment to *environment building*, from product to process. Finally, the notion of *text-assisted action* is introduced as a tool for thinking about action as materially distributed in the environment.

Writing about the presence of text in daily life, the architecture critic William J. Mitchell (2005), points out:

“Literacy did motivate the development and proliferation of products –such as rectangular sheets of paper, scrolls, books, and billboards- that serve the primary purpose of efficiently and fairly neutrally carrying text. Indeed if you are a clerk or a scholar you may find that most of your attention is focused on these highly specialized textual supports. But in the modern city, almost anything that you encounter, from underwear to skyscrapers, is inscribed with a name, identification number, brand, descriptive label, warning, or instruction for use. Some urban spaces, like commercial strips, may be completely dominated by their inscriptions. Mostly, we learn what unfamiliar things are (or are supposed by someone to be) by reading the labels they carry” (2005:10-11).

Mitchell brings these observations to bear on his view of the functions of architecture: “The cognitive function of architecture (distinct from its function of providing shelter) is to create a rich environment for symbol, language, and discourse grounding, and act as the social glue of communication that holds communities together” (p. 12). Along similar lines, Malcolm McCullough, architect and author of *Digital Ground: Architecture, Pervasive computing, and Environmental Knowing* (2005), sees the presence of text in the environment as a precursor of ubiquitous computing. He credits Mark Weiser (1996) with the analogy between ubiquitous computing and ubiquitous text. “Text really is ubiquitous –you are rarely out of sight of several pieces of it.” And he goes on to describe the numerous instances of text found in objects such as cars, cereal boxes, and clothes. And later:

“Once upon a time text was scarce, and was generally confined to the library. Occasionally some of it would be chiseled onto buildings, but that too was a rarefied setting. Modern printing obviously changed all that [...] Over the past 50 years, printing and photo composition have moved text and images into unprecedented contexts. Next, text displays came alive. The word processor is one reason why most of us tolerate computers. Most recently the scale of displays has expanded down to handheld devices and up to cover whole walls. As evidence that information has truly become ubiquitous, the text screen on a gas pump scrolls an advertisement while you are filling up your tank.” (2004: 87).

For both authors the massive presence of text in the environment is a relevant reference point for a reflection about the interpenetration of architecture and information technology. Along the same lines, I focus on how the experience of reading today is embedded in the urban, global, multicultural, electronically-mediated environments we live in, and in turn how our experience of such environments is, to an unprecedented extent, permeated by text. Mitchell’s and McCullough’s references to text point to how an older component of the built environment has, so to speak, *carved* the space (internally and externally, in the mind and in the environment) that the newer technologies reoccupy. Our collective experience with written language, an older technological layer, and the skills and products associated with them, prepares us to deal with more recent navigational and networking capabilities by providing us with a basic level of continuity. In other words, using the new technologies is much easier, and perhaps at all possible, because of our familiarity with text using. But of course, in turn the practices of reading

and writing are transformed in the process of expanding or migrating into the new, electronically mediated contexts. But why think of this process as having to do with the built environment?

Redefining built environment

In the broadest sense the built environment is understood to comprise all the human-made components of the more or less permanent physical environment. But in a socio-spatial historical sense the processes that shape what it becomes and its contexts of use are central to what the built environment is. Buildings and the built environment in general, are better understood as “spatial articulation for the intersection of multiple forces of economy, society, and culture” (Low 1999:112). Their analysis should be made in the light of the related but distinct processes of social production and social construction (Low, 1999). According to Low, the social production of space includes “all those factors –social, economic, ideological, and technological- whose intended goal is the physical creation of the material setting.”... On the other hand, ‘The term social construction may then be conveniently reserved for the phenomenological and symbolic experience of space as mediated by social processes such as exchange, conflict, and control’ “Thus the social construction of space is the actual transformation of space–through people’s social exchanges, memories, images, and daily use of the material setting- into scenes and actions that convey symbolic meaning” (p. 112). In this sense, it is important that we not limit the analysis of changes in the composition of the built environment simply to a matter of technological sophistication, but rather frame it within the contexts of practice and larger material processes involving the production and reproduction of social life in time and space.

Both Mitchell and McCullough focus on the development of pervasive or ubiquitous computing, where the focus is on how digital technology is embedded in the physical environment. In the introduction to his book *Placing Words: Symbols, Space and the City*, Mitchell proclaims: “Architecture can no longer (if it ever could) be understood as an autonomous medium of mass, space, and light, but now serves as the constructed ground for encountering and extracting meaning from cross-connected flows of aural, textual, and graphic, and digital information through global networks” (2005:19). Within this general view, I focus on text and text use as important organizational and material contributors to what the contemporary urban built environment becomes. These flows of text become not only part of what happens inside or around the buildings but part of what the built *is*, actively shaping, grounding, and providing paths to the activities and flows that the built environment supports and embodies.

One useful framework for doing this at the level of theory (incorporating texts to the material process of the *becoming-built*) is actor-network theory. As mentioned in the introductory chapter, I look at ambient text as a distinct component of the ‘stages of interaction’ that characterize the contemporary urban environment. According to Latour, social theory has for too long focused on interaction between humans and has overlooked the role that the stages of interaction play in framing interaction and shaping it. The notion of actants helps expand the range of things that can count as agents and to which one can attribute effectiveness and agency at a theoretical and empirical level. Latour coins the term interobjectivity as a response to what he sees as the too limiting and unjustified emphasis on intersubjectivity that has prevailed in the social sciences to the exclusion of non-human actors. Agency, then, should be understood in a more distributed way and not as an exclusive attribute of human actors. This way, non-human components of an environment or of a network of action are, at least to start, on equal

epistemological footing with humans instead of viewed as a priori less than important in shaping the activity or outcome under study.

Text begets text: texts about texts

A simple but telling pattern of text occurrence in the areas I observed is that the more text there is in an area, the more text there will be. Text seems to predict the presence of more text, attract more text. Perhaps it generates a need for more text, clarifying text, or simply ‘louder’ text. In places with high text density, one kind of text becomes particularly relevant: texts about texts.¹⁷ Much text plays this role in the urban environment, not referring primarily to places, events or things but simply to other text, organizing and managing the textual mass to make it easier to access and process. A basic example would be the heading of a section in a bookstore. Other examples include the headline in a newspaper or magazine, the information on the envelop of a letter sent or received, the links on a webpage, or the subsection headings in a restaurant menu. The fact that text may refer to things or places but also simply to other text in the street points to its ambivalent material status as part of the urban environment. As far as the possibility of being referred to as something in the nearby environment (by other text in the environment or by anyone able to point at things) is considered, text becomes an object like any other.

Environment building

It is relatively easy then to make the case that texts count as objects in the environment.

But would that justify considering them as part of the *built* environment? In a very broad

¹⁷ I base this idea on Nicholas Negroponte’s notion of “bits about bits” (Negroponte, 1995), with which he refers to the sort of headline function that some bits play in structuring information processing and the organizational importance that this function has for computing.

understanding of ‘built’ as human-made it does not seem a problem. In addition, there are pieces of text that can be included without much trouble into the category ‘built environment’. It is difficult to contest that things like signage are part of the built environment. After all sign regulation is an important component of the work that urban planners and planning boards do (Morris, M, *et al*: Context-Sensitive Signage Design, 2001) and sign manufacturing is a multi-million dollar industry in the US. But what I suggest here is that in the context of interpenetration of the physical and the symbolic aspects of the built environment, ambient text in general (of which signage is a subset) becomes part of the built environment as such, by being part of the overarching process we will call environment building.

In such way a consideration about the use of text in the environment leads us to more basic questions about what ‘built environment’ means and what we habitually include within that term. ‘Built environment’ may be a useful practical term but it is not a self-explanatory analytical term. By reframing the relationship between the terms ‘building’ and ‘environment’ in terms of *environment-building* we accentuate the active character of processes involving durable components of the environment. Environment *building* is conceived here as in line with notions like *place-making*, *meaning-making*, *space-producing* (as in, production of space), terms that highlight the active and constructive character of the processes they refer to.

Considering text as a feature of the built environment allows us to revise assumptions about the *hardness*, *tightness*, and *fixity* of the built and of physical settings. In a distributed, non-dualistic, alternative view, objects and material culture in general, text included, should also be considered as part of the physical environment understood in terms of material and cultural hybridity. This calls for an *atmosphorization of durability*, a model in which all urban things are conceived as part of a material continuum that includes more than the received view of the built

environment assumes. The notion of environment building is intended here as an exploratory step toward such a model.

Ambient infrastructures

Infrastructures support processes that are considered vital and in so doing they become vital as well. Infrastructures support access to key resources and processes. Texts support discursive meaning and the communications that depend on discursive meaning to be viable and occur. Some of the meanings that texts carry are indispensable for other indispensable processes to occur. As suggested by the regularities of the ‘city-talking-to-itself’ pattern described in chapter 2, some infrastructures are unmanageable or inoperable without the pervasive presence of that ‘supplementary’, peripheral, *ambient* infrastructure: text.

Infrastructure here is intended to appeal to both social production and social construction processes, and perhaps can be seen as an attempt to bridge them, as any distinction between social production (as material processes) and social construction (as meaning-making processes) cannot be a ‘super-hard’ distinction. *Ambient*, in ambient infrastructure is intended to bring some lightness and spaciousness to the heavy-loaded notion of infrastructure, and to highlight their distributed character as well as their relevance to perception.

The notion of infrastructure presupposes that some components of a system are central to that system’s functioning and existence. The Internet is frequently referred to as a new infrastructure, added on top of, or around, older systems of infrastructure.¹⁸

But conceiving of text as an infrastructure poses another set of definitional challenges. Should we say that literacy, not text, is an infrastructure instead? Must all forms of infrastructure

¹⁸ See William Mitchell’s apt description in the opening sections of *e-topia*, (Mitchell, 2000).

be ‘hard’? I argue that considering text as a sort of *ambient infrastructure*, available in the environment, with some components that are fixed in the environment and some that are in flux, has a number of advantages: 1. It helps us conceive more clearly of the role of the ‘user’ as part of the network and as part of what makes a network possible. 2. It also helps us conceive of the materiality of social knowledge and skills. 3. It helps us conceive of the intrinsic flexibility and openness of systems that support communication and meaning making / meaning taking. Text and literacy help us theorize the relationships network-user, and person-environment.

But on the other hand, aren’t we retreating to an old-fashioned dualism by using the notion of infrastructure? Wouldn’t infrastructure entail the privileging of some components of a situation or system in a way that is opposite to, say, Latour’s more inclusive notion of the sharing of the stage by different actants? Perhaps we can try a negative definition. Infrastructure is: something that, when absent, makes large-scale processes or systems of action more difficult, or impossible. In this sense, infrastructure is relative to purpose and to process. This in turn opens the possibility of alternative, substitute, or compensatory infrastructures.

Another key feature of a notion of infrastructure is that from time to time it will need repairing and maintenance. Infrastructures are not eternal or infallible. Literacy and text clearly satisfy this condition, as long training is needed in order to be able to read and write and as texts can be corrupted or deteriorated and their readability compromised in many different ways.

As I discuss in chapter 6, in the context of the rise of the network society, text becomes a fundamental interconnecting tool in the built environment, weaving the new technologies into the fabric of social space by approximating them to previous forms of text deployment, making them simply ‘readable’. In other words, it is because people already know how to read and write that the Internet is at all viable at a large scale. But also, it is because people are used to

encountering pieces of text in their environment and are skilled users of such texts that the prospect of an incrementally informational built environment is a manageable scenario.

Text-assisted action

Text-assisted activities involve text-assisted actions. We can call text-assisted action any meaningful sequence of human behavior (individual or collective) that involves the use of text during its planning, coordination, execution, record-keeping or sharing. The use of text can be central to the activity (as in reading from a book or blogging) or supplementary and peripheral (as in reading signs when driving or when taking a stroll in the park). Text-assisted interaction refers to interaction (human-human, human-nonhuman –human-object-, human-technology, human-organization, human-environment) where using text become a medium, and thus mediates to some extent the outcome of the interaction. Text-assisted activities can range from those that are *text-centered* (such as reading a book or a newspaper, blogging, text messaging, and writing or reading emails or letters) to those where text use is more intermittent or incidental, (like watching TV without captions or subtitles, driving on a highway, taking a walk in the park, or preparing a meal).

In a broad sense, all activity and interaction involving literate people can be thought of as text-assisted to some degree, as literacy is assumed to play a role in the development of skills at the heart of much of our thinking, planning, sharing of information and so on. But my purpose here is more specific, focusing on the *present* of an activity or interaction.

The main point here is that a considerable portion of technology-assisted actions and interactions, and of many kinds of engagement with the urban environment involve some amount of text use. Many experiences of the urban are at some level text-assisted experiences of the

urban, which of course does not make them purely textual (of course, only human bodies can read, and human bodies are always engaged in multiple life processes simultaneously). In any case, we can assume that there is a continuum from *text-dominated* to *text-scarce* to non-texted environments, activities and objects.¹⁹ Seen in this way notions like text-assisted movement or text-assisted experience become useful heuristic tools in the study of urban environments.

Text assisted action points to the thoroughly interactive character of text as an infrastructure but also to the fundamental incompleteness of the built environment, and not only in the absolute sense of its being process much rather than product. We complete the built environment *every time* (environment building), by enacting the processes that make it a lived, dynamic, subset of the environment.

We can then ask the heuristic question, what is the amount of text required for a global city to function. It is probably impossible to come up with a precise number, but it is perhaps useful to think about how different types of cities may have varying *degrees of text dependence*. I discuss text-dependence in chapter 6 but here it helps to illustrate what the idea of text as infrastructure mean. In the present context cities become increasingly dependent on widespread use of text, widely available throughout the space of the city.

¹⁹ The *sub-textual* (below the level at which text operates) and/or the *meta-textual* (outside or beyond) are of course disproportionately more abundant than the textual in the environments that human beings can find themselves in. In most places texts are nonexistent, in many they are rare, in some they are common, and in others they are pervasive. By choosing to talk about cities and the network society context, I have chosen to focus on settings and situations where text is abundant. Since more humans live now in cities than not, a look at text seems justified and possibly useful for learning about the environments where so many of us live.

Chapter 4

Placing Text:

Culture, Place and the Affective Dimension of Vernacular Ambient Text

This chapter looks at the languages in which ambient text is written in East Harlem/El Barrio. As in previous chapters I base my observations mainly on one street, 116th street in East Harlem/El Barrio. I introduce the notions of vernacular signage and vernacular ambient text. While wayfinding research typically looks at signage as a source of information, casting wayfinding as mainly a cognitive endeavor, I highlight the affective dimension that vernacular signage supports -for insiders and outsiders, long-term residents and new arrivals- as a source of reassurances as well as a stage of conflicts, and as fostering feelings of ownership, entitlement, and inclusion, as well as differentiation and exclusion. I do this through a discussion about the phatic function of language. I then explore the implications of the notions of vernacular signage and vernacular ambient text for our understanding of the relationships between language, place and culture in the urban context.

In the previous chapter no distinction was made between texts written in different languages. The focus of the discussion was on the presence of ambient text in the urban environment regardless of language. One could assume that the way signage works transcends language differences and that therefore such differences are secondary or unimportant. From a strict functional point of view, if signage is explained by the need to disseminate information in the environment there is nothing particularly interesting about *vernacular* signage: it is simply a

compensatory tool to ensure that those who do not speak the dominant language also get access to the information. From this perspective, one could continue, there is nothing particularly interesting about urban signage in general either: it is simply one more source of information available in the environment. All it does is make information more readily available for people that know how to read. Still, in terms of their possible impact on the way city dwellers experience the urban environment, the sheer presence and variety of text in the urban midst deserves at least a second look.

Phatic function

In Roman Jakobson's model of communication (1960), six different components are considered: the sender, the receiver, the context, the message, the code, and the channel. Each of these becomes the anchor of a specific function of communication: expressive, connative, referential, poetic, metalinguistic, and phatic. The phatic function concerns the channel of communication and is usually manifested as a reassurance (or petition for reassurance) that a channel is still working, and that therefore a message can be carried through. Jakobson takes this notion from ethnographic reports by Malinowski in which the ethnographer identified instances of language use that did not serve a strictly "linguistic" function but a "social" function. In the typical example, when someone says 'How are you?' people generally understand that to be a greeting and not an actual inquiry about one's affairs. This kind of communication in any case serves primarily a social function (maintenance of relationships, social cohesion, etc.)

From an informational standpoint, however, this kind of communication is considered 'redundant', in the sense that it does not add new usable information. But in contexts of meaningful communication, it is not without value, on the contrary this sort of 'testing, testing',

‘are you still there?’ ‘can you here me now?’, play a fundamental role in maintaining the conditions of communication. It is then possible to think of signage and of ambient text in general as serving a similar confirming function, perhaps a confirmation that ‘I’m on speaking terms with you’. Other than its function as a source of information, the rest of what ambient text can do is perhaps best described by reference to such phatic function.

This presumed redundancy of phatic communication then is only so from an informational, or cognitive, standpoint. If considered from the standpoint of affect, however, other social functions may be served. For example, besides informing wayfinding, ambient text may play a role in reproducing the experience of place. This way, ambient text plays a confirming role: ‘this is the place you are looking for’, ‘this is the language you speak’. Such confirmations have a securing, stabilizing role, securing and stabilizing encounters between people, places, and things.

Most texts displayed on 116th street play an identification or ‘tag’ function: ‘this is street X’, ‘this is a can of soup’, this is a pharmacy or a liquor store’. This tag function would seem, at least for those who are already familiar with the tagged things and places, again, redundant. But such redundancy is relative. In a changing environment, where in fact new people move in everyday and businesses come and go from one month to the next, it is not useless if the place *repeats* itself, so to speak.

From the point of view of the environment then, a key question is, is it only other humans that ‘confirm’ contact, or should we consider non-human components of the environment as also capable of supporting the phatic function and phatic events? Furthermore, it might be the case that in the multilingual global city, written text can play the phatic function simply by ‘speaking your language’. In such case, the *address* is not only about the message. The language in which

the sign is posted becomes the message. In a way, every sign in Spanish in NYC automatically also reads ‘se habla español’.²⁰ Such *se habla español* subtexts provide reassurances that would presumably change the felt quality of the environment, making it more positive and welcoming for people whose preferred language is Spanish or who have positive associations with that language or see it as part of their heritage. The phatic function then is being recast here in terms of the languages that surround us, of which the texts that surround us (ambient text) are a subset.

But one must not, of course, romanticize a language simply for being subaltern or for being one’s own. Injurious things can be addressed to you *in your own language*. Also, should we consider McDonald’s golden M and other corporate logos that abound in 116th street as also serving the phatic function because of their being ‘familiar’ to the people in the community? Also, people who self identify as Latino but do not see themselves as competent speakers of Spanish may feel ambivalent toward vernacular signage in that language, feeling a general positive, welcoming aura while at the same time not feeling comfortable enough to speak it. These paradoxes however should not discourage exploration of the ways in which vernacular ambient text becomes a conduit through which language and culture shape our experience of the environment and our sense of place.

Vernacular ambient text

Vernacular ambient text (in fact, vernacular ambient language) becomes an important component of the felt quality of the urban environment in the cities of globalization. In the most optimistic, cosmopolitan view of the phenomenon, they support new forms of social cohesion by

²⁰ Of course it is not the same to see a ‘*se habla español*’ sign in East Harlem than to see it in Midtown. In East Harlem it becomes part of a wide web of materials and cultural artifacts that may be perceived as related because of the language used. In Midtown, it is an exception and it is not clear who the audience is, (partly Spanish-speaking tourists, partly workers that may be in search of a job).

addressing city dwellers in multiple languages and this way inviting them to imagine themselves as part of an emergent translocal, multicultural, multilingual geographical arrangement. In the most paranoid view, it leads to fragmentation and concealment. In either case, language difference is an important feature of people's experience of the city as a global one. In a political sense, sometimes all there is to a sign is its language, and that language's relation to place, including its role on claims to place. In a bilingual or polyglot context a posting in one language becomes a metonymical representation of the whole of that language in relation to other language(s).

One important premise here is that, while it could be argued that (as with any language) there are as many Spanish languages as there are speakers and speech situations (or in any case that there is an enormous amount of national and regional variation within it) I am not calling into question the existence of the social construct called 'the Spanish language', which has a considerable level of recognizability and familiarity among New Yorkers, Spanish-speaking and not, due to continued exposure in the urban environment. But that is just about all I am assuming about Spanish. It would be incorrect to attribute unity and integrity to the language *a priori*. Zentella (1997) distinguishes at least seven different types in the speech of Puerto Ricans in East Harlem/El Barrio.²¹ Language competence and use are shaped by context. In the case of Spanish in NYC this is further complicated by larger historical contexts of power, class, and racialization that shape how the use of Spanish is viewed in different contexts (Urciuoli 1996). So when I talk about Spanish in this dissertation, I am not assuming any predetermined level of competence among the speakers. I am instead referring to a highly recognizable subset of the linguistic environment and the ambient text of a specific place.

²¹ Zentella (1997) distinguishes between standard and non-standard Puerto Rican Spanish, Puerto Rican English, African American Vernacular English, Hispanized English, and standard NYC English.

In a sense then, maybe it is better to think of the ambient text in Spanish as not an altogether separate component but as a contributor to a larger set, that of *Spanglish* ambient text, which broadens the ‘audience’ to include speakers of each of these two languages and speakers of both. Visibly and audibly, the identity of East Harlem/El Barrio as far as language is concerned, is Spanglish.

What’s in a last name? Delgado Travel, Calderon Accounting, Agapito’s Bar.

A common type of store sign in the area combines a Spanish surname with an English word describing the line of business. These bilingual signs have historical resonance. 116th street, is also identified Luis Muñoz Marín Boulevard, named after the first elected governor of Puerto Rico (from 1948-1966). Under his watch, the current political relationship of Puerto Rico to the US was forged by way of which Puerto Rico is considered a commonwealth of the US. This political relationship, after more than 50 years of occupation, became official with the drafting of the island’s new constitution of 1952. One of the ways in which Puerto Rico’s government sought to deal with the island’s extreme poverty in those years was with a state-sponsored, air-borne migration of tens of thousands of Puerto Ricans to the US mainland, primarily to the Northeast. These migration flows went on every year over a period of some twenty years. Puerto Rican migrants, along with blacks from the South, became the first massive ‘new world’ migrations in the US after the tightening of regulations for migration from European countries in the 1920’s and 1930’s.

The issue of Puerto Rican identity in the face of massive migration and the island’s new political situation was addressed by Governor Muñoz Marín in a famous speech from 1953, where he theorized that Puerto Ricans relocating to the US mainland would become Americans

and speak English while those remaining in the island would remain Puerto Rican, particularly by their adherence to the Spanish language.²²

In the speech he made fun of a store sign that he had seen in a remote village in the mountains of Puerto Rico, *Agapito's Bar*, which linked an old-fashioned male name from the island's Spanish colonial times with an English word, syntax and punctuation. "Why did you do that Agapito, if there is not even one American coming down that little street not even once a year?" (quoted and translated in Kerkhof, 2001)

I think of the Agapito's Bar story everytime I see the *Delgado Travel and Calderon Accounting* signs in 116th street. Those signs are not a joke today and probably never were. Suspended in time in the streets of El Barrio they probably helped foster a sense of place and belongingness to scores of Puerto Rican immigrants over many decades. Some of those migrants who where coming to New York around the time of Muñoz Marin's Agapito speech are still around. One such case is that of the old woman in a wheel chair, covered in Puerto Rican mementos, who tells me that in her 60 plus years in NY, she had lived in many different locations in the neighborhood, and even during those rare periods when she moved to other locations in the city, she tells me, she would often come back to El Barrio because this is where she feels at home.

Very similar sentiments were expressed by a man in his early forties who had first migrated from Mexico 17 years before, and who had lived in El Barrio almost the entirety of that time. He tells me about how he has gone back to Mexico, some times for months at a time, but always came back to this neighborhood, even when he had chances to move with friends to

²² For critical analyses of the Puerto Rican experience in the island and in the US and of the ways the island's colonial relationship with the US mediates the experiences of migration and place-making on both sides: Juan Flores (1993, 2000, 2009); Jorge Duany (2002); Haslip-Viera, G., Falcón, A. & Matos Rodríguez, F. (Eds.) (2004). Ramón Grosfoguel (2003).

bigger, more comfortable, similarly priced apartments in other areas of the city. He also calls El Barrio his home and speaks fondly about how he can get everything he needs and how the neighborhood has improved since he first moved.

But how much of these feelings of belongingness and homeliness have to do with the presence of text in Spanish in the environment? It is difficult to assess but it is reasonable to think that the process is not the same for these two residents. The man tells me about his dreading of having to speak English, and he tells me that although he doesn't know how to read the language properly he can still understand a lot when he looks at the cover of a magazine or front page of a newspaper.

By contrast the older woman says "You lost me already" as soon as I start speaking in Spanish to her, just after she had told me she could answer my questions either in Spanish or English. She later tells me she wished she could speak Spanish better. "It's a shame that I don't, because I'm Puerto Rican and that's my language". In a way, one might say, it is as if the place speaks it for her²³. Vernacular ambient text (ambient language more broadly) not only 'mediate' place attachment, but vicariously perform it as well.

Latino ambient material culture

Vernacular signage and vernacular ambient text more broadly allow us to look into the multiple and contradictory ways in which place, culture and language are conflated in

²³ The fact that the Spanish language is frequently conflated with a Latino identity is a source of misunderstanding between immigrant groups from different national origins and from different generations. New York born Puerto Ricans, and people that came from Puerto Rico at an early age, are frequently more fluent in English than in Spanish and this is sometimes perceived by other Latinos as limiting New York Puerto Ricans' claims to a Latino identity. In this sense, while some Latinos will see the Spanish signage as a perfect marker of a Latino place, others will not, and don't feel that the Spanish language is an essential ingredient of a Latino identity, or of a Puerto Rican identity more specifically.

understandings about Latino identity. The focus on vernacular signage is in line with a shift in discussions about Latino culture and identity from a roots-based or origin-based, time-based mode of understanding identity to a more placemaking-based, present-oriented, day-to-day, non-essentializing mode²⁴. One advantage of adopting a more ecological approach to defining identity and identification processes, is to promote a view of culture that is more grounded in actually existing urban contexts, focusing on the environment and what it affords to people. In this way we understand Latino culture as a collective, spatially distributed activity system, ‘Latino culture’, instead of taking Latinidad as an individual attribute that individuals either possess or not.

From this perspective there is a *division of cultural labor* at play in the collective performance of culture, in particular of language production and use, a division that (in keeping with the actor-network approach) involves not only people but people *and* things (nonhuman actors). In terms of language, not all Latinos speak Spanish, or speak Spanish the same way or with the same competence level. But as an attribute of the environment (perhaps as spatialized cultural capital), Spanish can be understood as playing an important role in distributing and approximating peoples, things, places, and activities. The collective performance of Spanish is then a subset of Latinidad grounded in specific places and activities. Our focus, again, is not on the individual speaker but on the fact that Spanish is a language spoken, used, and available in the environment, with different speakers and different environmental components carrying it out.

²⁴ In *The Diaspora Strikes Back* (2009), Juan Flores looks at what happens when migrants move back to their home countries after many years. ‘Remigrants’ (returning migrants) return with an old fashioned sense of the culture they left behind but also with the culture they acquired and created in the host country. The hybridity of the culture that these ‘remigrants’ bring (their cultural remittances) is received with a mix of rejection and attraction that gives way to yet another set of conditions for culture creation and challenge rigid notions of identity, culture and race.

Latinidad 116th: brought to you by...

Urban signage, and ambient text more generally, then constitute part of the material culture of an urban environment. This is of particular importance in so called ethnic neighborhoods. Vernacular signage in Spanish is a highly visible subset of Latino's material culture in NYC, a defining component of the socio-spatial tissue where social life occurs and is socially reproduced. But what about all the corporate material culture? What about the oversized 'Heineken' sign with some text in Spanish? Does it make a difference that the sign in Spanish is posted by the City or by Heineken or by someone looking for a roommate? Of course it does, but, I would also say, all of them, including the ad, contribute to the establishing and maintaining of the area as a perceived Latino neighborhood, both for residents and visitors.²⁵

Can we, then, isolate the fact that the sign is in Spanish from the fact that it is a sign for Heineken or McDonald's? I think we can, just the same way that in a Spanish-speaking context like Puerto Rico the fact that a message is posted in English can be isolated from its content in the sense that it may be viewed as advancing the cause of cultural assimilation or political integration to the US, and some would say it furthers the psychological dependence that perpetuates the colonial condition. In other words, one would be ready to find political and geopolitical consequences into the use of English elsewhere.²⁶ By the same token, I will argue that it is not irrelevant that the oversized Heineken ad in the corner of Second Avenue and 116th

²⁵ Paradoxically, as shown by Dávila (2004), culture and language end up being co-opted by the gentrification process that renders them as attractive features that make the neighborhood palatable for tourists and new residents.

²⁶ This brings us to the issue of the use of English as the standard language of advertisement. This widespread use of English language as the preferred language of commercial signage and branding and advertisement more generally), founds a certain domain of what one may call global corporate words and images or global corporate symbolic tokens (I borrow the term symbolic tokens from Giddens, 1991) highly recognizable identifiers, typically brand names together with their highly recognizable typography, sometimes already shaped into a logo type (Coca Cola and McDonalds's golden M are typical examples). Many such corporate symbolic tokens can be found on 116th street, and in fact, have no trouble speaking 'the language of the community'. Just as 'the community' has no trouble adapting to the mainstream consumer practices promoted by them.

street is in Spanish and not in English as in most other areas of the city. Does it advance corporate interest and profit making? Certainly. Does it advance the project of a multi-lingual conception of the urban? Probably. I remember feeling puzzled when Heineken started posting ads in Spanish in dense areas of the city at large, not exclusively traditional Latino areas. Heineken was now looking to catch the Latino eye anywhere, and for that it exploited the fact that the Spanish speaking population also navigates the whole city and is not as geographically concentrated in terms of residency as it used to be.

Text and Community

People I talked to in El Barrio took pride on what they perceived as the rising importance and recognition that the Spanish language had acquired in the city in recent years. Talking to some local residents one might have gotten the impression that the Spanish language was a sort of unstoppable force, reflecting the increasing power of Latinos in the US.²⁷ From the interviews completed for this project, I derived a general sense that vernacular signage is important to the people who speak the languages in which the signage is written. For a lot of people it is not merely a matter of orientation and wayfinding, or rather it is precisely a matter of orientation and wayfinding in the most profound sense of these terms.

In a way akin to Feld and Basso's suggestive concept of "interanimation" (Feld and Basso 1996) people orient their being-in-place in dialogue with their surroundings. In so doing, aspects of the surroundings, including vernacular signage, come to life and speak back to them when they pass by, making them feel well received and understood: expected. This way the

²⁷ Vilma Santiago Irizarry discusses this process in 'Deceptive solidity: On Public Signs, Civic Inclusion, and Language Rights in New York City' in Lao-Montes & Davila (2001) *Mambo Montage: The Latinization of New York*.

signage is perceived as part of an environment that is understandable, by its mere presence even if people don't read the signs every time or even look at them anymore. Interanimation, then, helps us think about the affective dimension of urban immersion, where the phatic function is not just redundant.

El Barrio has been a textbook example of urban poverty for decades. In recent years, as has been the trend in many other poor inner city areas in New York and around the world, it has started to become gentrified. There are different responses to this process. On the one hand, in the face of recent changes, residents I talked to profess an openness that sounds like a total adherence of what Doreen Massey called a 'global sense of place' (Massey 1991). On the other, the furthering of gentrification undermines their senses of place by pitting them against the harsh processes of capital re-appropriation of urban centers.

On the corner of 117th and Second Avenue, there is a mural that features a quote from Subcomandante Marcos, leader of the Zapatista movement in Chiapas, Mexico. It reads: '*Un mundo donde quepan muchos mundos*' (A world where many worlds can fit). It is probably the most generous piece of ambient text in the neighborhood (in the city?). I can live right next to you if we can share at least one world, it seems to be saying. I used to read the slogan to my then 2 year-old daughter every time we passed the mural on our way to a nearby playground. 'What a great idea! Can you imagine that?' I would tell her. Shortly before we moved from the neighborhood in the summer of 2008, two spray painted inscriptions appeared on the pavement of 116th street. The first one, 'Black and Brown Unity', was written on the sidewalk of the Southeast corner of 116th street and Lexington. The second one, written a few days later: 'Take back East Harlem', on the asphalt at the crossing of 116th street and Third Avenue. How to explain those two to my daughter?

Hangin' there: A (g)local sense of place

In 'New globalism, new urbanism: Gentrification as a global strategy', Neil Smith (2002) suggests that the list of global cities (New York, London, Tokyo, in Saskia Sassen's original formulation²⁸) keeps expanding, and not only to include the capital cities of other developed countries but third world cities in peripheral countries all over the world as well. Smith suggests that the real globalization takes place in cities of the periphery, and sometimes in brutal ways. Based on this idea of an extending list of global cities, it is reasonable to assume that such new peripheral global cities (each one becoming a magnet for regional migration) are likely becoming polyglot cities as a result, if they weren't already.

Following this logic, the increase in mobility of the workforce at a global scale creates a scenario where polyglot cities become the rule rather than the exception. As a result also ethno-culturally marked practices and products become copiously exported to ever-new places (wherever migrants go). These mobile practices and products help create what we could call the *ambient* conditions of production and reproduction of translocal livelihood in conditions of increasing mobility and globalization. These amalgams or networks or assemblages of mobile people, products, and practices create worlds that support and are supported by emergent patterns of culture, communication, shared cognition and cohesion that cut across sending and receiving contexts.

In order for such worlds to hold together and to stay meaningfully connected to the sending contexts, much has to happen in the way the phatic function. Much, that is, should repeat itself and in this way repeat the world that is being intentionally produced, reproduced and

²⁸ Part of the claim that there are global cities is that cities gain prominence as sites of economic and political power vis-à-vis the state.

maintained. If social reproduction in the diaspora does succeed, it is because of the combination of what humans do and what they do it with, a materially hybrid ‘social glue’, subjective and objective, intersubjective and interobjective, distributed across human and nonhuman agents in the environment, in fields²⁹ that require much phatic work in order to hook up and hold up together. ‘Places gather’, according to Edward Casey (1996). The deployment of vernacular signage and ambient text play a facilitating role in making such *gathering* viable. The re-embedding of patterns of place-making are of course not a mere copy of the practices of the place of origin but always a creative adaptation to the new setting. But there ought to be enough continuity within the discontinuity. Vernacular signage and ambient text (vernacular language in general) contribute to provide material and symbolic support to the place-making and place-gathering described.

Phone cards, remittance agencies (*casas de envíos*), netcafés with phone booths catering to migrants are examples of such contiguously circulating things. Part of how these products create their effect is by making themselves explicitly and visibly available in the environment, and this means partly as ambient text. On 116th street their being displayed in the environment has *added* meaning (phatic meaning). Being able to find these products helps make this place feel more like home even if paradoxically it is by facilitating the maintenance of significant links with an elsewhere that is usually viewed as home. As far as the phatic function in conditions of migration and transnational links is concerned, ‘Are you still there?’ becomes also a way of asking ‘Am *I* still there?’

²⁹ We can think of clusters of mobile components of social fields that sometimes travel together to new locations and sometimes are disaggregated, or reassemble in new settings and although only partially, still sustain enough coherence to give rise to an ambient effect.

The global city as ESL school

In the traditional view of migration, migrants were expected to assimilate to the new culture and language over one or two generations. The receiving contexts (urban centers, for the most part) were assumed to work as language filters in which people were to be de-skilled in their native languages and re-skilled as second language speakers, and if they didn't at least their kids would. By contrast, in contemporary global/wired cities, the persistence of language diversity and language difference become viable via digital communication technology, which support the maintenance of peripheral languages via cheap telephony, email, text messaging, and so on.³⁰ In this sense there is a massive augmentation of the contact zone of global communication, at the level of one-to-one communication across national boundaries, as well as a sort of transnationalization of migrant languages, as language users become more mobile, reconfiguring the geographies of the languages that they continue to speak.

At any given moment there are more people communicating synchronously and asynchronously with more people in other places on a one-to-one basis, than ever before. Also at any given moment there is more asynchronous communication being completed or sustained via the use of language technologies than ever before. Therefore in global cities language coexistence in daily life and at work becomes the norm, giving rise to increasingly overlapping geographies of language use, facilitated by wider access to wireless communication. In a sense, we may be moving towards a situation in which ultimately all signage becomes vernacular

³⁰ As far as the work setting goes there is probably a more relaxed attitude towards allowing workers to speak Spanish than was the case in the examples discussed by Urciuoli from the 1980's (Urciuoli 1996). Email and text messaging, but also a relaxation of norms, have brought about a kind of porosity to the work environment in terms of communication. Castells talks about communication in 'chosen time' and discusses how downtime at work increasingly becomes 'filled-in' and made productive as time for communication thanks to access to wireless telephony (2007: 174-176)

signage, in so far as any language becomes but one more language in the mass of visible language in contemporary global cities.

There is a growing literature on the effects of globalization and the Internet on making English into a global language (of course it remains *the* language of hundreds of millions of people). But within the US, with the prospect of significant demographic change in the coming decades, English becomes to some extent, just another language. Its status as a component of the environment in global cities, including many in the US, changes from that of the dominant language to that of a tool for communication, a platform for global contact, a lingua franca. Of course, there are many forms of English and not just one. In the present context of increased mobility and connectivity, English becomes a language of becoming, always in the process of becoming something else as it is absorbed by people who make use of it by way of mixing it with the worlds and the languages they live in. Spanglish is one of the things English becomes (as does Spanish) as it is lived in places by people that use it in the process of making and remaking those places by connecting them to others.

A somewhat less underserved and less socio-economically depressed Spanish Harlem still claims its Spanish-ness, or more accurately its Spanglishness. It is the language hybridity, the mix of language keeping and language remixing what is so characteristic about this place. Vernacular signage is testimony to the constantly renewed newness of the urban environment in conditions of increased mobility and connectivity: the users addressed by (expected by, created by) such signage are constantly changing, as new users continue to arrive, and as new and older users become more successful in retaining their vernacular languages. And so the occasional texts in French, Arabic, or Chinese in the neighborhood are not surprising. At any rate, in NYC at least, vernacular signage does not look like a simply temporary phenomenon, lasting only until

migrants' assimilation into English is complete. Here vernacular signage feels like a basic feature of the city. When one visits Chinatown or Brighton Beach, Greenpoint or Arthur Avenue, Jackson Heights or Washington Heights, West 116th street or East 116th street, the specific language content and style of the signage may vary. But the fact of language difference in the signage does not feel like an exception at all.

Chapter 5

Mobile Literacies: Ambient Text and Mobility

In this chapter I situate ambient text and text use in the context of increased mobility that characterizes the contemporary urban environment and outline some of the ways in which mobility and textuality intersect in that context. Mobility has become a major theme in the social sciences in the last decades, as a ‘mobility turn’ has gained strength in various disciplines including geography, sociology, and anthropology (Massey, 1991; Cresswell, 2006; Urry, 2007; Clifford 1997, Thrift 1996), promoting a shift ‘from roots to routes’ in social analysis, and from an emphasis on what stays in place to an emphasis on what moves around and circulates. In terms of the mobile urban environment, I suggest, text is not only a source of information for mobile subjects about mobile things (a supplement allowing other things to move), but also an *agent* of mobility, that affects mobility and is affected by it, and that can be characterized as mobile in a number of ways. As seen in previous chapters text plays a role in fixing things in place and stabilizing the environment. But text also opens up the immediate environment to various scales of mobility. This mobilizing potential of text in the environment becomes massively expanded in the context of mobile communication (Castells 2007, Baron 2008) and the rise of the network society (Castells 1996, 2001).

I briefly discuss typologies of mobility by Cresswell (2006) and Urry (2007) and combine them to highlight three types of mobility (navigation, flows, and migration) that seem most relevant for understanding how text intersects with mobility in the sites that I surveyed for

this project. I introduce the notion of mobile literacies to convey a sense of languages, speakers, readers, writers, reading and writing processes, and written matter, in flux, and in connection to larger contexts of mobility. I then discuss examples of the various layers of mobile text found in 116th street in East Harlem/ El Barrio, from the most transient to the most permanent. Three effects of text on mobility and three effects of mobility on text are discussed. Finally I consider the role of reading itself as a form of urban mobility.³¹ As in previous chapters, I look at the street with a focus on text as a type of non-human actor (Latour, 2005) playing a role in producing the environment.

Notions of mobility

Cresswell (2006) distinguishes between three ways of understanding mobility as socially produced motion: 1. mobility as the raw empirical fact of displacement in space, 2. mobility as representations and production of meaning concerning such displacements, and finally 3. mobility as practiced, experienced, and embodied (2006:3). Cresswell's discussion of mobility is centered on human experience and the human body. This is consistent with his third definition of mobility in terms of meaning and embodied experience. This emphasis seems also consistent

³¹ Of course, text bears well-established historical relationships to mobility. The portability of written materials, either as scrolls or in codex/book form provided important advantages for the coordination of action and power in ancient and medieval societies. The geography of human action was enlarged in space and in time by the possibility of not only reading a text at a later time but also reading a text somewhere else. Text then provided a convenient platform for the 'diffusion' of information across time and space. This potential was exploited and expanded upon with the invention of printing which facilitated the process of duplication and therefore allowed for an increase in the amount of text that circulated and a speed up of the spread of books and other written materials in Europe (Febvre & Martin 1997[1958], Eisenstein 1980a, 1980b). But mobility was already associated to the invention of print also at a smaller scale, as it was *mobile types* precisely, a technology that involved placing and replacing molds of characters and sequences of characters, what became the basis of the new way of materially producing texts. Eisenstein reminds us however that there was a rich culture of manuscript circulation that preceded the invention of print by a thousand years (Eisenstein 1980a, 1980b). In general writing and print are among the basic technologies that made possible the process of shrinking of distances and duration that we now call, following Harvey, time-space compression (Harvey 1989).

with work in environmental psychology that addresses the environment in the same way. However, in tune with actor network theory and with the distributed cognition approach, I think it would be useful to view mobility not primarily as anchored in the individual but as primarily anchored in the environment. Mobility is seen in this chapter then as a quality of the environment, emerging from the relationship between diverse components of the urban environment (people included) and distributed across space and over time.

John Urry (2007), another leading voice in the mobility turn, distinguishes between four types of mobilities. Briefly: 1. Mobility as a property of things and people that are capable of movement, 2. Mobility in the sense attributed to a mobile crowd, or mob; 3. mobility in the sociological or socioeconomic sense of vertical mobility up or down the economic ladder, (upward mobility, downward mobility); and finally, 4. mobility in the sense of semi-permanent geographical movement, or migration (Urry 2007). Migration is particularly relevant in the context I look at, as East Harlem has been historically a key site for waves of new migrants and continues to be.

Using these two typologies as a starting point I distinguish three basic types of mobilities that are relevant from the perspective of the environments I look at: navigation, flows, and migration. These can be summarized as follows:

1. *Navigation*- The focus is on *orientation*, direction, departures and arrivals. The emphasis is on the trajectories, paths, cartographies (mental or otherwise), the travel itself and the reduction of complexity and friction that it requires. Navigation can take place on the ground,

on water or in the air. Wayfinding and environmental graphic design³² are practical areas that deal primarily with this type of mobility.

2. *Flows*- The focus is on *circulation*, whether of things, resources, people, information/ideas, vehicles, and the connections between locations, users, objects, *sendings* and *receivings*. Impetus comes from differential location and availability of things, products, ideas, materials, and from the need to overcome time and distance to make encounters possible.

3. *Migration*- The focus is on more or less permanent *relocations* involving relatively long distance (interregional, international), with tacit or explicit postponement of additional movement across significant distances for the purpose of staying. Considerations are about preparations, arrival, and adjustments to the new context, access to opportunities, and continuities or discontinuities between the receiving context and the sending context, as well as the emergence of hybrid patterns of life/activity in both contexts (sending and receiving) as a result of migration.

A useful way of conceiving of these three types of mobility is as involving access to different types of things. In this sense navigation has to do primarily with *access to places*, (how to get from here to there), while flows refer primarily to *access to 'things'* (how people, things, and information, move, intersect, and sometimes encounter each other in different places), and, migration has to do primarily with *access to conditions* (either refuge, jobs, education, opportunities, etc).³³ These three are interrelated in everyday experience in the mobile urban

³² For an introduction to the field of Environmental graphic design, see D. Gibson (2009): *The Wayfinding Book*, P. Mollerup (2005): *Wayshowing*, and P. Mijksenaar (1997): *Visual Function*.

³³ Understanding migration in terms of access to conditions we can detangle migration from the idea that the movement is primarily about the receiving context itself. Rather, in the context of transnational migration, people look for conditions that may be more accessible in the new location and use that access to improve living conditions for those left behind in the migrants' places of origin. I assume here the predominance of practices of transnational migration, where people maintain significant relationships with their places of origin and are invested in practices of

environment, and they serve as context to each other. They are expressed at various scales (from the body to the globe) and have different relationships to scale (scales of mobility).

Based on these three types of mobility we can distinguish between three types of *mobility-mediating text*: navigational text, flow text, diasporic text. To illustrate I will use as an example the concentration of Mexican migrants and businesses around 116th street in East Harlem/El Barrio. People migrate to this place and from it. Things and meanings co-inhabit the place with those living here, but also they travel from here to other places, including the places of origin of those that came to live here from elsewhere. Once here, people use the navigational skills and practices they bring from their places of origin to learn to navigate this new environment, do what they came to do, and encounter the things they need for their daily living. In so doing immigrants leave their traces in this place and reshape it partly in the image of the places they came from, carving a place for themselves within the place where they happen to be.

The things that they bring and use also come to populate this place and to shape it into a new one. In 116th street the Mexican presence is obviously not reduced to the people but also includes the multiplicity of things Mexican that give the street part of its atmosphere and its tone. The bilingual character of the text in this area tells the story of a people that is both geographically and linguistically mobile.

Texts are an important component of how such atmospheric, surrounding quality so palpable in the street, emerges. The products at the grocery store, the store signs, the restaurant menus, the CD's and promotional materials in the music shops, the posters announcing concerts, the diasporic newspapers with news about remote localities; all of these show text as a constant element in the way all these things present themselves to us, an all pervading type of actant

social reproduction and sharing of meaning that cut across national boundaries, thus creating “transnational social fields” (Levitt and Glick-Schiller 2004; Cordero-Guzman *et al* 2001: 18-22,).

piecing together the myriad diasporic things that impregnate the street atmosphere. To say it in terms consistent with an actor-network approach, the surrounding quality of this presence *cuts across beings* and is distributed all over the place.

People that came here from different places through different processes and at different historical moments express and rearticulate their practices by moving their things around and rendering them meaningful for themselves and others in the new place. It is by using a place and moving around in it that people make a place their own and make it mobile. But also it is by bringing to this place the things that are meaningful to them, and by making meaningful to them the things that they find in this place (sometimes sending these back home to meaningful people and places) that people and things further connect this place to other places, and thus intensify mobility.

Ambient mobile literacies

Together with their histories people bring along their skills when they migrate. Among these are their literacies (or lack of), their experiences using text and language. These literacies are not just moved around when the people that possess them move around, they have to do directly with mobility and with being on the move. Migrants bring their experiences of text use, their textual practices, and sometimes their texts. For some, *texts* and *papers* (legal ones) are an issue, as they struggle to live in a city without proper documentation. Some immigrants generate much text (mailed letters, email, text messages), new atmospheres of text, as a result of the distances opened by migration.

In the context of transnational migration, where diasporic communities maintain significant ties with their sending contexts, places that become diverse in terms of place of origin

become more richly connected with more places. This is the case in East Harlem/El Barrio, where the number of places of origin represented has increased considerably in the last two decades. But interestingly since the group that has become the largest, Mexicans, is also Spanish speaking³⁴, this new influx has strengthened the ‘Spanish’ in Spanish Harlem.³⁵ This way, navigation text and flow text written in vernacular languages can be seen as subsets of migration-mediated text, diasporic text. In a way, for migrants from contexts where English is not a secondary language, navigation-related mobilities and flow-related mobilities happen as extensions of their migration-related mobility. In this sense migration is not a one-time event, but rather a continuing process that impregnates the relationship of the person or group with the environment (including space, language, and mobility).

Because of increased mobility in the urban context and the changing quality of the urban landscape there is a constant demand for geographical information in the city, at multiple scales, from the aisle in the supermarket to the Interstate highway. It is not only new immigrants and visitors that need directions, but old residents also need constant updates on the city’s multiple geographies and what is relevant to their own trajectories. In terms of language use, because of these emerging patterns of migration and global mobility and communication, there is an increasing number of people living, reading, writing and speaking in more than one language, and people may use different languages for the different lived geographies that make up their daily existences. As seen in chapter 4, these porous geographies of language use are reflected in and supported by the built environment, particularly in the form of vernacular ambient text.

³⁴ In fact, as mentioned, many Mexicans in El Barrio come from rural areas where Nahuatl or Mexicano (‘dialecto’), are primarily spoken. Since these are not written in the environment they do not leave its trace in the form of ambient text.

³⁵ This linguistic proximity however has not spared the community of conflict for space and recognition in the neighborhood (Dávila 2004). It is important to remember that urban mobility takes shape in, and gives shape to, contexts of power, inequality, and racialization.

Fix and Flow: Eight instances of ambient text and their relation to mobility

As seen on chapter 3, the existence of text among moving things in the urban environment is so pervasive that it is tempting to say that *everything* that is transported in the urban environment either bears, or has the potential to bear text (or in any case is not too far from it). To claim that all such instances of mobile text are relevant in every situation would be an exaggeration. Still the massive availability of text and the multiple ways in which texts become part of urban mobility is what is relevant here. In what follows I briefly discuss eight types of text surfaces in the street that can be identified when looked at from the perspective of mobility.

1. Fixed ambient text
2. Disposable text
3. Vehicular text
4. Take-me text
5. Carry-on text
6. Texted skin
7. Fixed frame text-in-motion
8. Hand or pocket text

1. Fixed ambient text. At the street level there is a core of text that remains more or less fixed and recognizable over long periods of time. These tend to be larger in size, to bear the name of established businesses or nodes of activity, and many have lights so that they can be visible at night and more attractive. This, the most permanent layer of text found in the street, includes among many others the signs for an emblematic fried food place -Cuchifritos-, an also

emblematic music store -La Casa Latina-, a host of chain fast food stores -Burger King, Taco Bell, Subway, etc.-, and then recently opened branches of Washington Mutual and Bank of America. It also includes the signs identifying the streets and avenues, traffic and parking regulations, etc. Some of these signs can be considered public and some private (in terms of ownership, not of audience) although I am not making that distinction (or the distinction between small locally owned businesses and big businesses) in any definitive way at this point. Fixed text is the most typical object of study in linguistic landscape research. It is publicly displayed text and therefore, important from the point of view of representations, identity and recognition of languages in the public space.

2. *Disposable text.* At the opposite end in terms of permanence there is the text that is combed or groomed away more or less regularly, mostly in the form of texted trash (empty soda cans, thrown away newspapers and promotional flyers, empty containers revealed through clear plastic bags, and so on. Some pieces of disposable texted surface sometimes move around or blow in the wind for very long before they are taken away.

3. *Vehicular text.* Service vehicles, public and private (MTA buses, NYPD vehicles, Fire trucks, UPS and US Mail trucks, Suppliers, Contractors, private cars, delivery bicycles, etc.) typically bear readable signs, which constantly find their way into the area.

4. *Take-me text, container text.* Between the fixed and the disposable, there is all the packaged and typically texted merchandise displayed in shops, delivered regularly, most commonly in boxes (text-bearing boxes) brought by large vehicles (text-bearing large vehicles), and put in a

state of displayed repose until potential buyers/users may be decide to buy them. It can be called *take-me text* or container text. It is frequently a matter of time before container text becomes disposable text, or texted trash.

5. *Carry-on text*. Finding their way among the other layers of text there is the text borne or worn by those in transit, bodies wearing texted clothing, or carrying packaged items on texted bags (the amount of free promotion that Wholefoods, Bloomingdale's, Ikea, and other chain stores get in this neighborhood everyday by way of shopping bags carried home mostly by new residents is enormous). Sometimes *take-me text* becomes *carry-on text* before becoming *disposable text*).

6. *Texted skin*. There is no shortage of tattoos in sight in the city, mostly visible in the summer, many including texts. Probably the main (in some cases, exclusive) readers of these texts are the people that bear them. Still, since they are text and they are out there, it would be an omission not to mention them.

7. *Fixed frame text-in-motion (TV text, Animated Signage, LED)*. At multiple points, usually inside stores and offices, TV screens and digital screens flash text and images to whoever is looking. In East Harlem/El Barrio the language on the screen is almost exclusively Spanish. There is also the occasional LED screen (light emitting diodes) in waiting rooms or store windows, with simple running messages like 'welcome' or the name of the company.

8. *Hand or pocket text, analogue or digital*. Finally, lots of people, particularly the young, can be seen at multiple spots in the street fully engaged with their handheld digital devices, staring at

digital screens and sometimes pumping text into mobile phones of different levels of technological sophistication. The occasional laptop is pulled out of the bag in the middle of the road to make last minute changes to school papers or work reports. Others read from books, newspapers, or magazines or write on notebooks or pads.³⁶

Pedestrians, cyclists, drivers, passengers, all bring or take away or read or not these text-bearing surfaces. If I were to focus only on the *displayed* text, I would mostly capture the commercial and the official text. But obviously that is not the only text that happens in the street, and not necessarily the most relevant to people either. As mentioned, there is all the digital text being pumped into the street and from it by multiple text users equipped with mobile phones and other devices. And there is also all the text (handwritten or printed) that is not presently displayed, the papers of my students in my bag when I walk home, the napkins in people's pockets, the Amazon boxes inside UPS trucks. The text that I myself, devoted researcher, bring to the street or write while in the street, on my cellphone or my notepad. My own text-using is part of my mobility in this place and others.

Three effects of text on mobility

Simplifying, one can say that text can have three direct effects on mobility: Text can trigger mobility; it can channel, support or sustain mobility; or it can stop mobility.

³⁶ There are still not many signs of the 'electronic ink' of which Mitchell talks, by means of which "signage will become integral and continuous with the surface on which it is mounted and will lie dormant or invisible until it is electronically activated" (Mitchell 2005:95). At least not in this location.

1. Triggering (*text-as-go*) is the express purpose of advertising, political propaganda and all forms of written attempts at persuasion of individuals or populations, large-scale or small-scale, good or bad, to comply, to initiate action, to move, to do this or that. Text can also trigger text use (reading or writing), assuming that text use is in itself a form of action and mobility.

2. Stopping (*text-as-stop*) is the express purpose of much posting of rules. But it is also partly the focus of much ‘identification text’. Texts help to *stabilize the environment* in the face of massive mobility, making navigation, flows, and migration manageable. The stopping effect can bespeak privilege, ownership, power, and control: text as walls and fences. But text can also *de-stabilize* the environment by seeking to put a stop on its routines and on business-as-usual, opening up the environment to new contents not immediately available before text bring them in (bring them up), opening up room for new considerations and decisions. The role of Twitter and Facebook in the Arab spring of 2011 and the massive rallies with their myriad banners come to mind, like the one that read: ‘Mubarak-Time to go’. Text-as-trigger, text-as-stop.

3. Scaffolding (*text-as-support*) has to do with continuity, with supporting or sustaining an activity or process over time and across space. Text in this sense supports the constant learning and re-learning of the city that both new and old city dwellers need in a city where much can change rather quickly. As mentioned, we need constant updates on changing things and times in the changing city. *Instant* updates also, so when text is often posted in public, it is posted with that brevity in mind. Finally, the language in which a text is written can also in itself have triggering, stopping or channeling effects, as suggested in chapter 4, in the discussion about vernacular ambient text.

Text also play a mediating role in sustaining the continuity of activities over time and across space *in spite of* mobility/movement and in spite of distance, making some mobilities viable *along* other ones, like when migrants stay in touch with their families back home through text messaging or find their way into a new city by following directions written on a notebook.

Three effects of mobility on text

Mobility can *trigger* text-use. In a context of much mobility and change text can provide important information and people may become more motivated to read available text perceived as relevant to their situation. But also, *coping* text, text generated in an attempt to ‘cope’ with increases in complexity caused by mobility, as people attempt to stabilize their worlds in the face of increased mobility. As a result of this, there are more people writing memos to themselves and to others; more people may feel inclined to keep a journal or a diary - made easier by mobile access to word processing-; and there are more people who use text to stay connected with distant loved ones.

Mobility can *disrupt* text use or make it difficult. On the side of the text user, too much friction from acceleration or turbulence or bumpiness, may render reading and writing unviable. Too much fragmentation of text may cause reading to collapse. In a different sense, mobility can lead to de-contextualizing text, or can involve detaching text into pieces in ways that sacrifice meaning (as when text is taken out of context). Mobility can bring texts to contexts too far removed from those contexts of meaning where they originated. The simplest example is a text, short or long, that is brought to a context where its language is not understood. In a more positive view, mobility can enrich text use by opening text to new meanings and new contexts of referentiality and intertextuality.

Finally, mobility can *facilitate* text use by making it viable, in two senses: in the sense of the movements required for the reading to take place, and in the sense of making texts usable by making the encounter of text and readers possible.³⁷

Ambient reading: Reading as distributed

Ambient reading then emerges as a process that is afforded by the convergence of mobile readerships and available text in stages of interaction that support reading when conditions may require it. In this context then, the question about what makes reading possible does not center on the competences of the individual reader as much as on the distributed conditions (perceptual, attentional, physical, cultural, institutional, psychological, geographical) of the encounter. This way, literacy becomes a *distributed* component of the environment, and not only a condition that is acquired or possessed by an individual learner. Literacy then consists of the convergence of skills and artifacts that are learned and used in social worlds, skills that pertain to the use of text as part of relevant activities in the environment. These skills and artifacts are distributed in geographies of practice that involve the use of text to varying degrees of frequency and centrality. One instance where text use becomes very frequent and central is in young people's use of language technologies (Baron 2008, Castells *et al.* 2007), where learning to read and write become *chosen* skills, to which young people are drawn because of these skills' usefulness in supporting their participation in social worlds relevant to them.

³⁷ Text itself is mobile in at least four ways. 1. physical *transportation* of a written surface (a book, a written piece of paper, a bag, a t-shirt, mailed letters or objects, and all the rest discussed in the chapter); 2. *transcription* (hand writing or carbon-copying documents or parts there of); 3. *dictation* –as when I read to you on the phone the name of the place so that you write it down on a napkin- presents a different case but can be included here); 4. *duplication* (either paper to paper as in photocopying, or a mix of both as in the case of fax), and digital transfer and retrieval. With the rise of digital communication the circulation of text has augmented exponentially, especially in this last fashion. Text that is mobile this way can be read from screens, which also become pervasive in the environment, and in print-outs.

Text-using bodies, text-using cities

As described in chapter 1, in the traditional, idealized view of reading an individual reader reads a book held in his/her hands while seating in a solitary armchair, in a sober chamber, all bodily movement reduced to a minimum. The traditional book page reduces to a minimum the demands for movement on the part of the reader, who just needs to follow lines made of letters and turn pages to find more, consecutive lines of words. In this sense environmental perception is flattened, bracketed, suspended. Movement is in the eyes, and metaphorically in the understanding and the imagination of the reader. Of course, such flattening is never achieved, as the eyes frequently wander off the page and into the surroundings and as the body does not cease to move. Again only human bodies can read, and human bodies as living systems are continually engaged in multiple trajectories and orientations.

But reading ‘in the wild’, (to borrow Hutchins’ apt metaphor), reading ambient text out in the city street is a very different endeavor from reading while seated in the solitary armchair. The general perceptual and geographical skills needed to read ambient text have to be learned and practiced on-the-ground and socially: The noticing, filtering out, tuning in and out, persisting, zooming, calibrating, the tolerance for repetition, the peripheral monitoring as well as the assessments of how much time to devote to a particular piece, instant assessments about validity, expiration, veracity, or relevance, ...all of these are based on experience and repeated exposure accumulated and “orchestrated” (Hutchins 2008) in the form of on-the-ground skills. Hutchins’ notion of orchestration is a helpful one here. Adapted to our purposes, text contributes to the orchestration of the multiple mobilities that the urban environment activates and depends upon.

Of course these abilities are recycled from those that are used in the naturalized world of a Gibsonian mobile animal, but are now ‘orchestrated’ by cultural practices (Hutchins 2008) that are specific to the mobile urban context.³⁸ In this sense, environmental perception is a form of movement on which mobile human animals depend. Perception not only informs but *extends* (and *is*) the movement of the animal. In the case of reading, text expands and supersedes the potential of immediate perception, structuring the insertion of humans into larger contexts of communication, meaning, and action. Ambient text becomes an available material capable of supporting meaning-making processes over time in conditions of mobility.

We can think of ambient mobile literacies then as also encompassing the kinds of movement that the processing of text itself requires, not only the eye movements involved in reading a text, but also the massive mobilization of resources and bodies that are necessary for widespread attainment of literacy, as well as widespread use, circulation, and display of text in close proximity of potential readers in social space.

Given the multiplicity of choices available in the city (especially in a commercial street like 116th street), the availability of text becomes massive in the urban environment as well. Text is used to make options known to potential users and to mark them in space and time. But in such context the importance of *not*-reading (chapter 2) is also enormous. The ability to bypass requests for reading, for attention, for stopping is also critical in the mobile urban environment. In this, the selectivity of perception is crucial and the perceptual periphery becomes very relevant.

³⁸ It is tempting to claim here that reading *as such* is a type of activity that is fundamentally rooted in the *urban* environment. It is anchored in the urban environment and it *urbanizes* the environment. In this sense, non-textualized cities, as well as genuinely rural readers, are logical (if not empirical) exceptions.

In fact, most of our actual contact with text in the urban environment does not even involve reading as such, but a mere peripheral recognition of text. From this, patterns of shared looking and overlooking emerge. Two of these patterns in ambient reading are *skimming* (giving a survey look at what seems possibly relevant or interesting and slowing down when more evidence of relevance is gathered) and *skipping*, (bypassing readable material -singular text occurrences or whole categories of displayed text-, available in the environment if it is deemed to be outdated, too demanding, or irrelevant to the current trajectory).

Of course, in the case of a well-known, routine-bound, text-bearing object or place, perceptual top-down processing overrides the individual reading. In other words, previous knowledge of location in time and space facilitates the perception and the knowing involved in the action. For example, when I go to the supermarket to buy milk and I know where it is I pick up minimal information from the environment in order to get what I'm looking for. Still, text supports the action in that it helps make the search's success knowable to the reader/walker. In this case text serves as a final confirmation or a perceptual receipt that indicates that the searching and finding transaction is complete. In highly mobile environments the relevance of such perceptual receipts goes beyond any individual use as they must remain available for the constant flow of people who are still finding their way around the place (new arrivals, tourists, first users, children, and so on). Finally, such text-based perceptual receipts are also at play when people use digital devices to find their way around. I go online and get the address to the bar where I am supposed to meet a friend, I activate the GPS function on my phone; in the end, I still look at the sign above the door.

Emergent hybrid mobilities

But can we make a general argument about mobility, text-based or not, based on this general considerations about how text relates to it in the mobile environment? In the contemporary context, digital connectivity becomes a defining feature with important consequences for mobility. In *Mobile Communication and Society*, Castells *et al.* (2007) examine the effect of mobile telephony and wireless communication on patterns of communication and connectivity in countries around the globe. The meaning of mobility and how it is perceived and experienced are mediated by a societal shift to a new platform of communication that is based on digital flows of information.

Cheap wireless connectivity liberates communication from previous restrictions of movement and allows for more communication in “chosen time” (Castells, 2007), giving way to an enhanced sense of simultaneity of time and space. In fact, citing empirical evidence that suggests that much mobile phone use is sedentary, Castells remarks that the defining process in contemporary society is not mobility but connectivity (2007).

This sort of networked mobility points to the possibility of new mobilities, materially hybrid mobilities, involving the space of flows and not only the space of places, for which text becomes an important *dual* tool, one that is usable both in the space of flows and in the space of places and can be transferred back and forth between these two without losing what it is. Texts’ relation to mobility must also refer to this transferability from one space to the other and back. The next chapter looks at digital connectivity and at Castells’ work in more detail, moving our discussion from the environment and place to social space and social spatiality more broadly focusing on text’s roles in the network society.

Chapter 6

Linking Up and Hooking Up:

Text and Connectivity in the Network Society

In this chapter, I connect ambient text to two key themes in social theory, one new and one old: that of digital connectivity, concerning the impact of new information and communication technologies on a variety of social processes, and that of social cohesion, concerning questions about what is it that keeps society ‘together’. Considering these two themes in the same piece seems justified given the frequency with which digital connectivity is credited with fostering social cohesion, (or for that matter with just the opposite, making us more alienated and distant from each other). I claim that in the context of the rise of the network society texts perform an important socio-spatial, organizational role: they assist and support the *linking up* of the space of flows and its *coupling* and *hooking up* with the space of places.

Much *work* is done by text in order to maintain cities and the emerging network society up and running. My perspective here is informed by actor-network theory and by work within the distributed cognition approach (Hutchins, 1995, 2008; Donald 1991, 2007), both of which involve a revision of the received view about the role of non-human components of the environment in shaping social and cognitive processes. Cognition in this approach does not lie in the individual brain or mind but rather is distributed in the environment, so that elements outside the brain and the body also contribute ‘work’ in cultural cognitive processes (Hutchins 1995, 2008). In the case of the social as understood in actor-network theory, nonhuman agents play important roles in mediating action and interaction, although their contribution has been

traditionally neglected by social analyses that focus too exclusively on human actors (Latour 1996, 2005).

In the case of complex urban environments and of the Internet, text contributes cognitive and connective work by making multiple text-based processes viable. The fact that the Internet continues to be heavily text-based despite increasing processing power and ease of access to multimedia content is used here as a main indicator that text's contribution is specific and not fully transferable to other media. Because of this, I argue, it may be useful to consider text quite literally as a component of the infrastructure of the city (of NYC in this case, a global city), and more generally the infrastructure of the network society at large. In discussing the social impact of technologies there is always the risk of technological determinism. In this case, we face that risk twice: in talking about text and writing (an old technology), and in talking about digital networks and the Internet. For this reason, I hold tight to Castells' treatment of the Internet and the network society insofar as it is deeply grounded in the social world and constantly informed by empirical evidence.

In broad terms my question concerning the network society context is this: How does the network society put text to use? Is there anything that text is useful for that was not exploited already before the rise of the network society? How, if at all, do texts and reading shape the emergence of the network society and its socio-spatial characteristics? Alternatively and heuristically, how has text *used* the emerging network society to 'survive' as a medium, a tool, a thing, a form, a process?

Spanish unbound

Up until the previous chapter, on mobility, text has been considered in this dissertation almost exclusively in the context of a specific neighborhood, and within it, a specific street. All examples of ambient text in Spanish came from one street in East Harlem, allowing us to see what vernacular ambient text looks like in situations of high concentration. In this chapter, however, text is not primarily a thing of the street but a thing of the network society. The idea is to conceptually reconnect that setting, the street as a site of text use, to the city at large and more broadly to the network society. To start, text in Spanish is considered this time in its circulation throughout the city. After all, even if patterns of high residential concentration by national origin and language do continue to exist, obviously it is not the case that every person that speaks Spanish and uses text in Spanish lives in a predominantly Spanish-speaking neighborhood or limits their activities to that setting. The level of dispersion of the use of Spanish (spoken and written) throughout the city is extensive.

Texts in Spanish are now spread throughout the city -in the subway, in municipal offices, public transportation, highly transited intersections, airports, department stores, and so on. This spread can be interpreted quite straightforwardly as a literal expansion of the geography of written Spanish in the city. But who speaks, or more precisely, who writes? One major ‘author’ is the advertisement industry catering to an increasingly diverse Latino market (Dávila, 2001). Another author is ‘the city’, and its various municipal dependencies, such as the MTA, a primary site of text circulation, with a lot of text in Spanish in display throughout the transportation system.

But also all the individual users (readers, writers) who by moving around through the city and carrying with them their atmospheres of text, the newspapers, magazines, books, as well as

their text-enabled mobile phones, and other digital devices pump text into ever new settings, as well as the same ones. This way *the sites of Spanish* in the city become dispersed and disseminated all over the city, wherever Spanish speakers/readers/writers are expected or happen to be. Text users either carry them around, as the mobile clusters of text (paper-based or digital) that accompany them in their pockets, bags, hands (and whole bodies in the case of texted clothes and tattoos), or they find them posted all over the city, by local businesses, cultural institutions, city dependencies, marketing companies, or simply interested individuals. It is as if the city is now more frequently ready to address Spanish speakers in their language and where they are at, in multiple places throughout city space and not only in traditionally demarcated Latino neighborhoods.

In the global city/network society context, more of our moving around involves moving text around as well. Sometimes our moving around may *require* text, in the form of wayfinding aides. Sometimes our moving around prompts us to *generate* new text to keep ourselves connected to others (or to ourselves), as in the case of text that bridges the distances opened by migration (what we called coping text in chapter 5). Moving around text may also *substitute* for our own moving around physically, as when your letter, text message or email reaches me so that *you* don't have to. In this chapter then, the circulation of text at multiple scales in the city and the network society context at large is assumed. In the next sections I discuss Castells' work on the network society with a focus on those aspects of his work that inform our understanding of the role of text in the contexts described by it.

Network Society

In *The Network Society* (1996, 2001), Castells provides a thorough account of the impact that digital networks of information and communication have on society in general, from economic restructuring to the transformation of social movements and identity. His later work expands on the theoretical and analytical framework presented in these volumes by considering growing empirical data and by focusing on specific aspects such as the development of the Internet (2001), mobile telephony (2007), cross-cultural perspectives on the network society (2005), the public sphere (2008) and communication power (2007, 2009). In this chapter, I adopt three of Castells' key theoretical constructs: the distinction between the space of flows and the space of places, the notion of the transition from an industrial mode of development to an informational mode of development, and the distinction between hierarchical and network social organizations.

A key element in Castells' analysis is the distinction between the space of places (the street, the neighborhood, the city, the countryside, the body...) and the space of flows (the emerging space of networks powered by digital connectivity, the space of real time information flows, financial transactions, and global communication). The space of flows arises as a consequence of the application of network technologies capable of supporting transactions in 'real time'.³⁹ The space of flows has a different architecture and operational logic than the space of places but does not substitute or annihilate it. In the space of places activities are organized based on proximity and contiguity while the space of flows is based on simultaneity, in the form

³⁹ The history of the development of the Internet specifically, the global platform of digital networking, has been well documented. A useful discussion is found in Castells' own *The Internet Galaxy* (2001). Invented in 1969, by the US military involved the de-centering the storage of information as a way of reducing vulnerability to single military attacks. But the internet did not reach the general public until Tim Berners Lee invented the World Wide Web twenty years later, in 1989, and even then it did not become commercially accessible until the mid nineties.

of 'real time' transactions and information flows. This global connectivity is of course *de facto* limited by the social and geographical unevenness that pre-exists and shapes its development.

The mounting importance of information flows in economic activity has made information and knowledge the dominant source of the production of value (Castells, 1996). Castells refers to this as a shift in the mode of development, from an industrial to an informational mode of development. This shift in the mode of development happens of course within the same mode of production, capitalism, since the relations of production and the ownership of the means of production remain as they were. The notion that information and knowledge become a dominant source of value creation is important here, as a big chunk of the information we access and process, either as part of production, circulation or consumption, is text-based.

Hierarchies and networks

No matter how new the reach and scope of the phenomenon is, according to Castells, the rise of the network society is the expression of an organizational form that had existed for a very long time: networks. In recent work Castells (2005) puts networks in cultural and historical context (I follow Castells' discussion here). In the historical record there are examples of both network social organizations, based on autonomy, interactivity, convergence and coordination among nodes, as well as examples of vertical-hierarchical social organizations based on discipline and obedience of authority. But the combination of rapid feedback, interconnectivity, multidirectional communication, flexibility, autonomy, and self-reconfiguring capacity that characterizes digital networks today was not viable beyond small groups in the past. This is why under conditions of pre-electronic communication technology, vertical-hierarchical social

organizations could have been more efficient in managing large populations and vast territories (Castells, 2005).

In the present context, however, many of the material constraints that network organizations faced in the past are overcome by digital network technology and the rise of the space of flows. The network society then, we could say, enables and requires a massive organizational, socio-spatial transformation of society, in which the access points to the space of flows become a key organizational element in social configurations. The advantages of digital networking are enormous, from the levels of coordination of economic activity and administrative organizational functions in real time to how it facilitates the process of maintaining meaningful relationships with people and places beyond the scope of co-presence.

In light of Castells' distinction between networks and hierarchies, one can argue that whereas in the past text tended to lie on the side of hierarchies (used mostly by elites and facilitating the concentration and centralization of information), in the network society context text tends to group on the side of networks. Text becomes an exchange-prone, and very user-friendly type of object, lending itself well to the needs for a system of communication and skilled action that could make the system's connectivity processable at the level of a user. Literacy provided a solid platform, one that was already widely used, with institutions and resources in place backing its reproduction and the training needed to a degree that makes it an assumed, unquestioned medium or platform of communication. As stated before, in the network society context there are *more people spending more time using more text to do more things in more places*. Of course, there were people already using text to do things in places before. But the penetration of mobile and digital communication into virtually all places in social space has also involved a massive extension of the contexts and activities on which text comes to take part, as it

becomes typical for an increasing number of people to constantly engage in text use as they go about their daily lives.

Using Castells' distinction between the industrial and the informational modes of development, we can then say that in regards to text use the industrial mode was characterized among other things by the expansion of bureaucratic writing (administrative and government), the rise of national states (Anderson, 1991[1983]), the rise of cheap daily newspapers massively circulating throughout city space (Fritzsche, 1996), and the trend toward universal literacy and mandatory schooling for children. Also, by the presence of written materials in urban metropolises which started becoming massive from the mid-nineteenth century onwards and significantly changed the appearance and felt quality of such urban centers. Finally, there is the role that the invention and spread of printing had on shaping production, organization, administration, and imagination for five centuries, which has been widely studied and theorized and has been the subject of intense debate.⁴⁰

In terms of the informational mode of development, on the other hand, new patterns of text use arise, including computer-based reading and writing, more interactive use of reading and writing with more opportunities for responding and sharing, openness of the text to revision, the possibility of linking texts to one another electronically via links and hypertext, widespread access to the means for circulating texts (through digital networks), a variety of patterns of written communication supported by networks including one-to-one, one-to-many and many-to-

⁴⁰ Just how much efficacy could or should be attributed to the invention of writing and/ or the invention of printing, in terms of shaping the mind (in particular cognition, perception, memory, affect) and the institutions of literate societies has been subject of important debate. The debates center around the evidence for claims about how writing or literacy changes or restructures the mind and how it impacts institutions and social processes. Relevant literature includes McLuhan (1962), Goody and Watt (1963), Goody (1987), Havelock (1982), Ong (1982), Halverson (1992), Harris (1989), Cole & Scribner (1978), Olson (1994, 1997); Olson & Torrance (eds.) (2009). From a historical perspective the discussion about the impact of print (Eisenstein 1980b, 1988), Johns (1998), Chartier (1994). Today, neuroimaging technologies are being used to identify how exactly reading impacts the brain (Dehaene 2009).

many (Castells 2001, 2007), ease of ‘publishing’, relative relaxation of rules of correctness in some contexts of use (email and texting in particular), casual use of text via wireless connectivity, less functional separation and more overlapping of reading and writing in time (I read as I write and write as I read), easier access to text in chosen time (as opposed to programmed, scheduled, scripted, and bounded) via ubiquitous wireless technology, and less exclusive use of text in time and space as more text is used in combination with sources in multiple media and as part of multiple tasks.

Text and space (of places and of flows): Is the space of flows urban space?

One important theoretical question from the point of view of the environment is whether the notion of urban space should be extended into the space of flows and what would it mean to do so. By taking text to be a fully recognized member of the urban environment, I explore one possible route to answering that question. Focusing on text may be a useful strategy to explore the relationships between digital networks and urban space at the level of perception and experience in the environment. One possible way of theorizing the relationship is that text plays a role in *bridging* between the space of places and the space of flows. From the point of view of the inhabitants of the “dual cities” (Castells 2007) of the network society text helps to make the space of flows processable in the environment, and more generally in the space of places.

There are three levels at which text can be said to play such an enabling role: 1) Text helps make the urban environment (and more broadly the space of places) processable in conditions of high mobility and change; 2) Text helps make the space of flows processable in conditions where the Internet is still heavily text-based, and 3) Text helps make *the relationship* between space of places and space of flows processable. The rise of the network society depends

in no negligible degree on the organizational, communicational, and material uses of written text, and its having been part of the material composition of the city and of society more broadly for a long time.

To use the metaphor proposed in the introduction to this chapter, text's historical and ongoing role in the *linking up* of the space of places (facilitating communication and functional coherence) and its newer role in the linking up of the space of flows allow for its role in the *hooking up* of one with the other. Such linking ups and hooking up ought not be imagined as clean, neutral, purely mechanical, finished, one-time events but as complex, messy, ongoing dynamic processes, occurring across multiple scales and contexts, and involving asymmetrical units and domains.

But can we say that the functions and meanings of text use have changed in the context of socio-technical change associated with the rise of the network society? Some organizational (spatializing) functions become at least more apparent in the present context. For example, text use helps *secure* the encounter of subjects and searched objects. Text use helps to *secure* the continuity (and success) of trajectories for those mobile readers who need directions (even GPS devices require some reading and writing). Text use also helps *secure* the continuity of the identity of objects, buildings, and places (facilitating recognition), thus not only keeping things in place, but also place in place. Importantly, as seen in chapter 5 (on mobility), text use helps *secure* a place's and people's connections to and transitions between, multiple scales of activity and interaction.⁴¹ Thus texts help secure encounters, trajectories, identities and scale awareness

⁴¹ Text also plays a role in contesting a places' demarcations and not only upholding them. This is discussed on the next chapter (7), which focuses on text's relationship to modifiability and social change.

and use. Broadly speaking then, not only do texts secure encounters but they *materialize* the encounter.⁴²

Thus, have the functions of text and text use changed with the emergence of the network society? Perhaps the functions as such have not changed, but their impact on experience has. The range and scale of the impact of text has been disseminated to more segments of experience and daily life as more segments of experience and daily life become open to influence and change due to increase connectivity and increase circulation of people, things, and information. *More texts become more significant to more people in more contexts.* This way at least we bring some qualitative tenor to our vaguely quantitative starting point: More people are spending more time using more text to do more things in more places. We spend more time *in the company of text*, and not because we are all bookworms, but because ubiquitous digital technologies reach us more frequently and because they depend heavily on text.

There are three increases that are relevant here. There is an increase in the substance of text (there is more of it), an increase at the level of its presentation in the perceivable environment (we see more of it, as more text can reach us via of digital connectivity), and finally there is an increase in the amount and diversity of social transactions, processes and activities in which text plays a regular part.

These three quantitative changes are accompanied by at least two important qualitative changes: 1. Text becomes more *interactive*, prompting readers-users to respond in a like manner, that is, in writing, and 2. Reading becomes fundamentally *intertextual*, (multiple, distributed, fragmentary) as more text sources become interconnected and accessible via digital networks.

This way the distance between texts shrinks or even collapses as more texts, new and old,

⁴² I follow here the common use in actor-network theory, in which components of an interaction or assemblage are granted 'actor' status regardless of their being human or nonhuman (Latour 1996, 2005)

become absorbed into digital platform. As a result of such proximity, and following on Latour's notion of interobjectivity, it is not absurd to talk about texts interacting with one another. We create texts whose relationships to other texts do not need to run through us every time.

Text-dependent cities?

So far we have talked about text *use*. But would it be justified to turn up the volume a bit and make a claim about text-*dependence*? By that I refer to the degree to which a city, a society, or a culture can be said to depend on text for its functioning as a system. Considering that there are (and have been for thousands of years) cultures that do not use writing, and assuming that it would be difficult to find an example of a culture refusing literacy once it has been incorporated, the formulation at least of such notion does not seem completely baseless. We can distinguish at least six types or levels of text-dependence, perhaps with various degrees within each: 1. No text-dependence, for societies where literacy and writing do not play a role⁴³. 2. Circumscribed text-dependence, for hierarchical societies with text use that is exclusive of elites, or perhaps used by merchants for record keeping of transactions and stocks. 3. Manuscript or handwriting cultures: with text circulating in more spheres of life, but always produced and reproduced in the singular (no mechanical copies). 4. Print societies, where text reproduction becomes print-dominated while handwritten singular text occurrences also increase as a result of the spread of literacy. 5. Xerox/carbon-copy societies, where mechanical duplication of text becomes more accessible and widespread and presumably more needed, and finally, 6. Digital text-dependent societies, where the circulation of texts becomes increasingly paperless as more text is generated and circulated on digital screens only.

⁴³ Walter Ong (1982) shows the difficulty of disentangling orality from literacy. The traces of orality continue well into the history of alphabetized societies.

The last level, that of the network society, involves a level of entanglement of reading and writing with major structuring forces of social life and experience that it becomes almost impossible to imagine them as text-less. Paperless cities will probably exist sometime in the future, but textless cities are hard to imagine. As cities and societies become more complex and functionally differentiated, they become increasingly dependent on text for record keeping, communication and the sharing of meaning and experience. Text becomes a basic meaning-coordination and meaning-management technology operating across time and space. The continuous, massive circulation of vast amounts of written text is a precondition for the network society and the informational mode of development, as much as product of these. To borrow Giddens' useful pair of terms, with respect to the network society, widespread use of text becomes both medium and outcome.

This carries an important implication in terms of the relationship between text, humans, and the environment. As suggested before, text helps make the network society possible. To which we may add now, text-dependence means that the network society is viable only as long as it remains at a collectively manageable text-processing level. In other words, it cannot move faster than we can read and write. Or in any case, it shouldn't. If reading collapses, the network society becomes unviable. Of course this does not mean that every piece of text must be read in order for things to run well. In fact as discussed in chapter 2, it would be a terrible thing if we could not ignore text. The point here is that even if this is so, large amounts of text processing are needed, even in the face of an increase of technologies that bypass our attention and purportedly 'think' for us.⁴⁴

⁴⁴ Nigel Thrift (2002, 2004) writes about the "automatic production of space" and a "technological unconscious", placing the emphasis on the increasing power of technologies in defining our relationships with space consequently leaving less room for our agency. Here I make the argument that text use can function as a bulwark against total

The network society's dependence on text helps keep things meaningful by bringing them to bear at the scale of the environment, perception and experience. The scale of bits and electronic digital flows is not directly relevant to us in the environment, as these do not affect perception and experience directly. There is a sort of bottleneck effect at play by which, because of the slowness of processing of text by humans, socio-technical processes that massively out speed us are constantly slowed down by text use. *Text is a slow technology*, and that becomes a good thing. With slowness comes at least the possibility of revision, reflexivity, thought. Cities constantly dragged down, and dragged back to human scale by their text-dependence, by their depending on us to read.⁴⁵

Text, in and between

Even as more powerful computers and networks have made the Internet faster and more multimedia -better at supporting pictures, video and sound- the Internet still remains massively text-based. What W. Mitchell calls screenspace is never text-less for too long. Text permeates the Internet and pervasively mediates its uses, even the more multimediatic ones (for example, browsing Youtube or downloading music). Email (constitutively text-based, photo attachments notwithstanding) is still the dominant use of the Internet, and new social media like Facebook and Twitter, where users generate and share content, are fundamentally text-dominated platforms as well, when it comes to how they are used.

automatization. The notions of “calm technology”, “ubiquitous computing”, and “things that think”, which for some authors signals the ideal of non-obstrusive technologies that move to the background, placing less demands on our attention and therefore freeing us to attend to other things, raise for other authors suspicions of too much off loading of decision power onto things and places. For positive views about these technologies, Negroponte (1995), Weiser (1996), McCullough (2005), Mitchell (2005).

⁴⁵ Of course, one can just as easily imagine situations where such slowing down may carry disadvantages, for example, when urgent problems (hunger, oppression, responses to catastrophe) would be better addressed by having things move faster than we can read and bureaucracies can process them.

As seen text is also an extensively used material in the urban context. This *duality of text*, as something that supports activities in the space of places (here meaning the city) and in the space of flows (here meaning the Internet) facilitates the connection between them. Text helps keep things processable within them and between them, mediating the coupling and the hooking up of the space of flows with the space of places. In that sense text constitutes a condition of possibility for the rise of the network society as a new social configuration.

Castells refers to networks as “material supports of interaction”, and “technological supports of sociability” (Castells, 2001: 125). I suggest that we should think about text in exactly the same terms. Text provides dependable support as a basic, ground level, reliable technological or socio-technical layer that secures contacts by becoming *redundant*, by repeating itself and in so doing repeating the things and the places it refers to.⁴⁶

The organizational (and spatializing) capabilities of symbolic components that are used in the environment and the space of places (this dissertation focuses on text but there are obviously more) acquire new relevance in the network society. The fixity and stability of text –as socially and historically shaped and not simply as a technical fact⁴⁷ - has great systemic value in complex environments and social systems. This stability supports recognizability, which allow for an enormous amount of variability and innovation (in language use) while at the same time

⁴⁶ Chapter 4 dealt with the relationship between ambient text and the *phatic function* of language from the point of view of its possible contribution to people’s sense of place.

⁴⁷ This is not to say that these qualities exist in and of themselves but that the historical contexts in which print arose have shaped ideals of fixity that shape in turn our relationships with texts making them stable enough so as to afford the attribution of such fixity. This is the argument of Adrian Johns (1998), discussed in Keltz (2008:272-274). Johns is responding to Eisenstein classic formulation of print as an agent of change. See Eisenstein (1980b, 1988, and 2002) for Eisenstein’s sharp rebuttal. The fixity of writing and the transparency of the alphabet had been the subject of essentialist interpretations, for example in the work of Havelock, who saw these as in themselves responsible for the rise of logic and abstract thinking in ancient Greece. The alphabet became a mystified technology, and a perfect one in some accounts. See Harris (1989) and Halverson (1992) for devastating critiques of this view. With the advantage of the psychology and neuroscience of reading (Dehaene, 2009; Rayner *et al* 2001) we now know that such recognizability has to do with our brains and perceptual systems, as well as with the institutions and cultural practices that sustain the extensive training that emergent readers need in order to become functionally literate.

affording precision and clarity in contexts where these are needed. As a medium, text acquires the status one of the most stable dimensions structuring activities in complex urban environments, and in the network society at large.

Obviously the network society does not exist without people. And when people connect to digital networks they most often do it by using text. People use text in order to use the networks, and use the networks to connect to information, people, places and things. Texts are part of the networks (in the actor-network sense and in Castells') for as long as people are. In an *actor-network-society* approach, one that would combine Latourian networks (assemblages of hybrid materials) with Castellian ones (organizational, socio-technical), to say that texts make the network society viable would be stating the obvious.

The Urban and the Networks

In his early writings about social space, Lefebvre identified the urban with the idea of simultaneity and the function of center, or centrality. The right to the city is the right to centrality, the right not to be left aside. In this respect the relationship between networks and the urban requires clarification, since networks are frequently described as models of decentered organization. On the one hand, networks make the experience of simultaneity (or centrality) viable to an unprecedented extent. But in terms of the notion of center, networks involve a spreading of the center, or a de-centering *of* the center, which does not disappear as a function but becomes distributed, and more diffuse in terms of geographical specificity. The center becomes an emerging property of the whole interconnected network.

Considered from the point of view of connectivity, a working definition of the city would be: the city is the place within a territorial extension where the most networks can be accessed

via the highest number of nodes. This way the urban involves a re-attributing of density and of proximity, it is not the density and proximity of individuals so much as that of networks of activity that matters, it is the emergence of networks of networks, available in the environment, some of whose nodes either overlap or operate in close proximity to each other, that makes co-presence in the environment meaningful. It is the connective density of the nodes, and the resulting nodes of connective density, that increase the chances of furthering connectivity. In such way cities are redefined in terms of network density.

The term density may not seem appropriate when talking about networks of this sort, that do not operate in conditions of strict spatial contiguity and for which material consistency is not specified in the same way as it is for things in an environment. But density here only refers to abundance or richness of connections, how richly interconnected a particular network or network of networks is. Thus, network density. What happens in the context of the network *society* then is that the emerging connectivity between mega-nodes powered by electronic communication technologies gives rise to a de-centering of the urban condition and a reconfiguration of distances, a re-distribution at a planetary scale, so that a teenager connected to the Internet in a remote village is not in an isolated non-urban “electronic cottage” (Castells, 2001) but is *materially* connected to urban form, and in a way pulled by it, even if so tenuously.

Connectivity in this analysis is not supplementary but constitutive. Networks change contemporary social spatiality so as to make it include *them* as a defining component. Networks *materialize* contacts and are made of them. They extend the environment where participants are in and the number of actors (in the Latourian sense) that make up the environment and participate in it. The network society realigns human and nonhuman components of the environment thus reconfiguring the environment and the processes that take place in it. As far as

text is concerned, the network society extends text and text use by making it more far-reaching, consequential, and relevant to persons and to the environment in general.

Texts are a big part of how networks materialize contacts in the network society. Yet text seems to be only implicitly assumed in discussions about the Internet or networks in general. It is taken for granted. My point here may seem obvious but is not: In terms of the information that is relevant at the level of the environment, such information must be at a scale that is perceivable and processable, and this is where text continues to present specific advantages as a medium, as long as literate humans are among the actors. The Internet *re-uses* and *re-materializes* this old technology, text, giving it new meaning and new weight as a component of the environments we live in and the trajectories and activities that make up our everyday life. In this sense text has everything to do with scale and the environment, at least as much as it has to do with information and communication.

Social cohesion and the social glue trope

The term connectivity is frequently used to refer to processes that involve affect. That is what we mean when we talk about *connecting* to other people. In the network society context, connectivity refers predominantly to things that are both technological and social. Castells seems to use the term network in an intended open way to refer alternatively to both technological and social-organizational meanings of networks. In either case, in his analysis connectivity has all to do with communication. By adopting the distributed cognition approach and actor-network theory we add complexity to our understanding of the network society and how it becomes viable by aligning humans and nonhumans (text users and texts in our case) into communicational processes in the environment and across environments. But communication

involves both cognition and affect, among many other things. And we would reduce its complexity too much if we forgot affect, and in particular if we reduced the issue of cohesion to cognition. Text contributes to cohesion by mediating uses of the environment (including meaningful written communication in digital networks) in the languages that people use for their shared meaning-making and meaning-taking processes.

As long as networks involve communication they point to shared meanings and cultural practices. The Internet continues to be heavily text-based (that is how most content reaches me and how I add content), and it does not seem as if text is just a temporary disposable support to be thrown away, like 8-tracks or videotapes, as soon as new platforms emerge. Text is a major contributor of cognitive work⁴⁸, making organization explicit and processable, contributing complexity and richness as well as continuity and clarity, in the street and in the webpage, activating cognitions *and* sentiments, materializing connectivity in its various meanings. Whatever the social glue is in the network society context, it has letters on it. Like alphabet soup.

⁴⁸ When I think about text from the point of view of distributed cognition I assume that reading is a fundamentally human activity and not something that can be offloaded to a machine, even though aspects of what counts for reading can be carried out by computer applications, like when your search engine fixes your spelling or comes back with all the documents where a specified sequence of characters occur. We can even make room for a distinction between human and nonhuman reading and writing. But where the distributed cognition approach seems especially useful for thinking about literacy and text is in allowing us to distinguish between what these are when considered from the point of view of individual readers and what they are when considered from the point of view of cultural activity systems and environments. Reading and text use can be considered as a property of the environment, of the city, of society, all of which are systems that by themselves do not read but that depend on the reading and text use of many to subsist.

Chapter 7

Ambient Text and Social Change:

Mobilizing Text to Modify Society

Activist Literacies in the Context of Ubiquitous Text Use

In this chapter I explore some of the ways in which the relationships between reading, writing, and texts discussed in this dissertation intersect with ideas about social change and political transformation. So far I have looked at text and text use in their relationship to processes of social and spatial integration (environment building, place-making, mobility, and connectivity), focusing on how ambient text makes the urban environment viable and processable in the context of the rise of the network society. In this sense we have been operating within a *text-as-means-of-social-order* mode of argumentation. In this chapter, however, I shift to a *text-as-means-of-social-change* mode, focusing on the ways in which text is directly implicated in processes that aim to transform social practices, social institutions or society in general. But in so doing I end up considering the possibility that something about the ways in which text is being used in this new context is changing the material status of text as a component of the urban environment and that may be this points to a change in the materiality of the urban environment in general, and in turn the materiality of social change in such a context.

I start the chapter with a brief discussion of how the notion of agency has been used in relation to social change in social theory. I gear my discussion toward a consideration of the status of non-human agents (of which text is an example) in relation to the issue of social change. I discuss the historical example of the relationship of print and the emergence of the public

sphere. I then discuss seven ways in which the use of text intersects with agendas for social change and transformative politics, where text use plays a role as a tool or medium of social mobilization and change at various scales and in various contexts. Most examples come from observations carried out on 116th street in East Harlem, but also larger contexts of use of the Internet in the network society context. Finally, I point to implications for discussions about public-ness and democracy and for questions about social and political ontology, specifically *what* changes in social change.

Although the expression “social change” is in principle not marked, and does not specify the political tone of the change invoked, in its most common contemporary use it connotes “progressive” social change, and this is the way I use the expression in this chapter. By social change, then, I mean progressive social change, and by that I mean processes and outcomes thereof that further democracy and democratic forms of life, social justice and social equality, the rights of disadvantaged groups, and the improvement, actual or potential, of peoples’ opportunities for living a life that is good. In the introduction to *Making Things Public: Atmospheres of Democracy*, Latour (2005) throws the challenge of thinking about democracy as having to do with *things*, instead of just having to do with abstract relations between people. I take this literally in a political sense, as a call to make democracy a project about *radical access to things*. From this perspective, a look at that specific thing called text and the ways it behaves and we behave around it, may contribute to identifying an agenda for a radical democratization of the things of this world.

The 'who' of social change

The notion of social change is tied in social theory with the notion of agency, and the question about who are the 'social actors' that drive or shape or bring about social change. Although in principle social theory has the dual job of explaining social order and stability as well as social change and discontinuity, most grand social theories have focused on explaining how structures and systems of action are maintained or reproduced, and have been less thorough in considering how such systems and structures may be open to change. The notion of social change is also associated with the notion of progress, which is by no means a site of consensus in the social sciences. The notion of progress is considered ideological or even naïve both by objectivistic approaches to social research, which consider it a normative and value-laden notion (and therefore not 'objective'), and more recently by postmodernist revisions of the notions of scientific progress and historical progress, which consider these as ethnocentric, imperialistic, self-serving, self-imposing, grand meta-narratives of Modernity and the West, which portray themselves as universal values or ideals with unquestionable validity and appeal.

In the classical approach to social change, that of Marxist theory in its traditional formulation, people make history (and bring about social change) but in conditions not of their choosing. History has a 'subject', or agent -the working class-, who is in an objective position (because of its place in the production process and in relation to the means of production) to transform society. This emancipatory role can only be played in historical conditions not chosen by the actors.

But the status of the working class as the revolutionary agent of history was put into question not only by the political and academic mainstream, but by Marx-inspired critics of Marxism (in particular the Frankfurt school) who thought that labor had lost such transformative

status and had been co-opted by authoritarian states and authoritarian solutions to the contradictions of capitalist society. This way, it was thought, the workers had been integrated into the interests of the bourgeoisie, and dispossessed of their transformational, revolutionary potential.

In the 1960's, 70's and 80's, social theorists started looking at other possible sources of sociopolitical transformation, and the search for transformational agents focused on those subjected to other forms of oppression in society besides exploitation in the production process, from people in total institutions (prisons, mental hospitals, schools) to racial and gender inequality, to anticolonial struggles, the pacifist movement, countercultural movements, and the environmental movement. Neo-Marxist theorists like Castells (1983) and Laclau & Mouffe (1985) started looking at the mobilization of these other actors in social struggles and the emergence of what came to be known as the 'new social movements'. Not bound together by the demands typically associated with labor unions and not defined by their position in the production process, these other agents of change formed alliances across social classes and around issues of collective consumption, identity, equality and the rights of minorities.

There are a number of controversies and conceptual debates surrounding the issue of social change in social theory. Among them, questions about whether change ought to be gradual or radical (reform or revolution in old Marxist jargon), also posed in the form of the question about whether 'real' change can come from within the system, and whether an 'outside' of the system could exist at all. A related question has been, what is the role of legal battles and policy making in bringing about social change? How important is collective mobilization as an ingredient and can there be 'social' change without it? Should the *objective* or the *subjective* factors of a political situation be privileged in the analysis? Can technological change drive

social change? Can it amount to social change all by itself? Could ‘desire’ and ‘difference’ (as advanced by poststructuralist theories) become driving forces for change? How to avoid the theoretical extremes of historicism (where historical outcomes are conceived as predetermined by structure or historical necessity) and voluntarism (where historical outcomes are considered as completely open to the actors’ will and actions)? Should time (history) or space (the city) be considered the critical dimension of change? And so on.

When discussing how social change comes about or is introduced in society, theories may focus on bottom-up (grassroots-initiated and driven) social change or on top-down (institutionalized) social change. The first approach pays more attention to collective mobilization and the agency of social actors. The second approach pays more attention to legal decisions and political power. One example of a theory that explores new manifestations of the bottom-up within the context of the top-down is de Certeau’s distinction between on the one hand the strategic writing of planners and the powerful classes shaping the city according to their needs, and the tactics of city dwellers in their everyday life, readable in the traces that they inscribe everywhere in the city with their footsteps and their practices (de Certeau, 1984). De Certeau’s approach validates the tactics particularly and represents an attempt to overcome the top-down views of much social theory, including politically critical approaches to society for example in the work of Foucault.

Under the name of Structuration theory, Anthony Giddens (1984, 1990) attempted to provide a framework where both, the reproduction of social action and social systems (stability/order) as well as the occurrence of change can be explained. In Structuration theory, the notion of the “duality of structure” points to how individual action (partly shaped by routinization) is on the one hand the ‘outcome’ of the structural principles and the social systems

of action that shape and characterize a society, and simultaneously the ‘medium’ where such principles and systems are reproduced and sometimes transformed. An important element in Giddens is the notion of ‘unintended consequences’ which points to instances when transformations (in our case, progressive social change) may not come about as the direct result of the concerted actions of social actors and their intentions, but as the outcome of multiple causes, including the actions of actors but not necessarily in ways that they anticipate or control. This concept helps to moderate the excessive attributions to agency in bringing about social change, and to structures and systems in containing it.

Spreading the agency

If Castells, Laclau & Mouffe, and others have expanded the room for what fits into the the notion of “agency” (by including the new social movements), and Giddens has clarified its complex relation to structure, Latour has remapped the notion of agency itself, by de-centering it and challenging its unquestioned anthropocentrism. Calling attention to how traditional notions of agency focus excessively on human action and do not pay enough attention to the role of non-human components (artifacts, objects and features of the stages of interaction) Latour advocated a shift to the notion of actants as a more inclusive alternative to the notion of ‘actors’ the way it is traditionally used in sociology, thus broadening the range of components of an environment or situation that can be said to play a role in shaping and constituting an interaction.

In Giddens’ theory people and their actions function as nodal points for multiple layers of organization. In Latour this approach is extended to all elements involved in a process or environment, especially artifacts. Not all have the same relevance but the myriad connections between elements are equally considered part of the interaction, event, or assemblage. The

notion of interobjectivity is proposed as a corrective to the anthropocentrism of the category of intersubjectivity and that of agency (Latour 1996).

Writing, print, public sphere, and social change

Even if not exactly in a Latourian fashion, writing, text, and print, have been tied to social change before. In *The Coming of the Book*, Febvre and Martin (1997[1958]), for example, put forward a thorough historical analysis of the printed book as a “force for change”, overcoming the limitations of the culture of the manuscript, increasing the speed with which information could travel around and inform decisions and debates. Mc Luhan elaborates on the idea of print as an agent of change and focuses on the fixity of print as a major characteristic, one with significant consequences for how humans perceive and relate to language, to knowledge, and to the world around them. Eisenstein (1980) made Mc Luhan’s insights the subject of more rigorous historical research, looking at the impact of the use of print on the development of religion, political forms and scientific thinking. The fixity of print provided a solid base on which stable systems of knowledge could be built.

More recently Adrian Johns (1998) reformulated the issue of the presumed power of print by historicizing the issue of the presumed ‘fixity’ of print. If such fixity could be at all attributed it is because there was a public already constituted that was receptive to the idea of fixity. Print, and books in and of themselves, do not possess an objective attribute called ‘fixity’, and historical research of its materiality shows that the book has been much more susceptible to variation than typically thought. It is only by means of enormous efforts to keep it credibly ‘fixed’ and by creating a public receptive to the idea of the fixity of print that such idea ends up

being considered as an objective attribute of print itself. Only this way the idea that there is *one* print culture could arise.⁴⁹

A big change, however, took place in the transition from manuscript to books. The transition from a culture dominated by manuscripts to the rise of print is considered an important historical point of reference for considerations about the rise of digital culture. The same way that the invention of print is full of social, cultural and political consequences, so must the emergence of digital text, it has been theorized, be full of dramatic consequences for how knowledge and power are understood and practiced. Among them, the active role of the reader in co-constructing the text through the meaning making process, and now by virtue of interactive technology, which opens up the issue of the *finality* of the text (Kelty, 2008). If the text is open to revision and reuse then its fixity and its being finished are not definitive. We come back to this idea at the end of the chapter.

It is precisely at this point where digital text and more generally digital networks and the Internet introduce a challenge to the way print and publishing have come to be understood, as dependent on texts being fixed and final. The intrinsic modifiability of text in the new context is not only a technical characteristic of the infrastructure of digital text and of the Internet, but rather a fundamental difference with print culture. Of course it is not the case that print culture or even the culture of the manuscript disappear. But as digital culture emerges, absorbing already existing content onto itself and becoming the primary site for the creation of new content, some of its characteristics become powerful cultural forces, exerting new pressures on society at large.

When considering the social effects of a technology there is always the risk of technological determinism. If, as argued by Johns, there were conditions of reception for the idea

⁴⁹ Here I follow Kelty's discussion of Eisenstein and Johns (Kelty, 2008).

of fixity in the wake of the invention and spread of printing that made print culture possible, we may be right to assume that only a growing cultural receptivity to the idea of the non-fixity of text and knowledge would allow for the rise of a different general relationship to texts to take hold. My objective in this chapter however is much more modest. I limit myself here to identifying some of the contexts in which text can be used (and is) with the explicit purpose of bringing about social change as defined at the beginning of the chapter. Of course these uses do not exclude others, even opposite ones, as when big corporations use the openness of the Internet to extend their grip on society and advance their interests.

Finally, another context where print is taken to have transformative efficacy is in discussions about the rise of the public sphere and its historical relationship with print culture. Habermas' foundational consideration about the rise of the public sphere in Europe in the eighteenth century assigned a fundamental role to print (1974, 1989). The printing press, and the coffee houses and salons where intellectuals and activists went to read their books, pamphlets, newspapers, and gazettes in eighteenth and nineteenth century Europe, made it possible for them to exchange ideas about matters relating to culture, political power and national interest, and gave rise to a certain consciousness of a domain of exchange where ideas and events could be evaluated, an arena where a public could be addressed as such, a domain that gained an objective quality, a level of independent existence, as the public sphere. Habermas then describes how the promise of such public sphere was in his view asphyxiated by the increasing concentration of ownership of media in the late nineteenth and early twentieth century in Europe and the US.

In tune with Habermas' account of the public sphere, Michael Warner (1990) looked at the emergence of the public in eighteenth century US, arguing that these were coextensive with print and print culture at the time, in other words that the public was the print culture and reading

and publishing were the primary example of public action. Some critics have pointed out that in these accounts of the public and public sphere the focus privileges print to the exclusion of other sources of the experience of publicness, in particular visual aspects and the embodied character of co-presence in the city. There has also been the criticism that the question of media is not addressed directly as relevant, that is, writing and print are taken as the archetypical media and in such a way the specific characteristics of other media like radio and television and the ways in which they may shape the public (and social life and the possibility of social change) are obscured.⁵⁰

Seven ways in which mobilizing text may mobilize (and modify) society in the urban- network society context.

In what follows I discuss seven ways in which texts can be said to belong to assemblages of social change or to borrow again from Latour (2005), where texts become part of ‘*atmospheres of democracy*’. As in the previous chapters, I focus on the ‘text’ component of the examples given below. I am aware of how selective my account is. It can easily be complemented with other accounts that highlight the role of other components of assemblages and situations. As in previous chapters I start from the perspective of the perceived, street level urban environment using examples from 116th street in East Harlem/El Barrio, and then moving towards larger scales onto the network society context at large.

⁵⁰ The work of media theorist Friedrich Kittler is fascinating in its theorizing the importance of text and writing while putting it also in the context of the development of other media and technologies, so as to challenge “the monopoly of writing” in historical accounts (1999[1987]).

1. The rally: Text takes (to) the streets
2. The writing on the wall
3. The mass email/social media update
4. ‘Conscious’ (well-read) shopping
5. Language keeping (local and translocal)
6. Transnational action at a distance
7. Letter of law

1. The rally: *Text takes (to) the streets*. The most salient example of text intersecting with struggles for social change is found in the abundance of text displayed in rallies and marches, when multitudes take to the city streets to get their message out and make their demands heard. In doing so, they bring with them materials that echo their claims, effectively extending the mass of the claim and of the activity. Together with slogans and chants, banners and posters are important elements in rallies, used to create an impact on the public, raise awareness about an issue, shape public opinion and seek support for a cause. They may be straightforward and brief, elaborate and surprising, solemn and sober, or funny and festive. Collective mobilization is intended to give momentum to a cause and sometimes runs parallel to legal battles and policy proposals in other sites of decision-making and power.

Digital photographs and video, now easily uploaded and circulated on the Internet, can significantly expand the reach of a message displayed on a banner or poster. During the time I was living in East Harlem (2005-2008) rallies organized by tenants against unfair landlord practices were common. But also festivals of various kinds were common in the area (Cinco de Mayo, Puerto Rican pre-Parade festival, Mount Carmel’s), temporarily taking over the street

with multiple attractions for residents and visitors, all surrounded by banners, texted merchandise, flyers and brochures, temporary signs, celebrating the presence of those groups that claim a stake in the neighborhood. The amount of written surfaces in any of such events is enormous. These are examples of the temporary deployment of text associated with the advocating of causes or with the celebration of the continued presence and vitality of a particular group.⁵¹

2. *The writing on the wall: Mobilizing text (and fixating it) as means for mobilizing people.* A bit more permanent are the ‘writing-on-the-wall’ type of text deployment, more dispersed temporally and spatially, outliving or predating the rally, so to speak. Examples of this on 116th street are all the posters that call for political mobilization (to end the war in Iraq, to end landlord neglect in the neighborhood, etc.). During primaries and elections the street, like many other areas in the city, is wallpapered with propaganda from competing candidates, victim to the temporary rigors of electoral politics. On the other side there are the graffiti inscriptions that seek to confront passers-by and prompt them to think about the transformation of the neighborhood. (the ‘Take back East Harlem’ ‘Black and Brown Unity’ inscriptions referred to in chapter 4, are examples of these). Murals are also a key part of the experience of being in El Barrio and an example of literal writing (and drawing) on the wall (my favorite example, ‘*Un mundo donde quepan muchos mundos*’, the mural based on a Subcomandante Marcos slogan, was also discussed in chapter 4).

⁵¹ Of course, the Tea Party, hardly describable as being for progressive social change, also makes use of posters and banners in their quest for advancing their agenda, and so do state-sponsored rallies in totalitarian contexts. So obviously there is nothing inherently progressive about text-taking-to-the-streets. Still, organized attempts at advancing issues that can be understood as advancing social change very often include the public display of these materials as part of their assemblages of action.

Many written calls for action are not entirely fixed, but instead circulate in the area. Neighborhood advocacy associations distribute flyers door-to-door and in street corners, or post announcements for meetings and rallies in highly transited spots. Finally, it is not rare to find young men and women asking you for a minute to ‘sign the petition’. The issues which these texts may deal with need not be local and immediate. Action-at-a-distance is also part of the model, as people may mobilize for causes from other places. Ultimately, one can argue, all these postings become postings *about* the city, in the spatial and the thematic sense (moving *about* and talking *about*). They concern the status of the city as a site of contestation and more broadly as a site of communication (contestation of silent compliance and disconnectedness) and they assert the languages where such communication occurs as languages *of* the city.

3. *The mass-email / Social network update: Mobilizing text online to mobilize people online and off.* The Internet has made easier the coordination of events by organizers and activists, and the distribution of information about meetings and demonstrations to supporters and potential participants. Text is mobilized online to mobilize people for a diversity of causes and purposes. Sometimes text is mobilized offline to mobilize people online, as is the case with all the exhortations to visit a website or to send an email to an elected official, that can be found through an announcement in print media or a flyer in the street, or on TV. Furthermore, people often mobilize text to mobilize other people to mobilize text, as is the case with every ‘sign-the-petition’ and ‘pass-it-on’ message that circulate the Internet, frequently in the form of mass emails or messages to listservs but also more recently through social networks like Facebook and Twitter. New social networks have become powerful tools for organizing political action and mobilization, sometimes with dramatic consequences. The successful uprisings in Tunisia and

Egypt in early 2011, where powerful autocrats were toppled by massive movements of people who massively took the streets demanding new governments are major historical events in which Facebook and Twitter are thought to have played a playing a key enabling role, facilitating coordination of public actions and circulation of information outside the countries involved (with Google's boss in Egypt considered a hero of the movement).⁵² The impact of actions at a local level can be scaled up to an international level, and ongoing actions can be followed, monitored, circulated, and commented on locally and globally via written messages posted on Facebook or Twitter. Links to pictures and videos are easily uploaded to sites like YouTube and easily shared by posting a link on Facebook, Twitter, a blog, or an email.

Finally, blogging and the so called blogosphere have become a major source of information and analysis of news and events and more importantly, a major forum for discussions of issues of all kinds, providing a level of interactivity and 'talk back' that is having a noticeable impact on more traditional news outlets. The New York Times for example manages numerous blogs and forums that are attached to their online edition. And the Huffington Post, a left leaning news blog that keeps diversifying its traffic into other content areas, has become the second most visited site for news in the US, after the New York Times.⁵³ In all these cases, the role of text in making such developments viable and processable by people becomes evident

⁵² A few weeks before the Cairo uprising, the autocratic president of Tunisia had been ousted after unrelenting protests in the streets, coordinated and made known globally via Facebook and Twitter. Just weeks before the uprising in Tunisia, a massive Wikileaks release containing thousands of diplomatic cables revealing the intricacies and hypocrisies of diplomatic relations between the US and its allies around the world, may have played a galvanizing role in the Tunisian uprising, as it made more visible the autocrat's opulent life style in the face of the masses' crushing poverty. In 2009, massive mobilizations of protesters in Iran after a questionable election, were also famously Twitterized. Finally, the successful grassroots organization and fundraising operation of the 2008 Obama presidential campaign is also frequently mentioned as an example of the role of the Internet in electoral politics.

⁵³ Castells' more recent work, on the issue of power in the network society context (2007, 2009), develops the notion of mass-self communication, a pattern of communication through which the masses are able to communicate with themselves and address themselves as a public by using the Internet and so bypassing the traditional corporate-

4. *Well-read shopping: Reading while shopping and on-the-aisle consciousness rising.*

A key element in the relative rise in consumer ecological awareness is the increasing understanding that our actions have unintended consequences both for the places we live in as well as for other places in wider spatial contexts. The products' production process becomes relevant for the ecologically-minded consumer's decision-making process. But a more conscious public means also an increase in the time that is spent reading online or on-site about the products one may buy, making shopping an increasingly text-assisted activity. There is more text available *about* (on and around) the things we may buy, and some of us spend more time reading some of that text.

In general, more people are more interested in knowing more about a product's history and facts: Who produced it and where? What practices and regulations were followed and what materials used? What do the companies involved stand for? What are their labor practices like? What is the size of their carbon footprint? Reading, then, becomes critical in this *spatialization* of consumer consciousness. Supermarkets and other shops become sites of reading. But also

owned mass media, in particular corporate TV and newspapers. The key quest concerning power in society has always been the power to control the minds of people, claims Castells, and proposes that communication power is a new kind of power, one that is the defining form of power in the network society. Therefore the issue of who controls the communication process is an important one, and therefore the emergence of mass-self communication opens possibilities of genuine challenge to the establishment of communications dominated by corporations, and also opens up the possibility that the Internet empowers what Castells calls insurgent politics (generating insurgent text?), those political struggles that are intended not to reform the system but to subvert it. (In the examples mentioned above, Facebook and Twitter have provided a tool for thousands of users to synchronize, energize, and mobilize their struggles with dramatic consequences). Castells has also written recently about what the network society may entail for the possibility of the emergence of a global civil society and a global public sphere (2008). In these theoretical developments, I think, it looks as if language (written language in particular) takes on a new material consistency. Languages can connect the most local and embodied entities (yourself, your speaking body) to the most global (a global public sphere of communication). But of course there *are* multiple languages. Would we need to extend something like the language translation infrastructure of the UN to all of public space in order to make it legitimate, fair and 'global'? Would we all have to learn to state our claims in 'one' language? In an article about the theoretical uses of the notion of global public sphere Nancy Fraser briefly points to the issue about the assumption of monolinguality in the classic formulation of public sphere theory (Fraser, 2007).

more *preparatory reading* is done by more people when buying a wider range of products online or off. Again, ‘to Google’ has become a common verb. For many of us, the Google search becomes a basic resource of daily decision-making in the network society context.

5. *Language keeping, local and translocal: Vernacular ambient text as site of resistance.* But social change may also include resistance to undesired change.⁵⁴ By deploying text in Spanish in a fast changing, gentrifying area of the city, constraints are placed on any sweeping change in the ‘tone’ of the neighborhood. Resistance is not simply defined by negation, but as the affirmation of one kind of change as opposed to another, in this case, one where the cultural claims to the neighborhood are not suffocated by the logic of capital. Still, it would be naïve to assume that the use of Spanish is by necessity associated with good things. As mentioned, demeaning things can be expressed in any language. But more to the point, as seen in chapter 4, multiple instances of corporate ‘*speaking the language of the community*’ can easily be found in the neighborhood. From McDonalds to Citibank to Bank of America, they all speak it, and much to their benefit.

But there is another sense in which language keeping becomes a form of constructive, place-making, space-producing, environment-building resistance practice. In global cities like NYC, bits and pieces of multiple languages co-exist and coalesce as people work out transactions *while immersed* in a thoroughly multilingual context. Perhaps this cohabitation with other people who are, just as all of us are at times, trying to figure out what is being said, fosters

⁵⁴ Language rights activists all over the world seek to protect local minority languages from overwhelming or eroding influences of dominant languages, and equally important, from language ideologies that threaten to deny them and their speakers the right to a viable existence. Of course, languages are not of themselves minority or majority languages. The ways they are used and perceived are dependent on cultural, historical, economic and sociopolitical contexts of power and exclusion. But the situation I look at here is quite specific. Spanish in East Harlem is not an original language that is being erased by a foreign one, but an exception language (a subaltern language in the city’s historical context, even if in much wider historical contexts it has been an imperial one) that gained sustained presence in specific areas of the city and increasingly throughout the city as a whole.

a certain kind of general *language solidarity*, a solidarity of speakers/readers/writers of all kinds who live in conditions where multilinguality means that language cannot be taken for granted as a transparent medium. Such solidarity may involve a willingness to acknowledge or even embrace mixed, hybrid forms of language use that emerge from the frequent contact between speakers of various languages in multiple language situations.

This general sense of acceptance of people's retaining of their languages of origin and their bringing them to full display in the host country can be considered social change insofar as it involves a break away from the expectations of cultural and linguistic assimilation with which previous waves of migrants were received, in theory and in practice in the past⁵⁵, and thus promotes (and is the result of) a difference-embracing or at least difference-accepting atmosphere, facilitated by the rise of wireless technology that makes international-interlingual communication (whether written or spoken) between people in NYC and people in home countries, ubiquitous in the space of the city.

6. *Transnational action-at-a-distance (resistance-to-distance)*: In *Imagined communities*, Benedict Anderson (1991[1983]) argues that print materials (in particular, books and newspapers in vernacular languages) had a defining role in making the emergence of the modern states viable by allowing readers to imagine themselves as belonging to a single political community together with other readers/speakers of the same languages. In this way, writing becomes a key contributor to major sociopolitical transformation by providing a platform for the activation of personal and collective imaginations and desires, inciting the longing for the formation of what became the modern national states. In the case of present day neighborhoods like East Harlem,

⁵⁵ Assimilation was the standard paradigm in classical theories of migration, later becoming the subject of much criticism for its uncritical assumptions regarding culture and adaptation (Cordero-Guzman *et al.* 2001:12-14).

with high numbers of migrants from multiple national and regional backgrounds, constant contact with the sending context (villages and towns in Mexico, or Ecuador for example) allow for a continued sense of relevance and belongingness by keeping people well informed and up to date on local matters pertaining to their family and community back home.

When migrants organize themselves to participate in the affairs of their places of origin and have an impact on them they resist the forces (economic, political) that reassign them to new locations and they challenge traditional ways of living and conceiving national boundaries and belongingness creating fields of interaction, meaning-making, and social reproduction that operate across such boundaries so that some of the practices of people in one region of such fields impact some of what members in the other regions of the same (transnational) fields do, think, and feel.

7. Letter of Law: Decision-making as Text-handling. Finally, social change is also fought at the level of legal battles and policy making. Laws, executive orders, rules and regulations, are text-based artifacts invested with the role of defining the way things are or ought to be. The government and corporate taskforces, boards and committees that define the procedures and parameters that regulate our lives are decision-making bodies that generate and directly operate on documents that inform the making of the law. At some point in the management of the modern risk-ridden societies we have created for ourselves, it all comes down to text. Bureaucracies are text-generating, text-processing, text-refining, text-enacting systems. The legal system is a text-handling, text-interpreting, text-generating, text-centered decision-making system, one that does not cease to gain prominence as a structuring force in modern societies. Since *'the law is the law'* and the law is written, text is directly implicated in processes that make

society *directly* modifiable, rewritable. A specific configuration of text can have force of law. Of course it is the backing of all of the legal system and law enforcement and ultimately society's continued belief (whether implicit or explicit) in the rule of law that makes that text 'forceful' or enforceable. But the *written* moment of the law is irreducible in the modern context. A law *must* be written, so that in principle anyone who knows the language and knows how to read, can read the law and understand it.

Claims for more transparency⁵⁶ in the workings of government and corporations mean very concretely, easier access to documents, access that gives the public more power to scrutinize records of transactions and decision processes, many of which involve massive text-based back-and-forth. Finally, the issue of copyright law becomes a central issue in our time, and involves battles that will define how the law adjusts to the radically new geography of copy use and copy access brought about by digital culture.

Text and Power

The previous section looked at seven ways in which text relates to social change. But text is also massively used to manipulate, restrict, and control populations in reactive and regressive ways. It provides an easy target for surveillance, one not requiring much persuading to tell on people when accessed by interested parties ready to comb or sift through it. The following are three examples of this darker side of text use and text management. They point to how text

⁵⁶ Wikileaks' forcing of transparency, by their massive disclosure of diplomatic cables and classified documents in 2010 makes transparency a sort of event. Although the consequences are not clear, it gives us a glimpse of how little transparency there normally is in extensive tracts of government, posing radical questions about the emerging global geographies of power and information access. It also shows us something about text: it cannot be a permanent hiding place if it is written in languages that people understand, and kept in places that people (willing to share) can find.

can become an intensely political ‘thing’, even *before* ‘meaning’, in terms of has access to it and handles it and why and how.

1. *Doing a ‘search’*. One example that expresses the paradoxical relationship between text and power is the issue of the invasion of people’s privacy in the name of national security. The expression to do a ‘search’, is now primarily associated with using the Internet to answer a question or to conjure up information about a topic: to do a search is to ‘Google’ something. But the other meaning, relative to the searches carried out by law enforcement or intelligence, (as when they do a search of your home, your trajectories, your associations, your digital footprints) is still very much in use. Very frequently texts and documents are what such searches search on.

2. *Textual totalitarianisms*. What we can call *textual totalitarianisms* have an important ambient-textual dimension. Textual totalitarianisms work through two basic mechanisms: censorship and flooding. The classic literary example is Orwell’s *1984*, where centralized power attempts to take control of its subjects’ minds by controlling language. But real world examples come from two apparently opposite realms: on the one hand, more typical totalitarian propaganda associated with censorship and cult of personality in countries with autocratic governments; and on the other hand (following Adorno & Horkheimer’s intuition that capitalism also engenders totalitarian and imperialistic modes of thought control (Adorno & Horkheimer, 1979[1947]), corporate propaganda. In both, people become subjects via censorship (obstruction, distortion, or elimination) and message repetition (geared towards myth formation and the systematic exclusion of alternative modes of thinking). Again, texts are frequently among the things on

which totalitarian forces act, texts are blocked, distorted, destroyed, fabricated, or repeated ad nauseam where needed.

3. *Text as trap*. Finally, there is *textual exclusion*, but there is also *exclusion through text*. The notion that ‘the devil is in the details’, the culture of small print, of taking advantage of you by way of merely showing you the small print and making you sign is based on a very efficient writing ideology, one according to which people are right in surrendering their trust to governments and corporations who effectively convince almost everybody that they can be trusted, and that citizens do not need to have all the information because trustworthy people working for trustworthy, time-proven institutions will undoubtedly take good care of them. This trust in the institutions is highly dependent on an ideological *expectation of legibility*, on the notion that the rules are *written* and the records are kept, and as far as rules are written those in power will obey them, and as far as records are kept, fairness will prevail, and wrongs will be fixed. In all these examples, information is of course not exclusively text-based, but text figures prominently, either in its presence or in its (strategic) absence.

Textual activism

By textual activism I refer to three interrelated but distinct processes: first, processes of text generation, circulation, and processing that seek to advance social change; secondly, the fact that in using text for such purposes the position of text as a tool and a *site* for activism is also restated, promoted, and perhaps advanced, in which case text-assisted activism becomes simultaneously *textual* activism, that is, it becomes an argument *for* the efficacy of text as a world-changing tool. Third, the possibility that in the context of the rise of the network society

any use of text, explicitly political or not, asserts texts' role as a tool for communication and action in social space.

But what sense could it make to be *for* text, it might be asked. Clearly there is no necessary liberating effect in every use of text, as seen in the examples in the previous section (textual totalitarianism, text as trap, etc). Text can be very oppressive, distorting, distracting. Text can become an obstacle. Furthermore, it can lead to what can be called *text-mediated apathy*, where text use may have an immobilizing effect and foster greater disconnection from the immediate environment and from other forms of communication and interaction, including engagement in political mobilization. There are however obvious advantages to having things in writing when that means for example that others (especially the powerful) can be held accountable for what they have said or promised, and asked to stick to their words. In other words, texts help support accountability and transparency, even if as seen above they can also support obstruction and making or keeping text as a site for activism and argument helps ground the actions and words of those involved in ways that ought to be more coherent, as the relatively permanent character of the written, in some cases at least, can work as a deterrent for incoherence and inconsistency, if coherence and consistency are values that the public upholds. One way of actively engaging in textual activism in the second sense is through the practice of denouncing and fighting against *damaging* textual practices (small print predator banking practices, for example) and advocating *constructive* textual practices.⁵⁷

⁵⁷ Some examples of constructive textual practices are efforts in collective encyclopedia-making such as Wikipedia, and efforts to require more explicit statements of terms and conditions in contracts such as the foundation of the new Consumer Protection Agency. Elizabeth Warren wrote on a letter to the public the day when she was named head of the new Consumer Protection Agency: "The time for hiding tricks and traps in the fine print is over" (Sep. 17, 2010, from Hufingtonpost.com and Whitehouse.gov). She was later not confirmed by congress.

Publicness, modifiability, text

Christopher Kelty (2008) develops a novel concept of public to describe the ways in which geeks, and specifically people involved in the Free software movement, use the Internet to think and argue about it (about the Internet). He coins the concept of recursive publics to describe what binds geeks together across distances, and the role that the Internet as infrastructure plays in constituting such ‘public’, as one whose existence and practice involves engaging in constant self-defining.⁵⁸ A cultural consequence of the development of free software and the Internet is “a general reorientation of power and knowledge” that revolves around the principles of availability, reusability, and more radically, the modifiability of information and knowledge.

Although in this dissertation I am not concerned with geeks or with the Free software movement as such, and although Kelty himself advises against the generalization of his concept, I think that what Kelty describes for Internet infrastructures and geeks can help us think about the role of literacy for the urban environment and the people in it. In particular, his use of the notion of infrastructure as an integral part of what constitutes the recursive public can help us understand the role of text in urban space. Just as code does for geeks, text use involves constant ‘figuring out’ for regular users. In this sense, discussions about literacy in the age of the Internet should start from the premise that reading and writing are constantly being figured out not only at the individual level (as individual learning) but also collectively, as scores of readers-writers

⁵⁸ As described by Kelty (2008), people involved in the Free software movement share an understanding of the Internet based on common imaginations and “shared ideals about moral and technical order”, and shared understandings about what constitutes argument (they argue through words, code, and problem-solving). Examples of such ideals are the notion that we ought to keep the Internet open (so called Net neutrality), and the notion that we ought to keep it one (the so called singularity of the Internet),

embark on new textual practices deriving from contact with new technologies or applications, and from new proximities brought about by the new mobilities and new connectivities of globalization and digitalization.

But what is most important in Kely for a discussion about social change and the Internet, I think, is his emphasis on modifiability as a key property of the Internet context and infrastructure. The open and reusable character of Internet content challenges notions of the ‘finality’ of published information and knowledge which are deeply ingrained in pre-digital culture and rooted in ideologies about by the primacy of print as the archetypical format of knowledge. This, I think, entails important consequences for the ‘modifiability’ of society at large. Through ubiquitous Internet access (and more generally access to the space of flows), one can argue, the modifiability that characterizes the Internet becomes embedded in the social in such way that the urban environment itself becomes more explicitly modifiable and open to bottom up transformation. Modifiability then is understood here not just in terms of technical plasticity or openness but as involving an ontological and political position that assigns a higher relative weight to the future in its understanding of the material composition of the present. Not just technical modifiability or reconfigurability, but social or societal reconfigurability.

What changes in social change?

Societies not only change at an organizational, political, economic, or technological level, but also at the level of their ontologies and epistemologies, that is, in the ways in which the relationships between knowledge and materiality are supported, posed and practiced. What this means concretely for our purposes is that we should not assume that what we are calling the ‘network society is materially equivalent to previous kinds of social formation. Newer,

recombinant ingredients have emerged and become part of the ontological cocktail of what we 'are' (human and nonhuman actors) when we are together in places now. The emergence of a powerful new level of organization (the 'network' in network-society) feeds back into the materiality of the rest of what there is within the coordinates of human experience and re-composes it. With the inception of digital infrastructure and the logic of networks into the guts of social space and social 'reality', it is as if there was a massive transformation of what constitutes social reality into a different material status, a change of materiality, a re-materialization.

Having risked asking the metaphysically sounding question about the materiality of social change, one proposition becomes plausible: In the context of the network society, the materiality of social change (what social change consists of in material terms) involves a change of materiality. Material reality, at least in the urban context, is becoming intrinsically meaning-mediated, and meaning is becoming more shareable and transferable by means of material supports such as text. Communication (and the rudiments that support it) becomes a more dominant component of the material process. The move towards an increase in text-assisted uses of the environment fosters progressive social change in so far as it empowers struggles for social change, which can benefit from moving the battle to the ground of argument and evidence, furthering transparency, openness, accessibility, and fairness. In this sense, with the rise of the network society, progressive social change is happening at the level of social ontology itself! And text and literacy become an infrastructural enabling condition for this change.

The most radical consequence is that this material transformation renders the processes that constitute society as a whole in principle more broadly and directly modifiable. This is extremely important and new for social change theories. Modifiability becomes a hallmark of a

new type of social materiality. In a way metaphors about change in terms of ‘rewriting’ become less metaphorical and simply descriptive of actual material processes.

In closing...

As suggested earlier in this dissertation, in the context of the rise of the network society, text and text use become a key medium of engagement with self, environments and others. Text increases the flexibility of the immediate environment by supporting multi-functionality and increasing the scale, amount and complexity of the meaning-making processes that it can support. But in so doing, text also has a *destabilizing* effect in the environment, opening it up to dynamic patterns of communication and influence across scales. It is this destabilizing potential that makes a discussion about the uses of text in social change and transformative politics relevant. In this chapter I have discussed various instances of text use in their relationship to social mobilization and social change and I have explored consequences for how we conceive of social change, of literacy and of the infrastructures that sustain and support our activities and the social worlds we inhabit. That includes the infrastructures that enable and support social change, of which text is a primary example.

Chapter 8: Conclusion

Nodes and Notes: Ambient Archives

Ontologies and Epistemologies of Text and the Network Society.

Retooling Infrastructure: Ambient Ontologies, Urban Epistemologies

In this concluding chapter I explore some of the implications that the approach to text explored in this dissertation may entail for our ontologies and epistemologies of the environment and the city in the network society context. What are cities and what can be known about them? Are there modes of knowing that are specific to them? Does anything *really* change in the network society? Starting from the notion of ‘text as ambient infrastructure’, I look at how in the network society context the notion of infrastructure becomes entangled with the notions of network and archive. I discuss ontological, epistemological and political aspects of the notion of infrastructure reflecting on two themes: accessibility and modifiability. In the latter part of the chapter I look at three recent approaches (distributed cognition, actor-network theory and the extended mind thesis) that can provide a roadmap for environmental psychology to revise its notion of the environment and of person-environment relations in the context of increasing hybridity, mobility, connectivity and modifiability that characterizes the contemporary urban environment. Before this, I briefly review some of the conclusions of the previous chapters.

Chapter 2, on the phenomenology of counting text, started with a discussion of my struggle to define the unit of analysis and the observational procedures that would be used and concluded by looking at this definitional process as directly illustrative of the multiple levels at

which we are required to deal with text in the environment. Chapter 3 considered the text one finds in the street as a component of the built environment, specifically as an ambient infrastructure. By moving away from conceptions that represent the built environment as fixed, hard and inert, the chapter explored a softer, more inclusive notion of the built environment based on actor-network theory's reassessment of the role of nonhuman actors as part of assemblages of interaction. This involved a *building down* of the notion of the built redefining it on the basis of a material hybridity that would include material symbols, and texts specifically, as part of the 'built'.

Chapter 4 looked at vernacular ambient text as a component of place and culture in the urban context. Language difference (not only language diversity) becomes a defining element of the urban experience in East Harlem, in NYC at large, and increasingly in cities everywhere. Ambient text contributes to produce a sense of locality and community, while at the same time opening place up by explicitly connecting it to larger contexts of culture, communication and action.

The next three chapters focused on three re-spatializing dynamics: mobility, connectivity, and modifiability. Chapter 5, on mobility, reviewed some of the ways in which text is implicated in the movements that make up the neighborhood and the city, and ended with a reflection about the relationship of text to scale, following text outside of the street, outside of the neighborhood, to the rest of the city and to other regions via the communication practices of transnational migrants.

Chapter 6, on connectivity, moved from the street level and the scale of the city to the level of digital networks and the network society, and outlines the ways in which text plays a key re-organizational and spatializing role in such context. Text helps structure the relationship

between the space of places and the space of flows by adding a distinct new social and material function to an old technology: supporting a new social spatiality by functioning as a hook up between the two 'spaces'. Chapter 7, on modifiability and social change, shifts the focus from text as facilitating good functioning and coherence to text as facilitating change and political transformation. The chapter looked at seven examples of relationships between text and struggles for social change, focusing on the use of texts as tools in transformative politics and on the ways in which the modifiability inherent in the Internet may provide material support to processes involving social or societal modifiability or reconfigurability. Thus, chapters 3 and 4 focus on material hybridity and cultural hybridity respectively and chapters 5, 6, and 7, focused on three re-spatializing dynamics in the new network society context and how text's role within them.

Overall, by focusing on the presence and the uses of text in the environment I have sought to contribute to the understanding of the relationship between information networks and urban space at the level of perception and experience in the environment. I now turn to the issue of our ontologies and epistemologies of the city and the urban. I start with some considerations on the notion of infrastructure in light of what has been explored in previous chapters. I end by exploring the project of an urban epistemology and how could environmental psychology contribute to such a project.

Retooling infrastructure

In the shift from an industrial to an informational mode of development (Castells, 1996), the meaning of the term infrastructure needs revision. Furthermore, with the rising concern for reusable resources and greener technologies and environments, the notion becomes a key battlefield. Infrastructure has to do with *support* but also with *sustainability*, with making

systems of life and communication viable and sustainable. Infrastructures support access to things that are considered indispensable (water, heat, electricity, etc.) and in this way infrastructures, themselves become indispensable as well. Infrastructures support access to key resources and processes that make activities and livelihoods possible. It is clear that the concept of infrastructure has a lot to do with space. It becomes clear, however, (given our increasing awareness of the mounting deterioration of roads, bridges, sewage systems and the like in this country), that it also has a lot to do with the dimension of *time*. Infrastructure involves long-term systems of material support, and long-term dependability. The notions of maintenance and *disrepair* become also relevant. If the support system falls into disrepair and becomes inoperative or unreliable, this threatens the stability of all supported systems and activities.

Societies become more dependent on literacy and text as they become more complex and more formal in their administration. This also involves the critical role of text in supporting the validity of an agreement in the form of a contract (text-mediated trust) and all sorts of text-based commitments. As coordination and planning span longer distances and times, pressures for transparency and accountability in negotiations and decision-making processes tend to become increasingly text-mediated, involving record keeping and access to documents. In this way text becomes a sort of scale-jumping infrastructure,⁵⁹ allowing for greater visibility and processability of larger-scale matters.

The infrastructure text is distributed across the readable surfaces, the skilled and able text users, the institutions that train them and the ones that continue to require, validate, and promote text use as a necessary skill. Looking at text as infrastructure then helps to clarify both notions,

⁵⁹ I borrow the notion of jumping scales from Neil Smith (1992).

that of text and that of infrastructure. Thinking of both in terms of actor-networks brings them closer together conceptually.

This brings us back to an important conclusion: without text there is no network society, which means concretely two things: 1. The shared character of literacy is a condition of possibility for the creative process that yielded the technological platform for digital networks (all the writing and reading involved in planning, developing, and debating about the networks from which the possibility of the network society emerged), 2. Regular people (non-programmers) would not have had a way of ‘using’ digital connectivity in a meaningful, sustained, collective way had there not been a stable symbolic base, thoroughly deployed in the environment, from which to draw. What ‘infrastructure’ means in the network society context is, then, specific to the social and material conditions of that context.

Networks and horizontality

As discussed in Chapter 6, according to Castells (2005) networks are not new, but in previous historical conditions they could only function effectively at a relatively small scale of operation, while hierarchical organizations were better suited to operate at a larger scales of activity. In the network society, then, network organizations find a powerful technological support to compete successfully with hierarchical organizations. Castells’ claim that the logic of the space of flows (and of networks) becomes the dominant logic in the network society is based on the notion that networks possess a certain competitive advantage vis-à-vis hierarchies and tend to absorb more and more fields of the social process into its logic.

In this view then, networks have a sort of de-stratifying impetus, or in any case a de-stratifying effect, promoting the disassembling of hierarchies. In terms of access to information

this would imply a tendency towards a spatial reorganization of information and knowledge at the root of the rise of the network society, a *horizontalization* of the sources of information, in the sense of wider and easier access to previously exclusive information (scientific, expert, bureaucratic), information whose use was either restricted to some or had limited practical accessibility even if not formally restricted. But such horizontalization, such loss of hierarchical contrast, which effectively brings all sources and pieces of information closer to each other and to potential users, also means that it becomes more difficult for users to make judgments concerning validity of information and credibility of sources.

In terms of text specifically, socially and historically speaking, text use becomes increasingly horizontal, increasingly less hierarchical, less stratified. Writing was for a long time an exclusive tool of those in power, accessible and controllable for those who controlled the means and the media. But given the rise of networks as the predominant organizational form, more casual, horizontal, less hierarchical uses of text, become more frequent. In this adjacent, relaxed or lateral text use, people use text to reach each other in situations where they would have otherwise engaged in speaking or where otherwise no communication may have materialized. More text is shared, generated, circulated in this horizontal mode, outside of the hierarchies that privileged and defined writing as a resource or a prerogative of power. But of course 'power' continues to use text massively, only that in so doing it uses the same media (writing but also digital networks and the rest) that the rest of us use.

Archives and perception

With the notion that text becomes infrastructure the issue of how text (and information in general) is stored, becomes important. With the widespread use of wireless computing, archives

become not only something associated with traditional libraries and public or private deposits of documents but a function that is distributed throughout social space. Social space increasingly shares the properties of archives: searchable, richly interconnected, simultaneous, expandable inwards (more contents within existing headings) and outwards (more headings, more segments of the world becoming parts of archives, behaving as parts of the archive).⁶⁰ Social space increasingly supports archive function and, in a way, increasingly becomes *archive space*. With wireless network computing this archive function becomes more accessible, in principle, anywhere and anytime, less centralized and more spread out.

With the massive access to digital cameras (and video-powered cell phones) and the emergence of user-generated content websites such as Youtube, Facebook, Twitter, and others, documentation becomes a widespread function. Increasingly, then, the spatiality of archiving becomes co-extensive with the spatiality of the social in general. the archive is increasingly scattered through out the environment, and the environment itself becomes impregnated with archive, constantly providing new fields for the archive function. Archives, then, just as environments, surround.

As a result an increasing overlapping of the categories *archive* and *social space* takes place, both at the level of theory⁶¹, and at the level of social space itself. This involves then a change in the relationship of the archive to perception. The archive becomes more relevant to perception by becoming ambient. This is extremely important from the point of view of

⁶⁰ I follow in this a theme explored by Derrida in his book *Archive Fever* (1995). Although the book goes in a direction very different from this dissertation, the idea of a society that creates and maintains its own need for archive, has influenced my interest in a broader, complex understanding of the archive as a social and material process.

⁶¹ Theories of space become increasingly concerned with “inscriptive practices” (the discursive turn in geography and anthropology) and theories of writing and signification become increasingly ‘spatial’ (a ‘reassertion of space’ in Edward Soja’s expression) in critical theory in general, including those with semiotic or discursive orientations.

environmental psychological theory. The archive becomes accessible, explicit, and ubiquitous. It becomes a key function of space. Space generates archive. But also archives generate space! Archive expands social space, literally, in the sense that by virtue of it there are more grounds for shared trajectories and shared meaning-making.⁶² What I propose here is quite literally that there is *more* social space because of the archive function, and partly because of the new material status of text as part of the socio-physical environment. Obviously the archive is no longer understood here in the traditional sense of a physically bound repository of documents housed in a building, but as the sum of surfaces distributed throughout social space that afford organized encoding, storage and retrieval of information.⁶³ In Edward Casey's words, places 'gather'. To which we may now add: and so do archives, in the sense that they support and promote social and material cohesion (or the material cohesion of the social).

The network as archive (materiality, backups, spam)

A memory function is inherent in all networks. Connectivity between nodes is already a form of materialized memory. In the network society the form 'back up' very frequently becomes a collateral function of actions within networks. There are fields of activity or practice that generate their own back up, and in this sense, their own archive.⁶⁴ In the network society, more fields of activity become, in principle, just one step away from being archived (captured, stored and ready to be shared), a process that has been enormously facilitated by digital

⁶² I am very interested in this idea but will limit myself to just mentioning it here as it requires too much of a detour for the context of this dissertation. I would like to call it the 'incrementation' hypothesis, and look forward to sharing it in another context.

⁶³ Encoding, storage and retrieval are the three basic functions of memory in the information-processing model of memory traditionally used in psychology.

⁶⁴ The concern with keeping a backup is at the center of the invention of the Internet in the late sixties, which was first conceived as a way of decentralizing information systems into multiple locations to make them less vulnerable to a single military attack in the event of a war with the USSR.

technologies. Examples are texting, twittering, group editing via Google docs, chatting, and all kinds of casual documentation made by uploading instant videos on user-generated content sites like Youtube).

But with this more expansive, perception-mediated, outward-looking, outward-moving mode of existence of the archive, new issues arise. One example is the issue of unsolicited messages or spam. Will all writing become inherently suspicious of being invasive if they were not deliberately looked for? Doesn't the urban condition inherently involve being exposed to *unsolicited messages*? At the level of digital distribution, spam might be thought of as an endemic symptom of the infrastructures of 'sharing', hardships of accessibility, an unintended consequence of the openness and connectedness that makes communication processes richer and more accessible but also messier and sometimes intractable. At the level of urban public spaces, the unrelenting expansion of commercial advertising onto ever more surfaces in public space threatens the very notion of the publicness of public space, while on the other hand being protected by freedom of expression, making attempts to regulate and constrain them a thorny legal issue.⁶⁵

In any case, issues like these show how text becomes a fundamentally hybrid thing, one that belongs as much to the space of places as it belongs in the space of flows. Derrida writes:

“[T]here is no political power without control of the archive, if not memory. Effective democratization can always be measured by this essential criterion: the participation in and access to the archive, its constitution, and its interpretation.” (1995: 4)

⁶⁵ *Sign Regulation and Free Speech: Spooking the Doppelganger*. Daniel Mandelker (2001), in *Trends in Land Use Law from A to Z*, Patricia E. Salkin (ed.)

I think this quote points to the exciting task of theorizing the relationship between materialism and democracy. Text ought to be conceived as part of the substance of democracy, part of the *material composition of democracy*, a component or material contributor to what democracy literally *is*. The notion of an extending archive that becomes malleable to the uses of those that engage with it may be helpful here: participatory archives, collectively generated and extended by users. Maybe archives ought to be conceived as a *commons*, as part of what we collectively own, share, and ought to protect, as fundamentally open, as defined by their accessibility and our participation.

Text becomes a primary tool for participation in social and material processes. But such participation may frequently involve not only the use of social-archival resources and norms as they are but actual re-writing, participatory re-writings (participatory editing) of rules and patterns of connection, sharing, and use. This is not new as the history and theory of the public sphere show, with print having played a constitutive role in the emergence of the public sphere (Habermas 1974, 1989; Warner 1990, 2002). But the degree of participation and access facilitated by wireless networks today is unprecedented.

Lefebvre speaks of the right to the city as the right to centrality, the right to not being left out. Castells seems to update this to mean the right to ubiquitous wireless connectivity, wireless access to the network as a social right (2007:256). Access to information is of course not all that democracy is about, but it is its *sine qua non*.

Disaggregating and Singularizing

Internet researchers have pointed to the need to disaggregate the Internet for analytical purposes (Miller & Slater, 2000). They refer primarily to the need for understanding the

specificity of the multiple applications and activities that the web affords (email, browsing, chatting, and so on). I suggest that such disaggregating should not only focus on applications and activities, but should also include other components that make the Internet viable for users, in particular, text. Obvious as it may sound, the ‘power’ of the Internet would not be such if it could not depend on this much older technology. Text and literacy, as much as microchips, electricity, optic fiber, legal structures and other layers of technical and social organization, make the Internet viable. The Internet *re-uses* and *re-materializes* this old technology, text, giving it new meaning and new weight as a component of the environments we live in and the trajectories and activities that make up our days.

However, as analytically important as disaggregating the Internet may be, it is also critical to consider the consequences of its singularity. Kelty highlights “the practical and political meaning of the singularity of the Internet” (2008: 306). This singularity is “an ontological and epistemological fact”, (2008:306). By comparison, could we extend such a claim to ‘writing’ in general? Can we talk about the singularity of all writing? Besides sounding terribly ethnocentric (by being graphocentric), it sounds counterintuitive, because of the obvious fact of the diversity of languages and writing systems. But insofar as writing is a key platform for content circulation in the Internet, the idea leads to an important point: the Internet is not only a singularity in itself, but being a powerful medium of absorption of cultural content (Castells 1996, 2001) it becomes an *agent* of integration, bringing together diverse material processes into one material process and diverse worlds into one world. To put it in systemic terms, if the Internet is one system (made out of an increasing number of subsystems), the ‘environment’ of such system becomes progressively unified as well by the existence and the expansive power of the system it contains.

As it becomes clear that the consequences of human activity make the world one, singularity becomes ‘an ontological and political fact’, with the Internet, a key platform of the network society, becoming a massive new contributor to this process. In terms of consequences for text, this means that the Internet (by being pervasively text-based and dependent on text to do what it does) emboldens the place of text as a material component of the environment and of experience as it boosts its relevance as a tool for communication and space production. In this context, is it too far fetched to consider the network society as a relevant event at the level of ontology and epistemology?

Text and traction: urban simultaneities, urban epistemologies

In a passage from *The Urban Revolution*, Lefebvre *et al.* (2003) mentions urban epistemology in passing:

“For years scholars have viewed urbanism as a social practice that is fundamentally scientific and technical in nature. In this case, theory can and should address this practice by raising it to a conceptual level and, more specifically, to the level of *epistemology*. However, the absence of any such urban epistemology is striking. Is it worth developing such an epistemology, then? No. In fact, its absence is highly significant. For the *institutional* and *ideological* nature of what is referred to as urbanism has – until a new order comes into being- taken precedence over its scientific nature. If we assume that this procedure can be generalized and that understanding always involves epistemology, then it is clear that it plays no role in contemporary urbanism.”

It is a cryptic passage. Is Lefebvre talking about the lack of scientific rigor of the prevailing ideological discourses on urbanism (and therefore a need for an epistemological

evaluation of them)? Towards the end of the quote his rejection seems to have to do more with a more general statement about the nature of knowledge, suggesting that understanding always includes an epistemological dimension, a reflexive dimension where questions about the validity and conditions of such knowledge are raised. But does he really end up giving up on the project or is urban epistemology precisely the name that best describes Lefebvre's work on the urban?

In either case, having the question raised by such a towering figure of urban theory, why not pursue it a bit further? What could such an urban epistemology be and in what conditions would it be a worthwhile endeavor? One alternative would be that an urban epistemology would concern itself with the modes of knowing found in urban environments, and the conditions in which knowing takes place in (or happens to) cities, shapes cities and is shaped by them. What are the protocols of validation, what explains the persistence of specific ideas, what are the grounds for commonalities and discrepancies in knowing relationships, shared patterns of thinking, perception, memory, imagination, emotion, action, interaction? Bringing the question to the present and to a broader scale one may ask, what are the epistemologies that are fostered by the network society, or more compatible with its formulation?⁶⁶

The issue of ambient text would have particular relevance for the study of urban epistemologies as it intersects with an aspect of our knowing of contemporary cities that tends to be overlooked: how the cities of globalization become almost by definition multicultural *and* multilingual. Languages spoken in these cities are of course not equally represented and evenly distributed in the urban environment. Text-mediated access to potentially relevant information

⁶⁶ Would it be justified to talk about the emergence of *global cognitive contexts*? Discussions about the emergence of global civil society or global public sphere could be strengthened if informed by a distributed cognition/ actor-network/ extended mind approach that recognizes that 'dialogue' has to do as much with assemblages of things and environments as it does with 'communication'. Dialogues cut across things (texts, among them). In addition, supporting a global culture of commenting and responding should start from the premise of multilinguality not as obstacle but as resource and that translation becomes a vital mode of democratic life in the new urban context.

available in the environment makes for differentiated cognitions and emotional responses towards the environment. It is not an indifferent fact if your city speaks/writes your language or it doesn't.

Of course literacy and texts mediate ontology and epistemology as a basic cognitive and material support of ontological and epistemological disquisitions (philosophy, or theory more broadly, is a heavily text-based practice). But here I am more interested on how the issue of the presence of text in the environment intersects with the virtual domain of an urban epistemology. A first question for urban epistemology would be, what and where is the urban and how do we establish the locus of the knowing of it (knowing in the city, about the city, from the city?). A starting point is to see that the relationship of 'urban' to 'the city' is not obvious and requires analysis. On the one hand one can argue that in the network society the urban becomes a global condition and therefore partly de-territorialized, in which case you do not have to be in a city to be within the realm of the urban. The experience of the simultaneity of the urban shapes knowing relationships, activities, imaginations and feelings even in remote villages, as long as some infrastructures of simultaneity are accessible.

But in arguing this, am I reducing the urban to information? Am I reducing the richness of the urban experience and environment to only those aspects that can be channeled through media and experienced at a distance? Cities are a distinct type of large-scale spatial arrangement, and this scale shapes our experience of immersion (short or prolonged) in it. This way the urban has to do with scale, and perhaps that is all it has to do with. Maybe the urban is better understood simply as the name of a scale, or of an intersection of scales, an entanglement of scaled components and connections that confronts the person in the form of *large-scale immersion* in massive simultaneous systems of activity, hardly reducible to information and

communication (text included) on the one hand, or to stone and steel on the other. Texts are absorbed by social worlds that constantly put them to use, supporting stability and order as well as change, text-mediated reality and text-mediated knowing relationships within such worlds.

Texts and bits

My emphasis on the importance of text in the digital context may sound a bit pre-digital. After all there are no distinctions between text and other forms of information at the level of bits. As multimedia content becomes more readily shareable, not only text but photos, video, audio become equally accessible. My point, however, is that there could not have been any large-scale sustained use of digital connectivity without ambient literacy. Massive text processing is at the heart of these unprecedented possibilities of information sharing. None of these could have been done without vast amounts of text circulating and vast amounts of ‘competent enough’ writers and readers pumping text in and out of digital interfaces. *Ambient literacy* is understood here as the condition where massive deployment of text is surrounded by massive presence of potential readers, and vice versa. Text continues to be a major force among other kinds of information sharing ‘platforms’, in large part for its stabilizing role given its widespread deployment in public space, a precondition for the rise of the network society. By making text public it is made open to shared scrutiny and becomes at once more fluid *and* more stable, and thus more shareable.

Still, how to talk about what texts *do*, or do to us? Do they *impact* my trajectory? Do they *inform* it? Do they *assist* me? Do they *accompany* me or other things? By trying to *name* the effect by modulating and calibrating the verb, I feel the need to moderate how much I want to attribute to text. On the other hand it is clear that at a large-scale, literacy, to borrow Derrida’s

expression, ‘is not just one fact among others’.⁶⁷ As mentioned in chapter 4, in talking about culture and cultural practices, Hutchins (2008) uses the term ‘orchestration’ to refer to what the cultural system does to the cognitive capacities of people: it orchestrates those capacities. Along these lines then text plays a role in the cultural and cognitive ‘orchestration’ of text-assisted contexts, which are a subset of cultural contexts in general. Again, the focus here is not primarily on the orchestration of individual capacities (Hutchins uses the term to talk about cognitive processes that cut across the skin and skull) but on the orchestration of capacities, skills, and activities that are distributed in the environment and over time.

All text, ambient text. All text, network text.

In this context of material, cognitive and linguistic mix-up, text acquires a hybrid character and becomes a hybrid presence. Text is a type of *thing* found in both the space of flows and the space of places, and this sort of *amphibian* character of text makes it an important mediator in sustaining/supporting and giving continuity to actions and interactions that zigzag between those two spaces. This leads us to a set of propositions concerning the materiality of text and the distribution of text in the worlds we inhabit. I summarize them here in the form of propositions about the composition of the set ‘text’: 1. A growing portion of *ambient* text consists of *digital* text (text that is readable from a digital screen). 2. A growing portion of *digital* text consists of *network* text (more of the set digital text becomes text that is linked to digital networks), and therefore can be accessible from multiple points. 3. Network text becomes the predominant type of text within the set ‘text’, and in such way text, as a set or as a field, reflects such dominance in its material status and ontologically speaking becomes *that* more. In this

⁶⁷ Quoted in Olson (1997). Derrida’s quote is: “[T]his factum about phonetic writing is massive: it commands our entire culture and our entire science, and it is certainly not just one fact among others”.

process, the characteristics of that subset dominate those of the set ‘text’ as a whole. In this process also, text becomes a more relevant component of material reality itself, (at least *urban* material reality) as it not only penetrates more and more spheres of meaning-making, but world-making as well.

This predominance of ‘network text’ in the set ‘text’ is not only ‘technical’ but also has sociopolitical consequences. The set ‘text’ becomes *dominated* by network text, but text is always in the space of places! We always encounter it on the ground. Text is always *ambient*, or at least ready to become ambient if displayed. (Again, bits do not belong to the scale of the environment, texts do.) But equally, text is always at least potentially *network* text, ready to be linked and absorbed into the space of flows and its logic, and rather easily absorbed (materially and formally). This way, there is ease of transfer in both ways. This dual condition is important here; given the ubiquity of screens and other text surfaces in the urban environment, the thing text itself becomes hybrid: all texts become in principle both ambient text and network text.

Re-materializing the environment

Text use is conceived here as having consequences for the nature of the social world at the level of ontology. By ‘choosing’ to massively get involved in text-use at a societal level, *we have collectively made text into social space*. In an ontology-follows-function sort of move, we make the availability of text ontologically significant. There is an increase in the amount of text in the volume of the social, in the material mix of the social, so to speak. And there is a literal re-spatialization of (all) text in social space and the social process in general in which the relative weight of text as a component of the social becomes more significant. Among other consequences, this means that issues of literacy become more ethically, ontologically and

epistemologically relevant. This way also literacy becomes more explicitly a geographical skill, having to do with our ability to find our way around, now in an expanded sense that takes *archival wayfinding* as also relevant to our being in the environment.

This is compatible with the approach advocated by Andy Clark (2006) according to which material symbols (spoken and written language are his main examples) also play an “irreducible role”, which is “to complement the basic modes of operation and representation endemic to the biological brain”. (2006:2-3) Clark talks about hybrid thoughts, that not only represent or translate a reality into a ‘language-of-thought’ inside the head (*a la* Jerry Fodor), but rather include material symbols (in his examples words, sentences) that are considered literally as part of the thoughts they make possible, that is as making a specific cognitive contribution to thinking by contributing directly to the material making of thinking.

Part of my purpose here is to challenge the general tendency, shared by some important theorists (Mitchell, 2000; Negri & Hardt, 2000), to frame the digital as “immaterial”. It takes us nowhere to talk about processes of digitalization or of the primacy of informational or symbolic processes as involving a sort of dematerialization. That way we just bypass the issue of the materiality of our social worlds. It is much more useful to assume that digitalization does not suspend the materiality of anything and instead taking up the task of engaging in the thinking and conversation about how different types or fields of materiality hang together and affect each other.

Ambient text and ‘the mind’ (ambient mind?)

At a broader theoretical level the issue of the materiality of text overlaps with recent discussions in the cognitive sciences and philosophy of the mind regarding the extended mind

thesis proposed by Andy Clark and David Chalmers (1998; see also Clark 1998, 2006, 2008; Chalmers 2010). Briefly stated, “When parts of the environment become coupled to the brain in the right way, they become parts of the mind” (Chalmers, 2008). The two typical examples in extended mind discussions have both involved text and artifacts that support text use: first, a notebook (in the case of Otto and Inga finding their way to the Museum of Modern Art at 53rd street), and more recently David Chalmers’ iPhone. Clark specifically has devoted considerable attention to public language (both spoken and written), particularly in *Magic words*, (1998) and more recently in *Material symbols* (2006), where he uses language as a prime example of extended cognition: “In all such cases, the real environment of printed words and symbols allows us to search, store, sequence, and reorganize data in ways alien to the on-board repertoire of the biological brain.” (1998:10)

The picture that is emerging from this alternative view in cognitive science and the philosophy of mind points to the animal’s coupling with the environment as a relevant unit of analysis, one that the reductionistic view of the brain and mind had seen as not too relevant. In these externalist, distributed, ecological approaches to mind, in which the environment does a lot of the work that was traditionally attributed to the brain, the idea is not to substitute brain with environment, but to focus on the mutualities.

In the context of this re-locating of the mind and re-imagining of its relationship to the environment, it may also be helpful to think of this mind as an *ambient* mind. This may help us conceive of and capture a certain *surrounding* quality of the mind, as a complement to its overemphasized *surrounded* quality (self-contained, circumscribed to one spot, inside the skull, as when the mind is reduced to the brain). The relationship between mind and environment is an unavoidable conceptual issue for psychology. This shift in focus could make it easier to talk

about our sharing of minds and environments as based on the fact that minds and environments also share parts amongst themselves. Texts, I would like to claim, are an example of that. Thus, minds extended to include environments *and* environments ‘extended’ to include minds. This way we end up with a mind that is less homogeneous and less circumscribed: heterogeneous in terms of its parts, capacities and activities, hybrid in terms of its material composition, and multi-sited in terms of its geography. Also as a consequence, transindividual (not based on a *one person, one mind* model) and transhuman (not involving only humans all the time).

But as exciting as the extending of mind project is there still is I think, the risk of *naturalizing* the environment too much by casting it in a light that overlooks the deeply socio-cultural character of much of what counts for it. In this sense, Hutchins’ insistence (1995, 2008, 2010) on the cultural practices that shape cognition is critical because otherwise cognition, even if extended or distributed, ends up being reduced to computation once more.

Therefore a second necessary step to the ecologizing of the mind (to paraphrase Bateson’s apt expression), and an equally important one, is to plug this extended and distributed mind into a world that is not abstract but that is a thoroughly social and historically situated world. And not just a social world in principle, but the human social worlds as they are inhabited and experienced by people, *and* as they are pushed, pulled, squeezed and stretched by social forces at various scales, including contemporary processes like globalization and digitalization. For this we need among other things a theory of the relationships between digital and non-digital, for which I adopt Castells’ distinction between the space of places and the space of flows, and we need a theory of the relationships between scales, and one that is more textured than a rough distinction between local and global.

I think environmental psychology can gain conceptual clarity from participating in the project of the extension of mind. I see the work in this dissertation as in line with efforts towards making ‘steps to an ecology of mind’, by *extending* and *distributing* the mind in an effort to overcome still prevailing solipsistic assumptions within Psychology. Gibson’s work has played an important role in providing a rigorous exploration into what could such ecologizing of the mind look like in regards to the study of perception. But it still operates, I think, within a primarily pre-social, individualistic frame of reference (affordances are defined by what they afford to the individual animal).⁶⁸

Still, the usefulness of the Gibsonian perspective is there even if Gibson himself did not explicitly offer models for addressing socio-cultural dimensions of perception. This has not stopped people from disciplines like anthropology (Ingold, Hutchins), sociology (Latour), and philosophy (Noë, Delanda), from using Gibson to recast the relationship between people and their environment in a new light and challenge disciplinary reductionisms of different kinds. The issue of how to talk about ‘conventional’ components of the environment in terms of affordances and direct perception is a big challenge, and I see this dissertation as broadly working within the same range of interest, even though I am not drawing explicit connections to the Gibsonian literature. In this regard, the agenda has been to move towards overcoming Gibsonian pre-

⁶⁸ In terms of the ‘site’ of perception, wouldn’t it make sense to think about environmental perception as also ambient and distributed, that is, not primarily as something that happens to an individual brain and sense organs in their relationship with an external environment, but as something more general that takes place at the level of the environment and that the environment supports, requires *and* carries out? In this sense, environmental perception would not just be perception, but precisely *environmental* perception (second order environmental perception? ambient perception?), a process that pertains to the environment, involving many persons or one, but always involving the environment in an *active* role. Instead of thinking about perception as fundamentally Cartesian and solipsistic, involving only the relationship of one individual with whatever array of stimuli, either in the experimental model or in the enriched Gibsonian model of a mobile animal in a mutually constituted environment of affordances and perceptual invariants, we may consider an alternative: *environmental* perception as something which we can share *in*, as a primary medium for shared experience. Environmental perception could be then thought of as an emergent process, and not simply as a type of individual perception.

lingualism while retaining a rich model of perception and of the environment. This involves having linguistic materials (specifically texts) fully included as part of the environment, which seems justified as text gain “functional significance” in the contemporary context.

The environment is a mid-range plane whose boundaries are defined by perception and action and therefore are not fixed. But it might be useful to think of the environment as *also* defined by its support of symbolic processing. The environment is the scale at which symbolic processing happens, where symbolic materials and symbol users meet. Reading and writing (text-using) structure a wide range of symbolic processing for literate urban animals. How big a range? We can't say how big, but we can say it's growing.

In summarizing

I have tried to do primarily four things in dissertation:

1. Explicitly connecting text to the environment, and both to the network society and the connective potential of the new social and technological context. Text becomes one of the materials whereby the network society becomes visible, operable, *tractable*, *usable*, in daily life and in the city.
2. Explicitly connecting text and literacy to our understanding of the built environment in a way that calls for a revision of assumptions about the hardness, tightness, and fixity of the built and of physical settings. In an alternative, distributed view, objects, material culture in general, as well as text specifically, should also be considered as part of the physical environment understood in terms of material and cultural hybridity, as well as mobility, connectivity, and modifiability. As suggested in chapter 3, this calls for an atmospherization of durability, whereby all urban things

are conceived as part of a material continuum that includes considerably more than the traditional view of the built environment assumes.

3. Explicitly connecting text and literacy to discussions about social change and access, and to an understanding of social change as grounded on *things*, This is in line with Latour's call to 'making things public', which challenges formalistic and Cartesian views of democracy as only involving abstract people detached from things and worlds.

4. Explicitly connecting text with discussions about the distributed character of cognition, perception, attention and ultimately of mind.

Throughout this dissertation, looking at text has required us to think in terms of a general hybridization of spatiality and of socio-spatial processes. But I have restricted my spatial language as much as possible to the notion of the environment, which has the advantage of anchoring the exploration on processes that surround us and can be perceived. Only later in the dissertation I ventured into 'space' in a broader sense, primarily by using Castells' network society theorization, in particular the distinction between the space of places and the space of flows. In this second part of the dissertation I looked at three opening dynamics that can be seen as opening up the environment to larger spatial processes today: mobility, connectivity, and modifiability. These can be also be seen as three re-spatializations that the network society context seem to imply and promote. In the material recombinations that these three re-spatializations involve, text seems to become more vital and not less. There are more contexts in which text becomes something we cannot do without. This seems to be the case even as

increasingly powerful multimedia, and claims against “the monopoly of writing” would seem to take away from the presumably exaggerated attention and attributions directed at text in the past. On the other hand, text *does* become a thing among other things, although not just anything. I have not been arguing for its being special, simply for its being *spatial*.

Finally, I think it would be useful for the field to revise what some frequently used concepts mean in environmental theory. This dissertation can be read as an invitation to the field to: 1. Revise the notion of ‘environment’ to include among its characteristics that of being the scale at which symbolic processes (like reading and writing) can happen. 2. Revise the notion of *built* environment to include ambient text and other traces of communication, and more generally to be grounded in notions of cultural and material hybridity. 3. Revise the notion of *urban* environment to include not only a multiplicity of functions, processes, projects, places, cultures, materials, means of communication, but also importantly a multiplicity of languages and linguistic materials. 4. In psychology more broadly, revise *reading* to mean not merely a mechanical skill that we learn once and for all, but as possibly a distinct mode of environmental perception and attention, as well as a culturally patterned mode of movement 4. Redefine *writing* as, among other things, a form that extends social space, and a *sine qua non* of the urban condition.

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