# Location Information in Everyday Life:

## Using Media Ecology to Understand the Fate of the Telephone Directory

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Marshall McLuhan (1964) described technologies as "extensions of man." Our "technological organs" help us capture the world surrounding us, while capturing us back as subjects in media environments. While Yellow Pages companies strive to integrate and monetize *NAP* information (Name, Address, Phone number) on multiple platforms, I wonder about the meaning of our artificial organs' rejections. I think that the way information has been distributed to individuals by Yellow Pages companies since the first years of the 20th century has transformed the way we relate to the world, to each other and to media. Furthermore, I try to find a way to investigate the relationship between media users and location information finding. How can we determine empirically what phonebooks users and non-users are using today in context to find their way? In this article I argue that an underused Foucauldian concept may be the best media ecology application to get an answer.

To get lost is to learn the way. (Swahili proverb)

We only need to forget our cellphone at home, to get our wallet stolen, or to lose our keys to feel our life slip through our fingers just for an instant. Between the world and us is a panoply of media that shape our experiences of the world (just as our experience of the world shapes those media); and without them we would be unable to perform the majority of actions necessary to our daily life. The reality in which we live is more than habits and uses: we live in a built environment filled with different technologies, media and apparatuses with which we constantly interact. As we know, Marshall McLuhan went as far as saying that the real message wasn't the one sent through a channel using a medium, but the medium itself, in the contexts it modifies or creates. In the first Chapter of *Understanding Media* (1964), McLuhan writes: "In a culture like ours, long accustomed to splitting and dividing all things as a means of control, it is sometimes a bit of a shock to be reminded that, in operational and practical fact, the medium is the message" (p. 7). His "the medium is the message" aphorism found its way into American pop culture but is often only interpreted as a funny sounding phrase, or as a faded academic aphorism. Nonetheless, we should not forget how McLuhan (1964) explained this idea: "The personal and social consequences of any medium—that is, of any extensions of ourselves—result from the new scale that is introduced into our affairs by each extension of ourselves, or by any new technology" (p. 7). It is important to note that McLuhan uses the terms media, technologies, and extensions (of man) as synonyms. As we look into the etymology of the word *media*, we find that it is broader than the idea of technology: the Latin word *medium* (plural *media*) means intermediate, something in a middle position (*Merriam-Webster Online Dictionary*, 2010). Hence, a technology is always a medium, but a medium is not always a technology. In this article, I choose to emphasize technologies, but I would argue that humans could be consid-

ered as media themselves. As an example, in relation with another subject, a person may compete with a technology (like the written word) to give information.

It also seems that the invisibility of media is now as problematic as their ubiquity. As the Russian author Victor Shklovsky (1965) said, "After we see an object several times, we begin to recognize it. The object is in front of us and we know about it, but we do not see it" (p. 21). It is indeed easy to recognize the validity of this statement when we undergo a power outage: In such a situation it is obvious that we are not only a little unprepared, but also momentarily conscious of our dependence on electricity. At every moment in the course of our life we are interacting with a built environment which we don't necessarily perceive: it may be the glasses in front of my eyes, which exert pressure on my nose I don't feel anymore; or simply the office where I am sitting right now, writing these lines some 30 feet above the ground.

"All media are active metaphors," said McLuhan (1964), they are so "in their power to translate experience into new forms" (p. 57). I am interested in this active work we could call codetermination: a socio-technical relation where man and technology interinfluence each other's development. Exploring the idea of built environments in which human and media interact seems more appropriate than ever. My intention here is to approach such media using a relational ontology, that is, trying to understand subjects' interactions with their intermediaries in context. One specific encounter intrigues me more than any other: the complicated relationship between North American printed telephone directories and individuals searching for specific information. We can acknowledge that printed Yellow Pages and White Pages are facing a lot of competition since the rise of the Internet. Still, it is impossible to get official numbers concerning the rejection rate of this medium now often recognized as *spam*. Furthermore some changes are happening in the public discourse, as well as in the regulations and the distribution of the phonebooks: activists are trying to get an obligatory opt-in[1] on the phonebooks, while printed White Pages are disappearing.[2] In this article, I will attempt to unravel the "message" (in McLuhan's understanding) of the phonebook medium to further understand the relations of today's man regarding its extensions, seeing what has changed and what hasn't.

Like Neil Postman, writing about the medium of television in *Amusing Ourselves to Death* (1985), I don't want my work on the phonebook's role in its ecology to be perceived as "a kind of elitist complaint against junk" (p. 16). Therefore, what I am trying to push forward is a way to understand the realities of today's subjects regarding their built environment and the media they use (or don't use) to get information. Following this idea that a built environment is filled with media, I will look into the complexity of the phonebook's relations, taking it as a medium evolving in a specific ecology (as there are many other media—and humans—evolving in this same ecology). In McLuhan's sense, what is the "message" of this medium? To get an answer to this question, we surely have to look at the ecology in which it evolves, but I argue that we mostly have to see what actual subjects are doing today with or without them.

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[1] The group with the most exposure is Banthephonebook.org. They describe themselves as a Website "formed to educate consumers on the environmental impact of printing and distributing the White Pages phonebook. [They] support both telephone companies and consumers in their efforts to curb the unsolicited, and unnecessary, printing and delivery of white pages phone books" (BanThePhoneBook.org, 2009). They are sponsored and owned by WhitePages.com, and present themselves as "the largest independent provider of contact information on the Internet" (WhitePages.com, 2010). Such an initiative doesn't exist from Yellow Pages Companies. Other activists are mostly ecological groups and individuals launching petitions, and online groups providing information, news, and images.

[2] As an example, the Canadian Yellow Pages leader, Yellow Pages Group, announced at the beginning of June 2010 that it would stop distributing printed White Pages in all major Canadian cities (King, 2010).

# I

Telephone Directories were initially created to provide necessary information to telephone users so that they would be able to reach people over telephone lines. Telephone directories evolved jointly with the telephone. The opening of the first commercial telephone exchange in the world happened on January 28, 1878 in New Haven, Connecticut. Less than a month after, on February 21, 1878, the first telephone directory was printed by the New Haven District Telephone Company (AT&T Archives, 1992, p. 9). "In three weeks the list had increased to 125 subscribers, and in another month to 227" (Oslin, 1992, p. 223) The Yellow Pages (telephone directories featuring classified business advertising on yellow paper) were first issued by the Michigan State Telephone Company in Detroit on April 1, 1906 (AT&T Archives, 1992, p. 28).

The role of sociotechnical innovations in the phonebook's history is quite important: lots of improvements were needed to fight the impractical aspects of printed directories' fabrication, distribution, and usage. As an example, with the increasing amount of telephone subscribers in the first decades of the 20th century, AT&T had to create a special group of engineers, whose function was to advise on all aspects of directory publishing, including production and sale of advertising. They had to deal with paper, type, printing, proofreading methods, classifying, regulations, and delivery space (Dilts, 1941, p. 136). One of their greatest accomplishments has been to make "the type of letters and numbers as small and close together, and yet as legible, as possible" (Dilts, p. 137). They designed a special open type face font known as "Bell Gothic" by getting rid of serifs—extensions at the end of letters—and shaving some of the thickness from the inside of enclosing letters (Dilts, p. 138). As the phone connections complexified, as more exchanges were implanted, as the distance barrier shrunk, the printed telephone directories quickly became the heavy printed phonebooks we know now. Such a mass media did not exist before then: it was (and still is) distributed massively, needs to be re-written and reformatted often, is replaced at least once a year (often more), and needs a lot of standardization. Historian Marion May Dilts writes in 1941:

> It is interesting to compare some of the older classified directories with current ones, not only for the picture it gives of ever-changing business life and social usages, but also for the changes which have taken place in the organization and make-up of the directories themselves. . . . The horse collar makers, carriages and wagons, oyster saloons and automobile goggles have vanished; and many new headings appear each year, recent among which are air line companies, blood donor agencies, television apparatus, and trailer-houses. (p. 143)

In fact, as urbanist Jane Jacobs (1992) said, "classified telephone directories tell us the greatest single facts about cities" (p. 143). Thus, changes in the phonebook reflect changes in society, and to understand today's changes in telephone directories and in society, I argue that we need to do more than compare printed classified directories among themselves: we need to compare them with *other* media.

As McLuhan said, more than 30 years ago: "The telephone began as a novelty, became a necessity and is now regarded as an absolute right" (quoted in Boettinger, 1977, p. 14). In this lucid way of explaining the adoption of the telephone technology in America, we could purposely replace the word "telephone" by "telephone directories" and it would still make a lot of

sense for almost any North American household before the end of the 20th century. Even though some people are still using printed telephone directories, the apparition of digital technologies, especially Internet, have cruelly made apparent the phonebook's impractical characteristics. Therefore, it would be right to say that the phonebook was new, then practical, then "an absolute right"; though nowadays printed telephone directories compete against other media in a negative loop where they're becoming less and less practical, while not being considered an "absolute right" anymore.[3]

The fact that AT&T fought in court from January 1981 to August 1983 regarding antitrust law violation charges had great consequences regarding the fate of phonebooks. From the *United States of America vs. AT&T* trial, Judge Harold H. Greene's decree ordained, among other things, that "The Bell System [cease] to exist at midnight, December 31, 1983" (AT&T Archives, 1992, p. 138), that AT&T would need to divest all its local subsidiaries (Coll, 1986, p. 331), and more importantly, that it precluded AT&T "from engaging in electronic publishing over its own facilities" (AT&T, 1992, p. 137). It wasn't before the expiry of a seven-year ban in August 1989 that AT&T was allowed to enter the electronic publishing business (AT&T, 1992, p. 167). Then, the electronic "*El Dorado"* could really start.

Even though people increasingly get their information online,[4] Yellow Pages companies are still making most of their money by publishing printed telephone directories. Surprisingly, printed telephone directories represent about 84 percent of Yellow Pages companies' revenues, while electronic yellow pages only represent 16 percent (Kelsey Group, 2009). However, the printed directory revenue is declining in many countries, including the USA[5] (Kelsey Group, 2009). Globally, there are 12,000 Yellow Pages titles, which generate 31 billion US dollars in revenues each year; the global average revenue for each phonebook distributed being 23 US dollars (Kelsey Group, 2009.).

Yellow Pages companies supply information through their printed phonebooks and electronic directories: In the jargon, they call this kind of information "NAP" (for Name, Address, Phone Number). We use these three bits of information in our everyday life, whether we get it from the phonebooks or elsewhere. The basic role of phonebooks is to provide NAP information. Over time, Yellow Pages companies developed additional purposes to printed telephone directories: today's printed telephone directories often have maps and street index, governmental resources lists, advertisements, environmental notices, thematic guides, etc. No matter the type of data, telephone directories have always been about information that is used to communicate and locate[6]. Yellow Pages companies are expanding the information availability to electronic devices because, more often than not, they can provide more information in the online version than in the printed version (notably because of the easier space management Internet permits). This is why

[3] Hence, it is now possible to think about printed telephone directories in terms of waste, since printed Yellow Pages are no longer the choke point for information linked to telephones. According to the US Environmental Protection Agency, only 21 percent of telephone directories were recovered for recycling in 2008 in the USA (EPA, 2008a, p. 8). Concretely, this means that at least 840 000 tons of paper were wasted that year for phonebooks alone (EPA, 2008b, Table 15). But again, we must be careful with these numbers since they have nothing to do with a user rejection rate. A user rejection rate would be a percentage of users rejecting phonebooks (refusing to use it when distributed to their location); these (non)users are automatically throwing them away.

[4] As of May 2009, there was an increase of 20 percent in the quantity of search queries on the Internet in comparison with 2008 (Nielsen Wire, 2009).

[5] As an example, "from 2007 to 2008, print directory revenues in Norway declined an estimated 18%, and in Japan the decrease was 14%" (Kelsey Group, 2009, p. 2).

[6] As the phonebook is information itself, it carries a message in the sense that McLuhan explained: it changed the way we interact in the world, it made it possible for things to happen, whether it be related to *media* or man.

Yellow Pages companies now develop websites and online platforms that consist of search engines, local information pages, and some participative platforms to share specific local knowledge (restaurant reviews, as an example). Nowadays, Yellow Pages companies try to optimize mobile Internet. They make specific Web pages optimized in format for small resolution screens (such as cellphone screens) and they build custom applications for "intelligent" cellphones.[7] It has the quality of being extremely mobile, interactive, and flexible when compared with the old phonebook. Although most of these media are owned by Yellow Pages businesses, some developers build license-free applications that allow most of what's available in Yellow Pages, and sometimes a lot more.

What is important from an ecological point of view, other than Yellow Pages companies' carbon footprint and their difficulties at commodifying their Web services, is that the information contained in these phonebooks is recycled, reused, shared on different platforms and services that exist in parallel in other media: call assistance, search engines, mobile applications, private websites, flyers, TV ads, and so on. Therefore Yellow Pages companies are not the only player, nor the only media who are stocking, categorizing, and distributing information. But in the end, *what do we need this information for*?

## II

Information is not solely something that we can get, possess, or retain: it is first and foremost relations. We use information every single day to get to some places, to reach some people, or to be able to communicate. And when we aren't familiar, when it is different, unknown, new, we turn to informational resources to find our way, to locate. As an example we needed an address to drive to the 2010 MEA conference, so we searched online "University of Orono, Maine." When we found the address, we used the information to locate the campus on an online map. Then we put things in relation a bit further. We got directions by managing distances between our location of departure and Orono using the interface of a Web mapping service technology.[8] Again, this resulted in different possibilities: different routes between cities, different landscapes, different lengths . . . and different U.S customs.

Information is something that needs to be referred to: information only emerges out of differences and because of them. Gregory Bateson (1973) explained this clearly using Korzybski's map and territory metaphor in his presentation "Form, Substance, and Difference," delivered January 9, 1970:[9]

> What is it in the territory that gets onto the map? We know the territory does not get onto the map. . . . Now, if the territory were uniform, nothing would get onto the map except its boundaries, which are the points at which it ceases to be uniform against some large matrix. What gets onto the map, in fact, is *difference*, be it a difference in altitude, a difference in vegetation, a difference in population structure, difference in surface, or whatever. Differences are the things that get onto a map. (p. 457)

[7] Such as iPhone, Blackberrys, and Android phones.
[8] Google Maps
[9] The Nineteenth Annual Korzybski Memorial Lecture, "Form, Substance, and Difference," was later published in Bateson's (1973) book *Steps to an Ecology of Mind*.

Hence, a difference is something that signifies something, it gives us information: it relates. Bateson (1973) explained that

> there is for every molecule an infinite number of differences between its location and the locations in which it *might* have been. Of this infinitude, we select a very limited number, which become information. In fact, what we mean by information—the elementary unit of information—is a *difference which makes a difference.* (p. 459)

To demonstrate that there are an infinite number of differences around an object, Bateson suggested we think of our hand hitting a merciless tabletop; we may, in comparison think of it falling into something soft like a cake. When your hand hits the surface, the hardness or softness of the interacting object becomes information caused by the difference (in this case, in texture) between the surface of your skin and the object. In fact, depending on the significant differences, one environment will contain differences that will never matter to us; thus never becomes "informational." There are also "differences between differences"; as Bateson (1973) argued, "every effective difference denotes a demarcation, a line of classification, and all classification is hierarchic. In other words, differences are themselves to be differentiated and classified" (p. 463). This is why a door number is different than a street name; and to me, my sister's phone number is not classified in any way related with my wife's social security number. Simply, a translation needs to be made to make sense of the transition between the difference and the information. Differences exist and are perceived, but the information that we get out of these differences needs to be classified, translated, and interpreted; no matter if it is a fast tennis ball smashed in your direction or a phone number in a directory, these differences become significant when put in relation.

Regarding the information circulating in the phonebooks' ecology, it is mostly written text (letters and numbers) that spells out names, addresses, and phone numbers, all of which are formatted into a single document. These "labels" are information signs supporting communication media in the act of reaching people for having interpersonal contact either in person (face to face) or by using technologies. Even if this location information is used specifically to help find something or someone's position or place, it holds the same characteristics as any other piece of information: it is still made up of differences that may alter space-time relations. Location information is relational: once we locate something, it is *in comparison* with something else or to our own position. We don't locate and we don't use information to locate without referring.

If there is a medium used to get information, how is it used? How does this relation between the media in a built environment (and building it) and the user seeking information (and producing it) take shape? What is the role of context in information finding? I suggest that the subject's environment is as important as the subject itself because the information research is happening at their encounter, in their disposition.

## III

It is now somewhat of a cliché to designate Google as the obvious tool employed for information (re)search on the Internet. Indeed, Google *is* the leading search engine in America,[10] but

[10] "Google remained the top search site in June 2010, accounting for almost two-thirds (65.0%) share of all U.S. searches during the month" (Nielsen Wire, 2010).

I want to stay away from the idea that it is essential or, that it should *always* be used to get information. To retrieve information, we use different media that offer different possibilities in multiple contexts. Each of these media have characteristics, configurations, and attributes which put together build environments in a certain way. The motivation of a subject who needs to localize is to get information, and this action is greatly influenced by the multiple possibilities around him or her.

Foucault's concept of *dispositif* may be useful here to capture the complex relations between man and media taking place inside built environments and information researching. Though he never offered a complete definition of this concept, he clarified some of his ideas in a 1977 interview.[11] Italian philosopher Giorgio Agamben has done the most notorious work on the subject with his book "What Is an Apparatus?" (2009). Starting from Foucault's assumptions on the apparatus, Agamben travels back to the concept's theological etymology to unravel its potential in today's context. Agamben isolates the main three characteristics of Foucault's apparatus. First, the apparatus

> is a heterogeneous set that includes virtually anything, linguistic and non linguistic, under the same heading: discourses, institutions, buildings, laws, police measures, philosophical propositions, and so on. The apparatus itself is the network that is established between these elements. (Agamben, 2009, pp. 2-3)

The object or its place is not reduced here to its visual attributes and apparent characteristics; it is a whole network of elements that constitute the apparatus. Foucault, while writing about the history of prisons and incarceration, introduced the concept of *dispositif* to understand what made it possible for these prisons to exist.[12] More than buildings with cells and prison guards, Foucault's conception of the prison as an apparatus made it possible to see the incidence of any possible adjustment related to it, be it linguistic or not. Secondly, "the apparatus always has a concrete strategic function and is always located in a power relation" (Agamben, 2009, p. 3). Again, Foucault was interested in several institutions born in civil society: prisons, factories, schools, hospitals, etc. He surely saw these institutions as concrete applications of a network of elements, but these applications were always operated for a purpose, a strategic application. Hence, a prison has to keep the criminals off the streets while protecting the prison guards and making the prison profitable, etc. Discipline is at the center of all these institutions, whether it be the inmate whose life is scheduled and compartmented in assigned spaces, the factory worker who has to respect a work schedule for a salary, the student who is assigned grades and schooled with a specific program of learning, etc. A third aspect of the apparatus is its position: it is "at the intersection of power relations and relations of knowledge" (Agamben, 2009, p. 3). Being a network of heterogeneous elements disposed strategically, the apparatus adapts in order to be efficient (by reacting with the application of knowledge, while readjusting failing strategies).

The French word *dispositif* is commonly used to designate any sort of device. Though taken as a concept, it takes its origin from the Latin word *dispositio*, which is a translation of the Greek word *oikonomia* (Agamben, 2009, p. 11). Agamben (2009) explains, "In Greek, oikono-

[11] The concept of *dispositif* is an unfinished work left by Michel Foucault. See "The Confession of the Flesh" in Foucault, 1984.
[12] See Foucault (1977).

mia signifies the administration of the oikos (the home) and, more generally, management" (p. 8). According to him, the word *oikonomia* was chosen to defend the "threefold nature of the divine figure (the Father, the Son, and the Holy Spirit)" in the Christian faith regarding polytheism (Agamben, pp. 8-9). According to Agamben (2009), theologians argued that

> God, insofar as his being and substance is concerned, is certainly one; but as to his oikonomia—that is to say the way in which he administers his home, his life, and the world that he created—he is, rather, triple. Just as a good father can entrust to his son the execution of certain functions and duties without in so doing losing his power and his unity, so God entrusts to Christ the "economy," the administration and government of human history. (pp. 9-10)

The idea of *oikos* is also of great significance in media ecology. The economy and the ecology are in relation with a habitat, either built or natural. If, on the one hand, *oikonomia* is the *praxis*, the management of the *oikos*, on the other, *oikologia* is the *theoria*, the knowledge about that same *oikos*. Agamben (2009), following Foucault, says that he wishes to "situate apparatuses in a new context" (p. 13):

> Further expanding the already large class of Foucauldian apparatuses, I shall call an apparatus literally anything that has in some way the capacity to capture, orient, determine, intercept, model, control, or secure the gestures, behaviors, opinions, or discourses of living beings. Not only, therefore, prisons. Madhouses, the panopticon, schools, confession, factories, disciplines, juridical measures, and so forth (whose connection with power is in a certain sense evident), but also the pen, writing, literature, philosophy, agriculture, cigarettes, navigation, computers, cellular telephones and-why not-language itself, which is perhaps the most ancient of apparatuses . . . (p. 14)

His redefinition of the concept of apparatus, and thus the idea of disposition, broadens the definition of what an apparatus may be. But more importantly, Agamben (2009) pushes forward the account of the subjective processes experienced by the individual in relation with his environment. If Agamben's take on the apparatus widens the conception of what an apparatus can be, Emmanuel Belin, a young Beligian scholar who died tragically before Agamben published his book, did the same in his doctoral dissertation (published posthumously in its original French version in 2002). In *Une sociologie des espaces potentiels*,[13] Belin (2002) describes Foucault's apparatuses as "concrete": apparatuses that can be easily identified and studied heuristically (pp. 172-174). What is appealing in Belin's work is that, without denying the aspects of domination and power in the apparatuses, he completes Foucault's conception in new directions. As an example, Belin (2002) differentiates from Foucault's "concrete apparatus"[14] with a different vision which is more processual:

> Michel Foucault's apparatus corresponds to the notion of network and responds to the desire to deal with many things at once. Our approach, on the contrary, consists in distinguishing—in every given element—certain gestures which rely less

[13] My translation: *A Sociology of Potential Spaces*.
[14] In French it reads: "Dispositif concret."

> on the enactment of a law than on the establishment of conditions. (p. 174 [My translation])[15]

The conditions mentioned by Belin are related to the apparatus becoming a quality of being and doing: gestures, mediations, and logics become "disposed"[16] (Belin, p. 173). The apparatus is then in "the quality of conceiving a method of seeing ways of doing things more complex, scattered, and mixed.[17] (Belin, p. 173; my translation).

The disposition becomes a logic, it becomes a virtuality which actualizes itself locally, in situated action, in context. The relation between the user and the built environment becomes ambulation within disposed spaces and actions. Taken as a method to conceive relations and interactions, the logic of disposition is now a powerful tool to conceive subjectivity in contexts. The mobile world in which we live and the "elsewhere" (Conley, 2009) reality in which we share our daily life, is conceivable scientifically in looking where people are doing, as Belin (2002) says, "acts of arranging . . . [and] make arrangements" (p. 174; my translation).[18] The user has the ability to modify its environment and is captured at the same time in certain enactments that create patterns of uses and experiences. As Belin (2002) said, "What the apparatus establishes isn't the assurance of being satisfied, but its possibility" (p. 221; my translation).[19]

To understand how today's city dwellers use their media environment in the context of finding location information, the disposition becomes a heuristic set up in which we are able to conceive contextualized actions. To me, what matters most is not to draw a nomenclature of the different media, dispositions, or good uses, but to identify elements from these relations in the built environment that are characterizing dispositions' qualities in a contextualized manner. Basically a fieldwork on the subject's usage is oriented toward abstraction. It is surely comparative, but what is extracted from this is a broader view of today's condition regarding being wired, being mobile, being lost, being technologically literate, etc.

If at one point, the phonebook has been a very useful tool to gather and organize the location information in one place, by the same process, it disposed the life of the city in a certain way that still is applicable today. It makes me wonder, *What were we doing before the organization of people and places' location in directories?* Nowadays, cities are more complex and data is more affluent. The idea of seeing things in dispositions makes it possible to get a glimpse of the experience of the city today regarding the intimate relation we have with media. Out of preliminary interviews it became obvious that dispositions, conditions and context were very important regarding media and space usage. As an example, one of my subjects, living in the trendy *Mile-End* neighborhood in Montreal, is very cautious of preparing herself before going outside: she makes sure knows where she is going and has all the information she needs before leaving. She

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[15] The original quote (in French) reads: "Le dispositif foucaldien, en somme, correspond à la notion de réseau et répond à une volonté de traiter beaucoup de choses en même temps ; notre approche, au contraire, consiste à distinguer, dans tous les éléments qu'il donne, certains gestes qui reposent moins sur l'édiction d'une loi que sur la mise en place de conditions."

[16] There is a little lost in translation here. Belin writes about 'logiques dispositives, médiations dispositives and gestes dispositifs." Using *dispositif* as an adjective is easier than apparatus or disposition.

[17] The original quote (in French) reads: "pour qualifier une manière de voir des manières de faire qui sont toujours plus complexes et mélangées."

[18] The original quote (in French) reads: "L'acte de disposer, de prendre nos dispositions." Words here have many meanings. "L'acte de disposer" means to arrange, place, dispose, and to get rid of. "Prendre nos dispositions" means to make arrangements, to make decisions, to make choices.

[19] The original quote (in French) reads: "Ce qu'établit le dispositif n'est donc pas l'assurance de la satisfaction, mais celle de sa possibilité."

explained that while the Internet is her primary source of location information, she does not have access to it while away from her home and computer. She has very limited access to the Internet outside her home and, as she said, "Either we have the Internet, or else we are cut out of the world."[20] Seeing how she reacted to her information needs while being outside her home was very insightful on dispositions: more often then not, she uses her cellphone to reach people (using the Internet) for help, and she never uses a phonebook, even when out of resources.

## Conclusion

Concerned with the printed telephone directories' fate, I started by trying to understand what was its *raison d'être*: it was developed to accompany the telephone technology and evolved jointly with it. It was (and still is) used to get location information. This kind of information is used to locate people and places in space, while being able to communicate with them (either with the telephone, with another medium, or in person). I wondered how it was possible today to conceive a complex built environment filled with media while being able to investigate the uses of today's subjects regarding location information finding. I then worked Foucault's apparatus concept with some takes from Emmanuel Belin to think about concrete apparatuses as a quality of being observable by conditions and patterns. The quality of using such a method is to be able to conceive multiple relations and go beyond the subject, the information, the object, and the medium.

This methodology has the problem of not dealing with the empirical limits of the notion of boundary while analyzing networked technologies and interactions. Using either a qualitative or quantitative research method in the social sciences forces us to deal with selection: We just can't analyze and observe everything! Hence, we must "circumscribe" our objects, select samples, and address our research methodology's limits. Simply, a scientific research deals with frontiers, *non-stop*. Mine is no exception, and even while using a flexible concept like *dispositif*, one has to admit that he's got to make arrangements himself: a researcher in that sense creates his own apparatus through his research project. Belin (2002) addressed this issue himself by revealing the danger facing the researcher mixing up a concrete apparatus with what he called a "logic": the object is then on a steady decline, where the objectivity is blurred by scrambling natural boundaries with the ones we made up (pp. 172-173).

To finish, I know from experience that when something is not working the way it should, we panic, we face chaos. From my point of view, today's "informational" man has to be understood with his media. Surprisingly, it is not because we don't know how to do things that we are not getting information; and it is not because we are not using a medium in its prescribed way that we won't reach our goal. And vice-versa. The idea that the interface lies entirely in the medium is a myth, the world is also a media interface (Weibel, 1996) in front of which we are not all equally equipped but are all resourceful in our own ways. If for some the phonebook is indispensable, for some people like myself it may now only be a last resort: I have to fall back on it when suffering from an unbelievable lack of foresight and contextual dispositions . . . that often rhymes with bad luck or power failure!

[20] Personal interview with anonymous subject, March 7, 2010.

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