

Citizens' Interactive Behavior in the Performance of the Urban Space of Cohabitation: Interactive Atlas of Urban Habitability

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Abstract: The article shows a range of contemporary phenomena linked with urban space and the increasing citizens' interactivity in the network. The sources for theory and reflection are related to the ongoing research project "Interactive Atlas of urban habitability" which is based on citizen participation in the sensitive description of the urban environment. It addresses a classification of variables related to the desires of urban habitability. The project is an ongoing and open process feasible through communication and socialization spaces and through work in compiling sources of data, other related projects and initiatives, be they governmental, corporate, or civic. Our proposal consists in organizing and displaying all this data in an online platform that provides citizens and public administrations with the sensitive variables that define urban space for both citizen uses and city planning. Thanks to the available technology, it is already possible to create this platform for interactive generation and reception of urban information. It would reveal possibilities for optimizing the existing uses and for promoting better and more intensive ways by improving livability and coexistence. We weren't referring to mercantile uses, but any kinds of uses connected with spatial needs about vital, daily, recreational, and social variables. The development of a data corpus derived from subjective descriptions of the citizens' desires would have enormous potential for gaining knowledge of an environment. Such data could complement and enhance the geospatial information managed and used for a more sensitive transformation of the urban space. We have come to this conclusion after studying a number of paradigms linking network interaction and urban transformation, as well as open platforms that provide information to citizens. This article addresses new paradigms with both contemporary thinking on ICT and through the vision of the city expressed by authors such as Baudelaire (1863), Walter Benjamín (1998), Georg Simmel, Guy Debord (1967), Constant (1974), Henri Lefebvre (1978), Richard Sennett (1997), Paul Ricoeur (2000), Zygmunt Bauman (2007), Pascal Nicolas-Le Strat (2006), Manuel Delgado (2007), Antonio Negri (2010) and, of course, "The Reinvention of Everyday Life," by Michel De Certeau (1999).

Keywords: Citizen Participation, Desire, Urban Habitability, Networks, Sensitive Description, Project, Planning

Citizen Participation

A range of contemporary phenomena related to Information and Communication Technology (ICT) lead to new thinking about urban space. Our reflection on these phenomena is a part of an ongoing research project aimed to create a model of an interactive tool for generating and receiving useful information in order to improve the livability and coexistence in the city by optimizing the user's growing experience in interactive online tools. A virtual community and a larger public sphere are progressively taking shape thanks to current social networks where individuals can obtain information and interact with each other in real time. Digital media offer an ample environment for communicating and organizing. As a consequence, there is a new and different way of perceiving the environment where the living space expands in a virtual dimension, and changes have arisen in people's behavior in public spaces. We observe how public areas configuration begins to become open areas to citizen participation. Communication network has effects *in si tu*: people become more sensitive, aware, caring and responsible to others in their actions and their relationships in the public space.

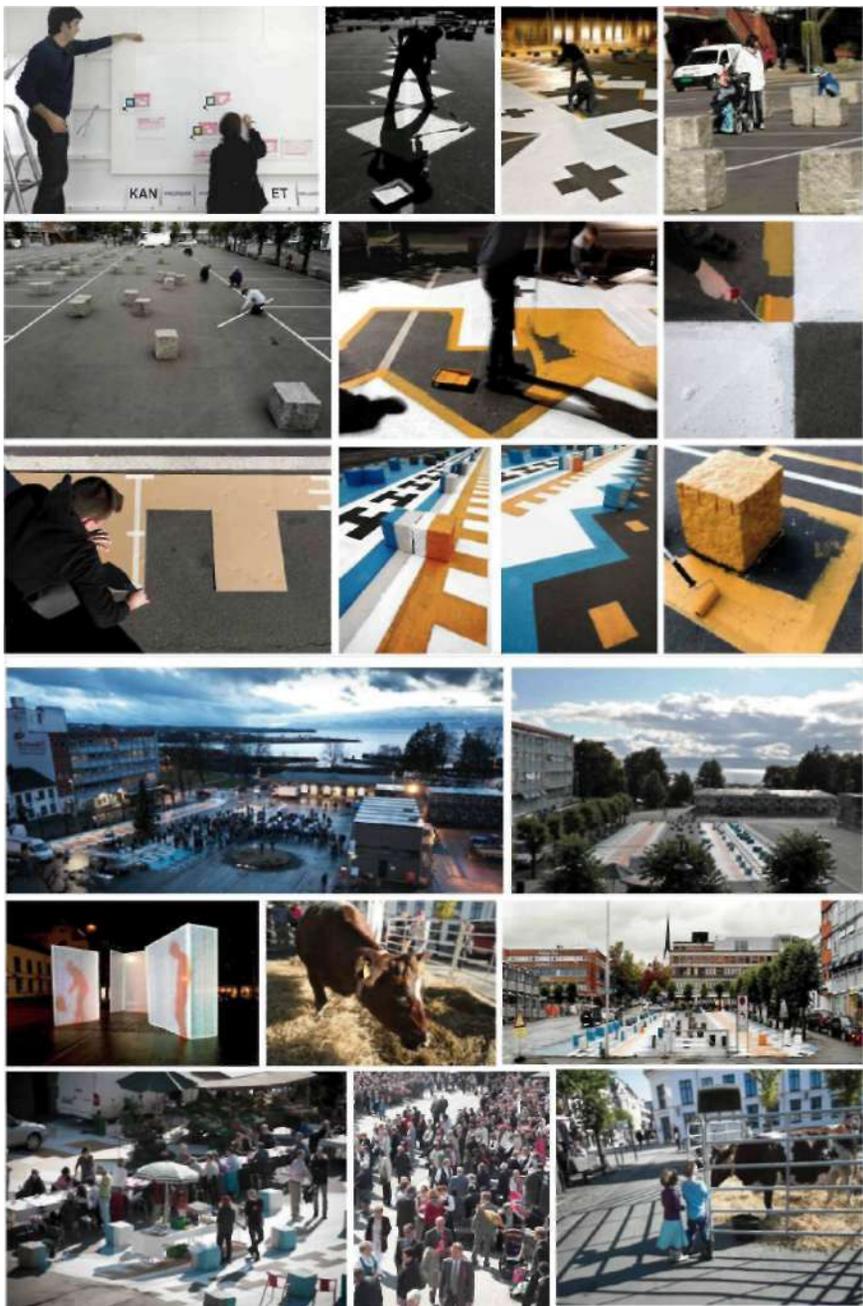
This trend became observable with the May 15, 2011 occupation of public spaces in Spain—an event that later inspired similar actions throughout the rest of the world. Outraged citizens connecting via Twitter and Facebook were able to organize and construct campsites in a matter of hours. Today there are many paradigms of active groups and associations that propose new types of urban participation and management: actions concerning appropriation, occupation and the construction of public space in response to austerity programs, environmental awareness and sustainability. These actions represent both viable solutions adapted to crisis situations affecting the economy and employment and they relate to emerging values of citizenship, such as participation and cooperation. Some of these new paradigms have been more or less formally regulated by authorities. Such regulated activities include flea markets, attempts to organize public events or the so-called *Wagenplatz*¹, as well as the occupation of abandoned and unused plots of land or buildings, and the use of public space by groups skateboarding, playing sports or doing art activities. These new uses of public space and situations created would not be possible without telematics.

Currently, several well-known groups of architects and urban artists work with a new sensitivity to the urban/anthropic environment. They attempt to transform people's moods in response to their immediate needs rather than designing specific architectural artifacts. The practices of Gordon Matta-Clark and the Anarchitects, Stalker (who is responsible for the group lunch and games at Campo Boario in Rome), Lacaton and Vassal, and many others show a range of ethical and aesthetic criteria that reflect the will to provide natural, positive, strategic, uninhibited and even low-cost solutions to common situations. However, these practitioners and their solutions go beyond the traditional conceptions of form and design. Their actions are open to multiple interactions with users, the environment and time itself.

The architects of *Ecosistema Urbano* currently lead the Dreamhamar Project, which focuses on the role of participation through the Internet in the redesign of Stortorget Square in Hamar, Norway. The *Hamar Kommune* has chosen a pioneering approach: the citizens of Hamar will not be presented with a finished design. Rather, they are invited to participate in the collective thinking aimed at creating the new Stortorget. Architects have provided an online designing process, or "think tank," to allow people in Hamar to share their perceptions of the city and their ideal image for this area. All Hedmark residents were invited to participate in workshops held on site, where they could express their wishes for the square.

The Official Professional Association of Architects of Madrid is promoting the creation of another Madrid Think Tank, a laboratory for ideas open to companies, authorities, institutions and individuals which may contribute to the creation of a collective project for the city that improves the urban environment and offers the population a higher quality of life. Several public calls for ideas have been launched to foster innovative undertakings where citizens are involved. The City Council has also promoted the occupation of twenty plots of land for social purposes, such as playing surfaces for sports, playgrounds and other activities. Furthermore, the project forms part of Zaragoza Employment Plan and has been executed by a collective of young entrepreneurs grouped under the name "esonoesunsolar.com", i.e. this is not a plot, and who operate through new means.

¹ Wagenplatz o Bauwagenplatz are urban settlements made up of trailers, wagons or worksite huts. The origin of such communities dates back to the housing shortage in Germany after the end of the 2nd World War. Currently they resist in Germany and in other countries, such as The Netherlands or Switzerland. Their boom began in the early 80's within movements of occupation that made it an alternative livelihood to the capitalist system where resistance and counterculture are defended through everyday actions, such as community meals, exchange of second-hand clothes, cleaning-up, etc., besides their active struggle against fascism, private property, urban speculation and racism.



The Dreamhamar Project encourages the active participation of citizens through the Internet to redesign Stortorget Square in Hamar, Norway. Events organized in the square also provoke popular activity, as shown in the images above.

The White Night in Madrid and the Euphoric Night in Tournefeuille in France are all-night arts festivals that exemplify cultural policies that support the creation and maintenance of a link between art and population. Public participation is an essential part of the ephemeral transformation of urban space at these festivals, during which streets become art galleries and citizens attend events that allow them to simultaneously become both actors and spectators.

Public facilities and advanced technological and artistic environments are combined to promote citizen involvement.



The White Night, an all-night arts festival in Madrid, involves public participation in the ephemeral transformation of urban space through a combination of public facilities, advanced technology and artistic creation.

These previous undertakings implement and strengthen a theory that forms the basis of our research where the city is considered a living process and not just a group of buildings. The configuration of urban space is not only a recipient for the action, but the result of actions, bodies, social relationships, unplanned spontaneous, casual and inclusive information and imaginary potential events that give shape to the variable urban fabric. As opposed to disciplines that cover morphology and formal/visual patterns, architecture gets to a deeper level of urban life. This is definitely a new, radical and alternative view in the configuration of living space. This new conception is in contrast with the mechanisms of urban production and management that provoke the fragmentation of the city as a social taxonomy. While the functionalist perspective identifies urban functions and social construction, this new view holds that people's

participation in both urban and cyber space transforms everyday life and the perception of culture, the city and other people.

The approach of this project derives from the observation that participation and self-organization in informed societies—that have access to information through commonly means—may revolutionize the structures of these societies. The virtual mirror phenomenon, that reflects the society, enables the association of information in a given situation with individual decisions. As Revel and Negri (2008) maintained, "capitalism can no longer afford to get desubjectivized" (in this case "individuals" are considered productive units, "population" serves as an object of mass management, and so on). The tendency cannot continue because value creation is nowadays in the common production of subjectivities. Revel and Negri argue that the principle of production has shifted its center of gravity; the "common" production means that the creation of value is today linked to the online connection of subjectivities, to the capture, detour and appropriation of what they do by means of that new common element. They do not deny that there are still factories with massacred bodies in production lines, but they place innovation in the field of current capitalism, which needs the subjectivities on which it depends. This "common thing" may also be applied to control systems, so that it would be possible to create systems of communication and transparency allowig citizens to participate in administration and management processes, taking and demanding responsibility of the governing bodies as control gets decentralized and full democracy is achieved.

In this respect, the Open Data Movement has been set up to make the data of Public Administration available to all the website's users, so that transparency is ensured. Its objective is to reuse data that governments do not need or cannot analyze. The release of this data allows any person or organization to consult and display methods that simplify, diversify and even enrich the initial information. In Spain, the Euskadi Open Data Project - included in the Open Government Initiative of the Basque Government - is a website showing public data available for use under a number of open licenses. At a local scale, some projects currently going through the first steps of Open Data have been launched in the cities of Zaragoza and Cordoba.

Public administrations are working to achieve standardization of geospatial data, so that it can be openly offered to society. In the European Union, the Infrastructure for Spatial Information in the European Community (INSPIRE Directive)², the Open Geospatial Consortium (OGC), the Global Monitoring for Environment and Security (GMES) and the Eurocadastre or European Urban Knowledge Network (EUKN) have the same purpose. The period of time estimated for data reconciliation ranges between 2 and 7 years.

In Spain, an open working group has been created in accordance with the INSPIRE Directive. The Spatial Data Infrastructure of Spain (IDEE Project) seeks interoperability of the existing public and private geospatial databases. Other public initiatives, such as Urban Network, Cartociudad, SIU, Habitat Committee and APORTA (Re-use of Public Sector Information) also have a bearing in the field. Some regional and local authorities, such as the Andalusian Regional Government and Albacete City Council are carrying out initiatives that promote citizen participation in the reconfiguration of habitability, such as the The Living City or Plural Albacete networks.

²The INSPIRE Directive came into force on 15 May 2007 and will be implemented in various stages, with full implementation required by 2019. This will enable the sharing of environmental spatial information by public sector organisations and will make public access to spatial information easier across Europe. A European Spatial Data Infrastructure will assist in policy-making across boundaries. Therefore the spatial information is extensive and includes a great variety of topical and technical themes.

Different universities and scientific fields of activity work along these lines worldwide. Two primary reference programs are being developed in the United States: the Participatory Urban Sensing of the Center for Embedded Networked Sensing (CENS) at UCLA and SENSEable City Lab at the MIT. It is worth highlighting both its concept of the sensitive city and its double meaning of "the city that reacts" and "the city known through the senses," as well as their work on the interconnection of different fields and disciplines with a strong practical component.

Some private companies, including giants like Microsoft, Yahoo and Google also lead a number of collaborative projects. Certain doubts have been raised regarding the credibility of the information provided, and the risks of possible restrictions and/or charges for rights or even a possible censorship. However, there are no other real open options except the emerging Open Street Map, a civil project that aims to get the territory mapped using Wikipedia philosophy. In the shadow of large corporations, the work of many companies is based on the generation, use and visualization of urban data.

From a social standpoint, some of the greatest achievements of Internet and mobile communications are the civil initiatives favoring the globalization of a participative culture that had been traditionally limited to small communities. The supportive empowerment of civil society through technology is unstoppable, as evidenced by activities of NGOs, artists, neighborhood associations, groups and individuals. They discover possibilities to construct and modify the City 2.0, to recover a voice that was drowning in street silence. The focus is not on technology, but on what may be achieved through it. Initiatives inviting participation in the city are undertaken worldwide: Cityleft (Open Source Urbanism), P2P Urbanism, Citivox, Ushahidi, Grassroots Mapping, Narrative Digital, VR/URBAN, Dear Copenhagen, Institute for the Future (IFTF), Candy Chang, Antoni Abad, TANDEMcity, Andres Jaque and the Office for Political Innovation, Urban Social Design by Ecosistema Urbano, Goolzoom, and many others.

The main objective of our project, that takes all these initiatives as references, is to document and integrate them and many others into a common area of gathering, processing and displaying information. Our goals are to foster interaction in online environments and to produce information that can complete the data provided by the public and private corporations that currently make significant efforts to reconcile and make them publicly available. The geospatial databases are necessary but insufficient to define the complexity of current life; they must be supplemented by appropriate information from sensible and ideological fields covering everyday life based on heterogeneous and dynamic variables.

Our aim is to develop a model computer interactive tool that helps citizens choose a place and a context to settle within a territory. This tool is a telematics platform for generation and reception of information based on participation. Therefore, anybody looking for a home, a workplace, the headquarters for a new business or wishing to get in touch with a specific group of people will have access to the necessary data, so that he/she can draw up an ideal personal landscape linking desires and purposes. We aspire to turn this philosophy into a workable model although we only intend to bring to this paper the circumstances surrounding this project rather than the projective process itself.

Sensitive Urban Space

The main keys of our research is the transformation of citizen's perception and the increase in environmental sensitivity thanks to the easier and more immediate access to information on the around being receiver and generator of this at the same time. This information is subjective and gives rise to intersubjective communication.

We live in a very fragmented city. Our perception of the space is discontinuous. We need to constantly move in public and private transport to manage our social and work relationships. The city appears as a discontinuous structure of points that each have specific functions and identities but are linked through people's movements. Diversity and complexity are reduced in this context

and traffic speed does not allow us to connect with our environment. There are starting and ending points, and telematics (cell phones, tablet computers, and so on) are used in the gaps as alternatives to communicate with people without sharing a physical space, such as a neighborhood, an office or a mall.

If we wish to change this city, it is essential to act in everyday life even though some aspects may appear to be unrelated to the design of public spaces in urban areas. Our life is usually developed in two dimensions: the material and the virtual; now we can also participate in the new, commonly called "virtual" or "digital" dimension. Our life is usually developed in two dimensions: the material and the virtual. Now, we can also participate in the new, commonly called "virtual" or "digital" dimension. As Castells (2002, 20) argued: "From the beginning to the end of the day, everything is done through the Internet [...]. We establish the connection between *in-situ* (what is not real because reality is virtual and physical at the same time) and virtuality. There are not two different societies, but two kinds of social activities that we connect. We must find the best way to organize and adapt them."

According to Daniel Innerarity (2004, 56-58), local online networks are developed instead of neighborhoods and public debate takes place in virtual space. Streets and squares are no longer the main meeting places, and the Internet seems to offer an alternative "space" for socialization beyond the "traditional" ones. This circumstance can be considered a problem resulting in empty public spaces, or an extraordinary opportunity to strengthen social relations if the necessary budgets to improve the vitality of such spaces are provided. The Internet is undoubtedly the "place" where new models of community management are being experienced today. New questions and problems may be detected in communication and interaction networks, while options and claims about proposals may be organized in social networks around the epicenter of either located or dislocated urban life.

As a matter of fact, the Internet is a device that works as a catalyst for the dynamics of participation - which previously could not be coordinated - and it allows us to glimpse the city as something constructed by all of us. As John Freire (2010, 28) holds, the differentiation between physical spaces and virtual communities is being updated in a process of hybridization where individual, community and territory identities get modified. The Internet has contributed to the development of global networks, but it's also been shown to have a remarkable influence in the local area. Digital technologies are radically changing the way we organize and interact with our environment, since we simultaneously live in two spheres, and the virtual world is not less important than the physical one. The hyperlocal networks and public hybrid spaces are new realities that must be faced in our local environment thanks to Internet and digital cultures.

The hyperlocal social networks provide opportunities for citizens to take a real interest in public space and the way we use it. Moreover, they catalyze and display information related to the environment transparently. The citizens' views about any event are described through snapshots of a changing environment. The subjective description of one's living space, past events, seminal life experiences, memories, literary resonances, customs, ethnic nuances, and also the description of urban tribes, human species in their daily and extraordinary rituals, and all sorts of narratives are registered there. Besides, interactive applications in the Internet encourage collaborative capacities and give rise to the open exchange of available data in an endless process to generate new information. Our living space becomes a space for interactive playing, an unfinished, dialogic, kinesthetic, hybrid and open space even to random fictions... But, is it real?

Our living space is becoming what was known as hypertext and hypermedia in the 1990s. The recognition of the urban space as a megatext (hyper-narrative) means the understanding of the contemporary city as a fiction, that is to say, as a great scenery where our fiction takes place while at the same time affecting other people and their ways of living. In the recent past, this fiction was basically an architectural and urban task, but for the last few decades the new resources developed by technology have changed such appreciation. Today, a city is more than a city; it is made up of many cities because its information landscape or "infoscape" is

variable and allows the user to read it differently according to a variety of systems: fixed and mobile tools, personal and public devices, equipment ranging from large visual information systems — like outdoor wall display screens — to digital mobile units, and from specific private information to overload through augmented reality systems, QR codes, automatic information of geoposition... All of them change our perception of the environment and provide new ways to build up reality.

The description and sharing of individual experience of the environment is becoming a common practice of the connected person. Definitely, decentralized technologies are a great tool for participation and struggle for a better world. This is in accordance with Clay Shirky's theory of a "culture of generosity" (1996). The author speaks of the huge potential of "collective intelligence", in practice a kind of scenario for a new global consciousness. Personal inputs on daily life provide the territory with new layers of meaning. Besides, they develop dynamic and simultaneous narratives of dwelling sceneries while acquiring tremendous power in social construction. They represent reality and build it up at the same time.

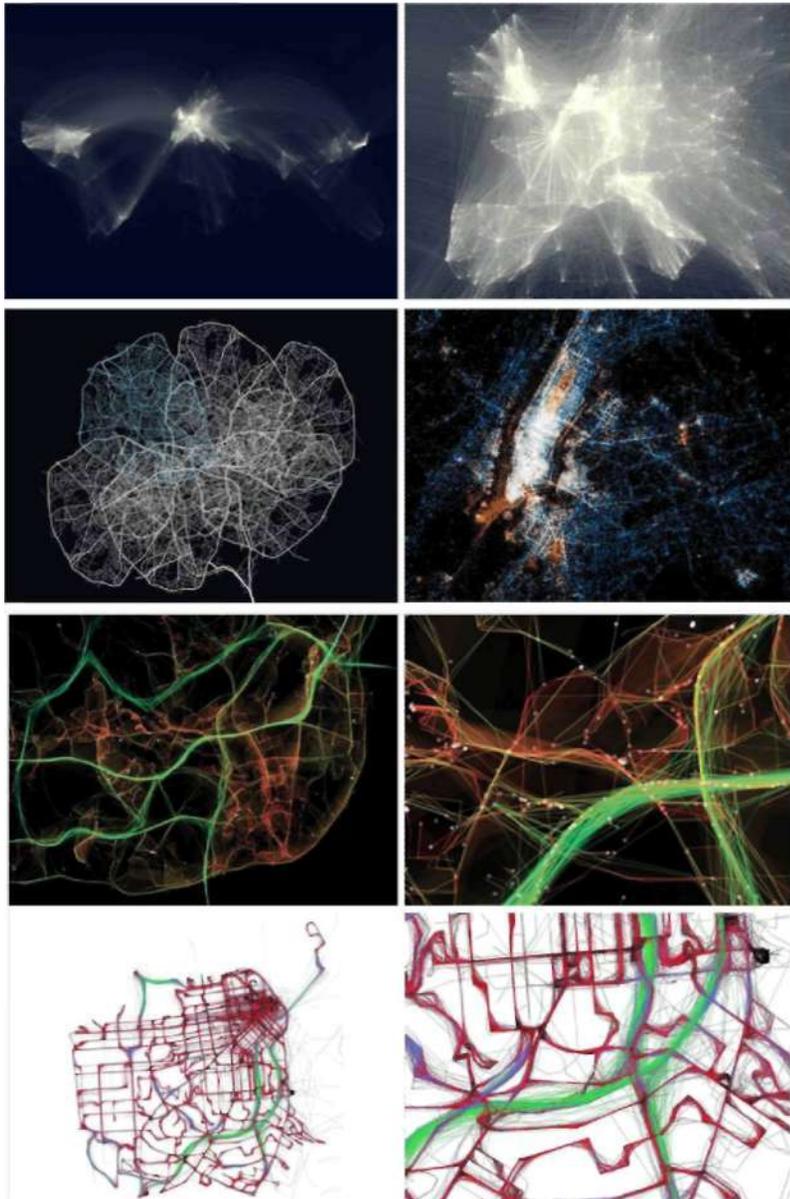
Telematic means are an open, dynamic and constantly updated tool that offers a range of options for citizen participation when it is used for communication and interaction. However, the new ubiquitous and connected citizen lays claim to the importance of the place. This connected "association to place" is the key element for understanding the society to come. The underlying conflicts between the global and local domains — namely, between information and the body — are solved, and furthermore the foundations for a new relationship between the city and their occupants are laid. Citizens look in amazement at their areas of interest and the ways that these are tackled and the potential means of producing and distributing information about them are multiplied.

Digital media can also serve as educational tools for citizens who change from passive to active agents when learning to use their freedom to optimize, innovate and customize their lifestyle. We refer to learning from the senses, not just sight but also hearing, smell and touch. In other words, we refer to kinesthesia, mobilization and innovative creativity. The person has the main role in a new learning process where he/she quits his/her usual routine and begins to act differently. Citizens start to generate new ideas and to discover new meanings; they start to be creative, they embark on new undertakings where they find pleasure. Reality is captured with different eyes, so that unknown aspects are disclosed and expressed outwardly with the ease and immediacy of the means people have at their disposal. When creative power emerges, all those concealed features of reality are clearly shown, as our research actually confirms.

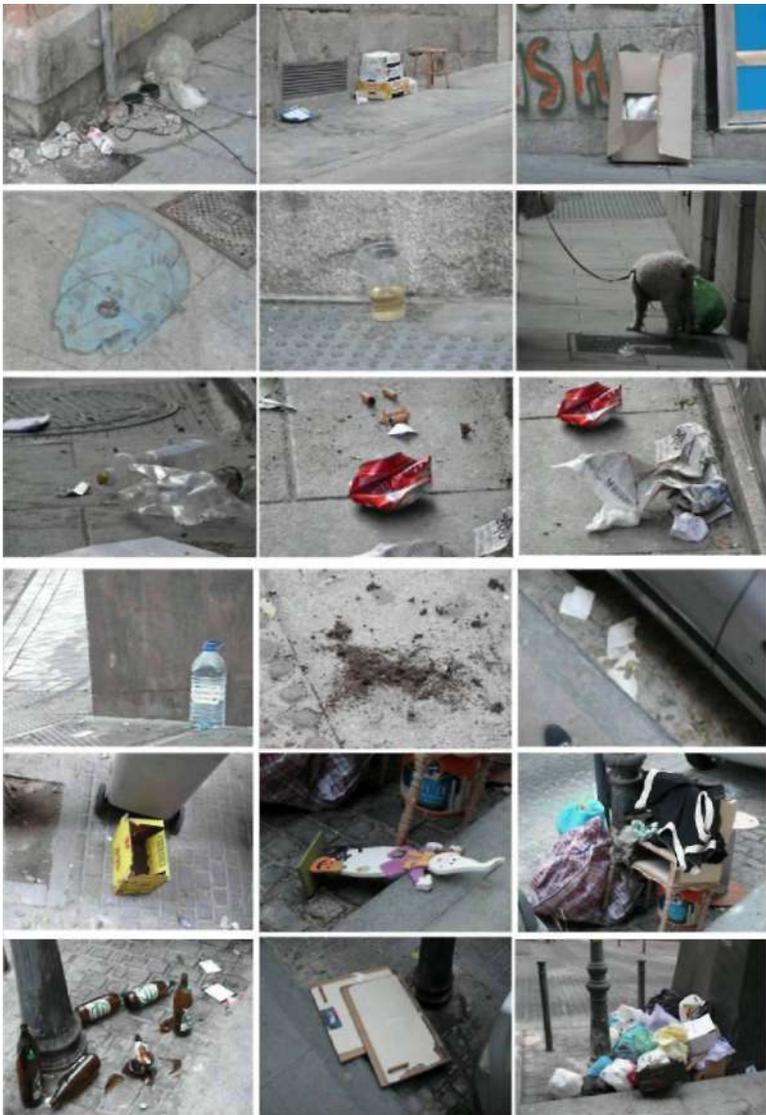
Our project is intended to reconcile the objectivity of cadastral and geographical data with other subjective and dynamic information that is in accordance with the new daily life and is based on heterogeneous variables. Sensitive parameters may vary, from a particular smell in the street or the soundscape of an area to the political sign of a neighborhood, and include the team colors worn by local football supporters, environmental quality, wifi signal intensity, traffic congestion, the existence of a cycleway, the proximity to a park or to a school, neighborhood safety, volunteer density, ethnicity and racial makeup... All these variables and many more would be added to an open, changing list of habitability components. Some of them are measurable in quantitative terms while others are purely qualitative; some of them come directly from existing databases while others belong to each one's sensible world, the place for which our project aims to create a telematic tool. We are professors, researchers and also citizens/users. We attempt to be the first generator group of sensitive variables in order to design an initial cross-cutting base of variables about habitability that may be identified by citizens as desires, optimal destinations or, on the contrary, as incompatible with life in the city or even as harmful situations.

Our "Atlas" is aimed at classifying, organizing and displaying data scattered all over the Internet. We feel confident that this would be a useful tool for anybody wishing to settle in a neighborhood or town, to develop an activity, to learn certain aspects of an area, or to get

involved in a particular collective process. What we are now developing as a theoretical model, the technology that can turn it a "useful tool" is advancing in giant steps.



These are different views of geospatial data confronted with the subjective views and personal experiences of citizens registered directly in the streets —that complement the satellite distant vision.



Observers walking through the streets choose their objects of interest according to their desires, imagination and motivation. They describe, record and transmit the strangest sights of reality. As a poet, a citizen can see what others have never seen, and his/her intuition can establish relations that logic does not dare to create. He/she makes visible by means, which are extensions of the eye, what is invisible —just by looking with more sensible eyes.



Every particular sight constitutes a new layer of meaning in the urban space. These images are included in one of our photo-galleries describing a certain aspect of a neighborhood in Madrid: the prolific activity of urban artists in Lavapiés quarter.

ICTs and Citizen Creativity Improve Cohabitation in Urban Space

A tool like the "Interactive Atlas of Urban habitability" is possible not only because the technology to do it exists but because the socio-cultural trends that would support it have been sufficiently studied and verified. The creative and innovative emerging trends lead us to think about the influence of technological means in the perceptual ability of citizens and how their senses get progressively sharpened.

The reality of a city is unattainable, as it is always changing and cannot be perceived as a unit. The observer selects the object of his/her interest according to his/her desires, imagination and motivation. As a poet, a citizen can see what others have never seen, and establish relations through his/her intuition that logic does not dare to create. He/she makes visible what cannot be seen just by looking with fresh eyes. Like the distinguished *flâneur* of Baudelaire, which was later rescued by Walter Benjamin, the urban wanderer lost in the city is the protagonist of urban-modern life and its contradictions. In the words of Rendueles and Useros (2010, 31), a *flâneur* is "... an archaeologist who explores the ruins of a future civilization, a versatile detective who is affected by his investigation, who is both an observer and is observed, both a buyer and a merchandise, an actor and a spectator." Our project is based on the phenomenological reading of the city that includes the Situationist 'derive', psychogeography and the claim of Huizinga's *Homo Ludens* recovered by Constant (1974) in his New Babylon Project: a city where everyone could develop his/her creativity without impediments, where any experience could occur, where everything is available.

Reality has mechanisms to overcome the outcomes of fiction. Reality is not just the physical and natural space, but everything that may take place in it: events, situations, experiences, trouble, emotions and perceptions. Reality is captured through senses, either as a symbolic image or as an abstract and complex world of values. Everyone creates his/her own reality since each perception depends on genetic codes, physiology, social and cultural factors, and so on. Then, the city becomes a field where energy flows and interacts. All this creative energy constitutes the bases of our research aimed at capturing and returning this energy to citizens which could design their own reality and make up their dreamed dwelling. Any citizen could find a suitable place by associating some variables according to his/her wishes.

The city is recreated as a moving image that is manipulated at will according to the varied interests of each person. Beauty or ugliness is in the eye of the beholder. Kindness or evil is the result of desires, actions and memories. Every fact can take on a new meaning thanks to imagination. The creative dimension emerges from the discovery of a sunrise or a sunset, from the beauty of a starry night, from enjoying the silence at a corner in Old Town, etc. According to Bergson (1985), the understanding of oneself comes from touch, from one's sight and hearing, from the emotions one can feel, from what he calls "the immediate data of consciousness." Creative imagination is required for evoking them. A tool like "Atlas" would be used for a very personal search of a place determined by sensitive variables and provoke the upwelling of sensitivity thanks to the immediacy to express the wishes and to associate them to a destination.

As Deleuze (1980) stated, beings create their world by seeking connections that suit them. They avoid taking hold of their identity; on the contrary, they become nomads. According to Deleuze, our world, as the vegetable world, is made up of plants of two sorts: trees that grow vertically and rhizomes that grow horizontally. Arborescent culture is compared with the culture of being, as roots prevent movement and fix the ground or territory. Nevertheless, rhizomes constantly expand their limits; new territories are conquered and infected while they in turn get infected by new sensations. Obviously the knowledge associated to this "Atlas" is rhizomatic: unlimited and continuously renewable with new data, insights and experiences.

Our project has not been called "Atlas" arbitrarily. Following Didi-Huberman (2010, 14-28), the atlas is "a visual form of knowledge [...] aimed at systematically offering to our eyes a multiplicity of things gathered together by elective affinities [...]" from which it is possible to get

"a new kind of knowledge that shows unnoticed aspects of the world." This is not to establish a definitive classification nor a comprehensive inventory, or to catalogue knowledge once and for all, as in a dictionary, a file or an encyclopedia, but "to collect segments, the pieces of a fragmented world while respecting their multiplicity and heterogeneity, and to provide clarity to the relationships." Hence, an atlas may be associated with "a never-ending work of rebuilding the world." Its structure of knowledge can help us understand the complexity of today's cities, where the new attribute of simultaneity or overlap adds to multiplicity and heterogeneity. The creation and maintenance of the "Atlas" will be a collective task that contributes to "reinvent what is common in human beings" (Revel and Negri, 2010), to imagine a new way of "being together" (Maffesoli, 1990).

The "Atlas" of new geographies must be hybrid, dynamic and interactive, and it must be composed of multiple layers of information like the world it seeks to describe. Perceptions and personal experiences directly registered in the street should be included to complement the perpendicular and distant views coming from satellites. Each layer will provide new meanings and influence others. At any moment, every place in the city may be in the position of generating new hypermedia notes that other people can use. Data becomes information by finding meanings in the leaderless and simultaneous maelstrom of our "liquid" (Bauman, 2007) and "invisible" (Innerarity, 2004) society³. We are fully aware of the risks of working with the contents created by decontextualized and anonymous crowds — what Lanier ironically called "digital Maoism" (2008). Therefore, our project will develop strategies that focus on collection, filtering and classification of variables, so that a full description and a new model to analyze cities will be produced at the same time.

Describing the world is an activity as old as humanity. Although purposes and methods have changed, all civilizations have tried to understand their environment through the tools at their disposal. Each new technical discovery has immediately suggested a new look, which has in turn favored new findings. Our project uses current tools but our look is influenced by previous concept of the city, such as *Mental Life* (Georg Simmel, 2002), by subjective, creative or strange views (Baudelaire, 1863; Benjamin, 1998), by the city considered as "situations" (Debord, 1957), as collective and playful construction (Constant, 1974), as urban life (Lefebvre, 1978), as sensitive space (Sennett 1997), as "everyday life" (de Certeau, 1999) as "action" (Ricoeur, 2000), as "Multiplicite interstitielle" (Nicolas-Le Strat, 2006), as "liquid time" (Bauman, 2007), as "moving and unstable society" (Delgado, 2007) and where it is possible "to re-invent the human community" (Negri, 2010).

All these contemporary and classic authors hold a discourse that connects changes in contemporary society with the technological revolution. This revolution promotes new relationships, new information and communication systems and interoperability in projects and strategies focused on the user and carried out through the Internet and other web applications that facilitate information sharing and collaboration.

Web technologies that are usually free are privileged media for images and words, these being considered both contents and sources of information, and for the design of active projects.

³ The reference to "liquid" society that has become the "solid" modernity, according to Bauman, is a reference to a new and unprecedented setting for individual life, confronting individuals with a series of challenges never before known and other ways to organize their lives. These require people to be flexible and adaptable - to be constantly ready and willing to change tactics to exploit available opportunities.

Daniel Innerarity has focused on what really shapes the relationships among people up to "invisibility": It is what comes to communication. He gives this diagnosis: "a society that escapes our comprehension and our practical control" (p. 14); a society that is characterized by "complexity, contingency, untransparency", a society where feelings such as "intransparency, uncertainty, insecurity" are experienced; a society where "less objective variables than possibilities" are perceived (p. 16). "Invisibility is the result of a complex process where mobility, volatility, fragmentation and fusion, the multiplication of original realities and the disappearance of explanatory blocks, unusual alliances and the confluence of interests difficult to understand - reach confluence" (p.65).

Blogs, wikis, social networks and internet use in mobile devices are multiple-use resources which undoubtedly contribute to increase creativity.

Furthermore, the use of interactive tools to develop ideas and create synergies fosters lateral thinking by stimulating and developing creative processes. A huge and varied amount of data can be disseminated and exchanged as available knowledge that will generate new data. ICT webs bring about the gathering of users around particular subjects, and discussion forums are created to brainstorm and collaboratively solve questions that generate new questions. Communication tools make the flow of knowledge easier and may be incorporated at any stage of a particular creative process, project drawing and management since they facilitate teamwork. Our project takes advantage of these online learning growing trends and optimize them to improve livability and coexistence in the urban space.

As users, citizens have instant access to information when immediate requirements have to be met. They usually focus on finding solutions to their personal concerns, further away from the dominant or general criteria set forth by experts. As a consequence, most of the ideas generated online come from their own wishes. The available tools encourage creativity and help to produce new ideas as a process rather than in terms of further elaboration. As has been mentioned above, many of these initiatives are promoted by local institutions that exploit the potential of new technologies to increase citizen participation in the social and artistic life of cities. However, there is still much work to be done. Therefore, one of our goals is to develop the potential of ICTs for public practice in the field of urban transformation.

Our project aims to exploit the multiple possibilities that coexist in the virtually connected but physically disconnected city. People may choose according to external stimuli, subjective perceptions and a concrete point of view. The city is transformed to each citizen's psychogeography and all people's internal energy flows; it thus becomes a real "atlas of cohabitation." In the 21st century, ideas, art and culture are not exhibited, they are just spread out. The evolution experienced by the current citizen is not linear but rather organic and it arises from the responses offered by the environment. In the new technical cultural context, creativity is stimulated and the loss of fear and insecurity is encouraged. Repression does not come from society anymore — the stifling of creativity by society was commonplace for experts. Today, the mind is not molded by following a prearranged style. Everyone can create his/her own life and self-confidently, freely and openly approach an environment enabling the expression of any impulse. This is the basic purpose of our research: to provide the possibility so that every citizen could design his/her own lifestyle by disposing the necessary information.

The so-called "creative city" (Florida, 2009) will become effective only if citizens are creative and use this skill as a way of life and a vital energy that makes them look for new ideas and explore unknown worlds. Creativity means to give shape to our lives by trusting ourselves. We understand creativity as the ability of people to grasp reality and to transform it, generating and expressing new ideas and finding solutions to the old and new problems of the city. Transformation is just a shift in perception among the infinite number of available possibilities. A person is a being who creates and transforms his/her present.

The variables and categories generated from network interactive participation of citizens are included in our Atlas. The data organized and displayed in this platform could offer new perspectives for both users and city planners. It would reveal possibilities for optimizing the existing uses and for promoting better and more intensive ways by improving livability and coexistence. We weren't referring to mercantile uses but any kind of uses connected with spatial needs about vital, daily, recreational and social variables. The development of a data corpus derived from subjective descriptions of the citizens' desires would have enormous potential for gaining knowledge of an environment. Such data could complement and enhance the geospatial information managed and used for a more sensitive transformation of the urban space. The model to capture and generate information will be valid for any city and multiple applications will have place in the different sectors of society. The project aims to promote the collective generation of

learning and knowledge through technology implementation. This kind of learning will stimulate sensory perception in an urban environment and creativity focused on improving daily life. Furthermore, it will have a great impact on all sectors of production, innovation and entrepreneurship, as it is intended to become an educational tool. The playful aspects of the Interactive Atlas of Habitability should also be highlighted, since citizens get involved in a game where their active participation and interaction are required. The final goal is to increase the welfare in cohabitation.

When changes and improvements in urban space are based on sensible descriptions, a theory of the current city is created. Moreover, our research has a wholly instrumental nature, as it is likely to generate an exploitable practical tool that will also become a public service. The objective is to improve the environmental quality of cities and buildings by providing a large database for the people in charge of urban planning and architectural interventions. Finally, we would like to introduce a timely change in the current financial crisis, where the principle of "do it together" could make us find new solutions to urban problems and cohabitation concerns.

In this paper we have not tried to describe in detail the project process and method but we have attempted to analyze the principles that inspire it.

REFERENCES

- Baudelaire, Charles. 1863. *Le Peintre de la vie moderne* (1st ed.). Paris: Le Figaro.
- Bauman, Zygmunt. 2007. *Tiempos líquidos. Vivir en una época de incertidumbre*. Trans. Carmen Corral. Barcelona: Tusquets Editores. [English version: 2007. *Liquid Times: Living in an Age of Uncertainty*. Cambridge, UK: Polity Press].
- Benjamin, Walter. 1998. *Luminaciones 11 [Illuminations LL]*. Trans. Jesus Aguirre. Madrid: Taurus Ediciones.
- Bergson, Henry. 1985. *La evolución creadora*. Trans. Maria Luisa Perez Torres. Barcelona: Planeta Agostini. [English version: 1983. *Creative Evolution*. Lanham, MD: University Press of America].
- Castells, Manuel. 2002. *La Era de la Información*. Vol.1: *La Sociedad Red*. Mexico City: Siglo XXI Editores. [English version: 2000. *The Rise of the Network Society, The Information Age: Economy, Society and Culture* Vol. I. Cambridge, MA; Oxford, UK: Blackwell]
- Debord, Guy. 1957. "Informe sobre la construcción de situaciones y sobre las condiciones de la organización y la acción de la tendencia situacionista internacional" ["Report on the Construction of Situations and on the Conditions of the Organization and Action of the International Situationist tendency"] *Bifurcaciones* 4. Accessed April 30, 2012. <http://www.bifurcaciones.cl/005/reserva.htm>.
- De Certeau, Michel. 1999. *La invención de lo cotidiano*. Trans. Alejandro Pescador. Mexico City: Universidad Iberoamericana. [English version: 1984. *The Practice of Everyday Life*. Berkeley, CA: University of California Press].
- Deleuze, Gilles, and Felix Guattari. 1980. *Capitalisme et Schizophrénie 2. Milk Plateaux*. Paris: Les Editions de Minuit.
- Delgado, Manuel. 2007. *Sociedades movilizadas [Changing societies]*. Barcelona: Anagrama.
- Didi-Huberman, Georges. 2009. *La imagen superviviente*. Trans. Juan Calatrava. Madrid: Abada Editores. [English version: *The surviving image: Aby-Warburg-and-Tylorian-Anthropology*. Accessed June 26, 2012. <http://es.scribd.com/doc/95230962/Didi-Huberman-Georges-the-Surviving-Image-Aby-Warburg-and-Tylorian-Anthropology>].
- Didi-Huberman, George. 2010. *Atlas. Como llevar el mundo a cuestas [Atlas. Wearing the World on his Back]* (exhibition catalogue). Madrid: Museo de Arte Reina Sofia and TF Editores.
- Florida, Richard. 2009. *Las ciudades creativas. Por que donde vives puede ser la decision mas importante de tu vida*. Barcelona: Paidós. [English version: 2008. *Who 's your city?* New York: Basic Books.]
- Freire, Juan and Gutierrez Rubi, Antoni. 2010. *2010-2020. 32 Tendencias de cambio [2010-2020. 32 Trends of change]*. Nomada, Blog de Juan Freire. Accessed June 26, 2012. http://www.gutierrez-rabi.es/wpcontent/uploads/2010/09/32Tendencias_de_cambio.pdf.
- Huizinga, Johan. 1972. *Homo Ludens*. Trans. Eugenio Imaz. Madrid: Alianza Emece. [English version: 1971. *Homo Ludens*. Boston, MA: Beacon Press].
- Innerarity, Daniel. 2004. *La sociedad invisible [The invisible society]*. Madrid: Editorial Espasa.
- Lanier, Jaron. 2008. "Digital Maoism. The Hazards of the New Online Collectivism", originally published in *The Edge*. Accessed June 26, 2012. http://www.edge.org/3rd_culture/lanier06/lanier06_index.html.
- Lefebvre, Henri (1978) *El Derecho a la ciudad [Right to the City]*. Barcelona: Peninsula.
- Maffesoli, Michel. 1990. *El tiempo de las tribus. El ocaso del individualismo en las sociedades posmodernas. [The time of the tribes. The Decline of Individualism in Mass Society]*. Trans. Daniel Gutierrez Martinez. Barcelona: Icaria Editorial.
- Negri, Antonio. 2010. *Inventer le commun des hommes*. Paris: Bayard Editions.

- Nieuwenhuys, Constant. 1974. "Manifesto" for the exhibition catalogue of New Babylon, originally published by the Haags Gemeetenmuseum, The Hague, 1974. Accessed April 30, 2012. <http://arqueologiadelafuturo.blogspot.com.es/search/label/constant>.
- Nicolas-Le Strat, Pascal. 2006. "Multiplicite interstitielle". La coop: Cooperative independante d'editions artisanales. Accessed April 30, 2012. <http://seminaire.samizdat.net/Multiplicite-interstitielle,190.html>.
- Neddu, Alessandro. 2009. "Stalker y la transurbancia". Interview with Francesco Careri and Lorezo Romito from Stalker. Accessed April 30, 2012. <http://furor-amoris.blogspot.com/2009/06/stalker-y-la-transurbancia.html>.
- Rendueles, Cesar, and Ana Useros. 2010.** *Walter Benjamin. Atlas-Constelaciones [Walter Benjamin. Atlas-Constellations]*. Madrid: Editorial Circulo de Bellas Artes.
- Revel, Judith, and Toni Negri. 2008. "Inventar lo comun de los hombres" ["Inventing the Common Among Human Beings"]. Accessed June 26, 2012. <http://www.iade.org.ar/modules/noticias/article.php?storyid=2477>.
- Ricoeur, Paul.** 2000. *Del texto a la action. Ensayos de Hermeneutica II.* **Trans. Pablo Corona.** Buenos Aires: Fondo de Cultura Economica. [English version: 1991. *From text to action: Hermeneutics Assays II* **London: The Athone Press**].
- Sennett, Richard.** 1997. *Came y piedra. El cuerpo y la ciudad en la civilization occidental.* Trans. Cesar Vidal. Madrid: Alianza Editorial. [English version: 1994. *Flesh and Stone: The Body And The City In Western Civilization.* **New York: Norton**]
- Shirky, Clay.** 2008. *Here Comes Everybody: The Power of Organizing Without Organizations.* New York and London: Penguin Press.
- Shirky, C.** 1996. *Cognitive Surplus: Creativity and Generosity in a Connected Age.* **New York and London: Penguin Press.**
- Simmel, Georg. 1903. "The Metropolis and Mental Life", in Gary Bridge and Sophie Watson, eds. 2002. *The Blackwell City Reader.* Oxford and Maiden, MA: Wiley-Blackwell.

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