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and use of social media and instant messengers also influence the location choice. Only the land use characteristics such as road capitation, emerged to be significant in this study.

It would be important to understand this behavior further, with the use of variables that can capture the land-use characteristics in more detail. This could possibly be the reason for the comparatively poor performance of the proposed models and hence needs to be explored. It would also be important to use other discrete choice models.

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## ID 1744 | CHALLENGES FOR THE FUTURE OF SMART CITIES FROM A GENDER PERSPECTIVE

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### 1 SPACE AND GENDER

The finding, on the one hand, that the future of cities will have important social and economic consequences due to an urban design implemented by information and communication technologies and, on the other hand, the gender perspective as the principle chosen to support social and economic progress based on equality in Europe (Horizon 2020, article 15), prompts us to propose a study that integrates a gender analysis and research around parameters and variables of the innovative design of the city's public space.

The question about the ways in which the genre of the subject modifies the conceptions and representations of (public) space is an indispensable question. In a previous publication me made reference to the more performative and interactive feminine behaviour in comparison with the typical ontological metaphysics of the masculine "fact" and the authorship (Trachana, 2012: 121-122) The current work of the woman is diluted in the family, in the group. Its essential condition is that of an off-centered

subject, of an extended body, of "being" in front of the central myths, of "the action that resists acts" (Agamben, 1998). The performative behavior is closer to manual craft than to scientific attitude, and is imbued in the action-reaction time, in everyday life within a given context where implication and commitment acquire an important dimension. The ways to interpret space and to create relationships in space are, consequently, a subjective and critical positioning. Their way to act, we maintain, is through an instinctive knowledge. This implies an awareness of the environment in which sensations and reflections, images and concepts can be correlated. It is a kind of biological and anthropological knowledge, which involves the senses, desires and physical limitations. This type of experience of the reality constitutes a cognitive state much more complex than rationalism, than the dominant capitalist and masculine thought.

Another classic theme -supported by feminisms- is that of the relations between the public and the private (space). The dual configuration of polis and oikós, from the Aristotelian politics constitutes the starting point of a genealogy of the feminine confinement in the domestic space. For this reason, the struggle for emancipation had to be, first and foremost, an appropriation of what was denied to women or a vindication of the deficiencies that women were supposed to have so that they could be considered as subjects worthy of a forbidden space.

Contemporary literature has dealt extensively with the relationship between space and gender and particularly with the theme of public space on the subject of biopolitics and the categorization of the public and the private<sup>1</sup>. Women crossing the threshold from private to public space, the "unique" route of women in contemporary public spaces, the oppression and representation of the feminine, the patterns that followed the associationism and political activism of women, the changes in the structures of domination and their particular conceptual verdicts have all been helpful themes not only to redefine the notion of gender but to regulate a social body and, at the same time, to eradicate a harmful construct of what gender is. That is a way of breaking with the illegitimate tie between biological sex and gender, which, in fact, does not guarantee the achievement of the desires for individual emancipation. The study of rich and powerful women, transgressors and rebels, slaves and prostitutes ... who differently crossed the threshold of the domestic sphere to circulate in public spaces with different vehicles, with different speeds, with different companions, leads us to consider "the idea that the private space had functions that went beyond what was simply domestic" (Huguet and González Ed., 2008).

The first International Congress on Gender and Space organized by the UNAM (April 14-17, 2015) revealed the different expressions of gender inequality that persist in the use and appropriation of spaces, especially in Latin America; also the persistent inequalities regarding the visibility of women in the public space and the gender violence; the conditions of working women, but also the transgressions and resistances, the expressions of appropriation of the public space; the trespassing as well of social spaces, the effective capacity that the female subjects have to transform the meaning, the conventional uses and the heteronormative and gender logics of certain social spaces. The investigation and presentation of all these categories have once again supposed a vindication of non-hegemonic subjectivities whose experience of different spaces is articulated in a different way. In so doing subjective positions different from the dominant one were made patent, as well as different possibilities of living and inhabiting the space-time continuum.

According to Foucault (2009), social space is not a "kind of emptiness", it is rather a framework of social relations that define orders, emplacements, attitudes and displacements. That space, in which "the erosion of our life, our time and our history" develops, only acquires sense and meaning from social assumptions and relationships. It is place for games of power and domination, for a symbolic and imaginary framework that incessantly turns it into a lived, imagined and regulated space. The complex relationship between gender and space can only be explained by the incessant intersection between both categories; by the constant intersection in which such variables get mutually constituted and form a social reality with palpable effects on social interactions, emotions, affections, displacements, daily activities, identities, resistances, transgressions, confinements and locations, stays, sojourns and rhythms.

To decipher tensions, gaps and beaches, to detect the emergency of changes and creativity and to give way to a conception of physical space with characteristics linked to the contemporary modes of production of space, it is necessary to endow the term with meanings that combine symbolism, intersubjectivity,

<sup>&</sup>lt;sup>1</sup> The Journal Astrágalo. Cultura de la Arquitectura y la Ciudad, v.5 published in 1996 the monograph , Space and Gender ("Espacio y Genero").



variability and corporeality. Today we speak of an "augmented space" because of information, of a multisensorial confluence of the spatial and temporal dimension that produces favourable hubs for the study of different meanings, and that can reflect both, daily and ritual complexity. Undoubtedly, in the last decades urban social life has become incomparably more complex than anything known so far: social exchanges, use of time, forms of mobility and communication have been modified. Among these transformations, perhaps the most notable and emblematic, according to Remedi (2000), is the substantial modification of social space, the spatial organization of inequalities, social isolation, the context as a breeding ground of tensions between extreme forms of tradition that bind to the past, and a modernization that is expressed in a leap of scale in multiple aspects of urban life, leap that has to do many times with the use of communication and information technology.

## 2 CARTOGRAPHIES OF THE NEW URBAN COMPLEXITY

#### 2.1 AS A RESULT OF WOMEN'S REVOLUTION

The need for the existence of a public space where to meet and be present to contribute to the development of healthy communities is a key dimension to promote an innovation of the traditional and institutionalized methods of how to make city and overcome the model of globalized urbanism. What does globalized urbanism consist of? The model of globalized urbanism holds the fear of the others and the refuge in private life (Borja, 2005). The concept and belief that it is possible to contain the world in the house and in the neighborhood, as well as in its complements - the motorway and the automobile - are simultaneously the result and cause of a new way of organizing the urban space and of relating in this space.

It is, therefore, a question of making new approaches to the built environment, augmented as a result of information and communications policy, without falling into the concept of 'smart cities' as mere business and political marketing in the hands of companies dedicated to technological products. In this technological realm, in fact, the differences are accentuated and the fear of the others is manifested by giving priority to surveillance and security. It is also manifested by means of technological endowments in areas of high economic and consumer level in contrast with what happens in popular neighborhoods, and also what happens in urban centres in contrast with the periphery. Technological devises are used by those who have the means to acquire them, what gives them access to specific formation. But the key question with regards to the implementation of smart cities is how to improve the standard of living and the coexistence by optimizing the collaboration of technological means and investigating inclusive and non-exclusive modes and applications. Before that it is necessary to study the attitude of men and women towards technological changes and the perception and use of ICTS by ones and the others.

In a former publication we studied the consequences of the revolution of women in the second half of the twentieth century (Amann, Trachana a.o.,2013). The traditionally accepted dichotomy between public space and private space has been demolished while the house has progressively got emptied of contents as the city has become more complex. Whoever kept the house and cared for the family has slowly entered the public sphere of the social so that the 'family', with its traditional meaning, is no longer the only reference for the organization of the space as, nowadays, issues of the private and the public get intertwined with identity issues till forming a new indivisible theoretical-empirical construct.

In the Arendtian social sphere activities related to pure survival appear in public (Arendt, 2005, p.65). There is a philosophical tension that is aimed at emptying the philosophical separation between public and private (...), which aims to displace the hierarchical construction of binary logics (Scott, 1990, 42). The maintenance of the public and private dualism not only hinders the historical understanding of sexual roles and their stereotypes, through categories attached to separate compartments in which the cultural abstractions mask both, their identities and their relationships. They also despise the possibility of instability and change throughout life. And if the boundaries between the public and the private are now dissolved, the city must be analyzed as a multidimensional system and face the urban space from the same conditions of complexity and diversity observed by Jane Jacobs in the 60's. "The main responsibility of urban design and planning should be to develop cities that are ideal places for the flowering of wide ranges of plans, ideas and opportunities ... to generate diversity and to attain its maximum potentialities" (Jacobs, 1961).

It is, therefore, essential to update cartographies of urban life so that alternative proposals can be proposed for the design of the city. The urban demand is now as complex to determine and satisfy as the existence of a great diversity of users. It requires a comprehensive multidisciplinary analysis that addresses both the socioeconomic, sociocultural and geographical aspects as well as consumer behaviors and value systems and preferences associated to lifestyles and the capabilities of each one. It is no longer a matter of solving spatial functionalities that divide the city into zones, as we were taught by modern urbanism. It is a matter of superimposing layers of information and generating new atlases of urban habitability.

Women's revolution and their incorporation into the labor market has not only had obvious sociodemographic consequences such as the delay of the maternity age and the decrease of the birth rate. There has been a fundamental change with regard to care: the abandonment by women of activities related to the care of the domestic space, the inhabitants of the house and especially the dependent groups formed by children, the sick and the elderly, which has seen its number increased in an aging population. At the same time there has been a growth of single households and other forms of coexistence and communities have emerged: from the emergence of Airbnb and elderly people communities, to the cohabitation of university students and the elderly, and other innumerable formulas. There have been profound changes in the labour structure due to unemployment, precarious work, reduced working hours or moonlighting. Immigration from countries in developing economies, the growth of female immigrant caretakers who have been introduced into homes or the migration of young south European people to the north are just a few brushstrokes to add to the new map of the city. All this represents new space-time relationships and trajectories of life and coexistence in cities.

From the sociocultural point of view, a renewed assessment of the leisure time, with a greater diversified consumption of entertainment joined, in many cases, to a body culture, have generated different spacetime relationships that are incorporated into the daily schedule of the citizens. All those who can, within all segments of the population, dedicate some free time to go to the gym in the case of adults, attend extracurricular activities in the case of the youngest, and walk urban distances and do physical exercise in equipped parks, in the case of the elderly. This concern for healthy life and exercise also influences a change in eating habits which, in turn, have consequences both, on the preferences of consumption as well as on the supply of the different consumer centres.

These are just some obvious references that point to a paradigm shift and that need both quantification and also relative evaluation. From the paradigm of the functionalist city of the Athens charter - organized on the basis of standard functions, standard families and a society of certain homogeneity and certain gender roles - to a city with very diversified functions and uses and that is experienced from a subjective point of view . The incorporation of ICT in everyday life is, undoubtedly, a factor that contributes substantially to the space-time perception. This has implications in everyday life, family, relationship between genders...in learning, the self-assessment of personal and social life in relation to a specific habitat and the degree of spatial identification with the public space. The representation of a world that can be controlled by technology constitutes an imaginary and, in this sense, we need to explore how, in fact, artificial intelligence can affect urban life. With this technological revolution the fundamental question around new patterns of planning and city management is posed. How can we overcome globalized urbanism, create pleasant spaces for urban life, manage inclusion and citizen participation in a project in which quality public space for the citizens coexistence and principles of urban ecology, sustainability and resources saving are taken into account? Indeed we need to explore ways in which cities can develop more intelligently.

There is an obvious need to study the paradigm shift in the forms of artificial environment production based on a real and diversified demand versus the market offer; to study the demands in the urban space as a complex system of capacities, activities, means and requirements and to generate cartographies of the daily life that allow to elaborate a programmatic sheet for the urban project; to respond with the new enabling technologies to the challenge of building an augmented environment by defining the requirements for the design of systems that address the diversity and complexity of the new patterns of habitation; to research around the smart applications and the modalities of affection of the subjectivity; the experience of the smart city and its implications in everyday life.

The fundamental key of the pending research is to locate the constraints and perspectives of building places, territories and relationships for greater inclusiveness and equity, what means fostering a new



imaginery of everyday community life where confidence and identification with the place are promoted. And that compromises a gender perspective in the reflection. How can technological implementation contribute to reinforce integrating social dynamics, propose a multi-functional urbanism that favors diversity and social mix and an urban design that reinforces the collective life as already argued the legendary Jane Jacobs in 1961? To design from a gender perspective means to design for the diversity of people and collective situations, for solitude and for meeting for intimacy and for the community.

#### 2.2 AS A RESULT OF THE TECHNOLOGICAL REVOLUTION

Nowadays the space where we develop our lives is, indeed, an augmented environment, a technologically implemented space that produces profound effects on multiple areas of communications, knowledge and life experience. The perception of the body-space-time-language, the understanding of what constitutes the conception of the ways of being in the world, the others, relationships, education, socialization, work, health ... are mediated by the digital technology (such as presence or absence). This is an important moment to re-examine the situation of women in a restructured environment through the relationship between science and technology "(Haraway, 1991, 165).

ICTs bring with them a change in the line of thought according to which relationships are conceived in the city. Its networking pattern logic implies a de-hierarchization and a potential horizontality of the processes and, at the same time, a much more nourished information exchange. This feature, coupled with other conditions of our time that include a series of questionings in the foundations of social disciplines, makes of ICTs an interesting element, object of monitoring within the framework of the current city. From the point of view of the information and communication technology it would fulfill the dream of democracy and freedom, access to information to which all citizens are entitled and the possibility to promote interactive receptors. And from the concerns of ecourbanism it would imply a total reformulation and the search for a new paradigm that could cross the discipline of urbanism to world-wide level. The design of the city would no longer be only a formal matter but a question of management and exchange between different layers of information, knowledge and disciplines involved.

The recognition of the influence that the so-called information society has had in the realm of urban life is decisive in order to move towards any new model. Its scope, still greater than the changes produced on the television and the telephone in the last century, implies changes even more profound than any advance in the field of building and infrastructures in the transformation of the urban space. The effects of ICTs on urban life, the daily activities of citizens and, as a consequence, the space that these activities engender is more than evident. The technological innovations in the areas of computers and telecommunications that we are witnessing today are generating profound transformations in social and individual behavior that are ultimately redefining the public space and its limits. This is an immense field of research aimed at developing the necessary cartographies to create reliable specifications for a renewed urban design, informed by the many existing channels.

The importance of ICTs when thinking and designing the cities of the future is related to an increase of intelligence that is translated into efficiency in existing environments. It is a trend that is presented as a necessity in the world today. Information and Communication Technologies undoubtedly play a fundamental role in the evolution of spaces towards more sustainable, comfortable, interactive and intercommunicated environments to improve the quality of life of the people who live there. Much of the ICT applicable to these environments can be included in what has been known in recent years as the Internet of Things, that implies that all elements in nature are able to communicate with everything that surrounds them, and to transmit information of their state, position, etc. so that decisions can be made based on it.

These environments can be either a room, a complete dwelling, a neighborhood, a vehicle, a subway car, an airplane, a boat, a park, a hospital, a hotel, or a complete city. A permeability is established between the boundaries of these environments and a continuous space-time whose experience is and will be very different in a future that is almost present. To reflect all the technologies that will be present in our day-to-day life in the city of the future and all the initiatives that currently exist in the development and implementation of these technologies, the ITI (Technologic Institute of Informatics) has produced a "Brief Report of Trends 'Smart Environments: ICTs in Smart Cities'". This fundamentally focuses the concept of "Smart City! on three spheres: natural resources, health and urban mobility.



But usually they are business initiatives that investigate and promote the technologies applied in smart cities and the research developed by universities with external financing are aligned to business interest. Leading companies such as IBM work implementing equally with their projects and products urban environments in Spain, Portugal, Greece and Israel. Technological companies are advancing at a staggering speed in recent years to establish themselves and compete in this market by offering various installations, devices and applications that are overlapping with the settings inherited from the last century. In most cases, they can be considered implementations that affect specific aspects demanded within the broad spectrum of urban life's needs. Smart cities do rely on data. But what kind of data? With what intention and by whom are these data collected? how data are associated and become useful is the important question.

It is true that a wide variety of institutions - both private and public - currently work, experiment and develop research projects in this sector of the intelligent city. Among them there are large multinationals such as INTRA and in terms of universities, in Spain, for example, UC3M publishes about 68 research groups working on projects related to smart city and UPC has around 120 projects that make reference to the field of administration and public safety, education, human capital and culture, energy efficiency and environment, traffic and urban mobility, health, transport and railways, elderly people. In this respect the Technical University of Madrid (UPM) coined the term 'city sciences' which encompasses interdisciplinary postgraduate training and research projects.

Once the cybernetic world is already incorporated into everyday life and the demand for fiber optic infrastructure has recently joined the usual facilities, the possibility to simulate a smart city through sensors and devices, increases. The goal of "intelligent environments" is to bring the user processed information that is integrated into their daily activities through mobile devices and interaction. The technology that is applied to the urban space addresses very different aspects: from security for any undesirable or risky situation and surveillance (concepts associated with the vulnerability of the feminine gender and its safety), to public lighting, surveillance cameras, etc. To the security and control that become priority themes in smart city designs, we must add themes that have to do with time and efficiency. Efficiency and speed are values of our time. Energy efficiency linked to sustainable consumption, fuels and mobility, public lighting, etc. are added. There are also criteria of comfort, attendance to people, accessibility and "design for all" that are part of a large repertoire of smart applications. On a design level, they could be categorized according to the functionality or comfort with many nuances related to consumption, transport, leisure, etc. focusing on time saving and other resources. Undoubtedly, this tendency has its pragmatic references in the architectural view of "the machine city", perfect in its parts and reasonably analyzed in each element separately.

Technology is able to control facilities, adjust costs, optimize consumption, offer comfort, safety and most importantly, help the user save time. Lighting systems, pollution, information about public services and means of transport are controlled through programming systems. Within a wide range of fields of action, applications specialize in determined functions and adapt to existing structures and systems. Everything seems possible. The interaction of these systems with the person or the environment is established through the smartphone and touch screen. Its use seems to be easy (user friendly) and there are even special devices for people suffering from functional, visual, auditory, mobility or even cognitive diversity. Most of the applications that exist in the market implement a space designed by architects and conform to some regulations.

The criticism of this technology that generally implements the urban project is that it is normally generated from the supply side and not from the reliable knowledge of the needs and the diverse desires of the great diversity of users that configure the real demand. The architects who design the living space with geometry as much as the engineers who design devices and applications ignore the experiences and real concerns of users and the needs of specific places. The approach proposed here for the contemporary city has to emerge from the radicalized coexistence of both situations: is it appropriate to propose an urban space as a space endowed with urbanity when an intelligent system allows citizens to develop urban activities in the best possible way?

The purpose is to address the new forms of social construction of space and relationships in a connected world. On the bases of the characteristics of the network culture that, in our opinion, define the forms of subjectivity and online collectivity, the erosion of the public and private spheres is favored. The materiality of a connected life transforms our relationships with the space, the body and others. In contrast with the



protection of privacy that our connected room offers- that space that anthropologically allows us to construct identity and intimacy, now permanently connected - to the interactive public space, the augmented environment by ICT becomes a place for the production of the public. Today all those that are connected to internet become visible, we want to be seen.

The spheres traditionally differentiated and linked to the production and reproduction of the world, with the masculinisation and feminisation of different spaces and practices of culture, have definitely been eroded. This erosion shows some scenarios and roles hidden as well as those who lived among its walls and that are now connected. Women these days emerge from the connected private spaces to get immersed in the public realm seduced by the inexhaustible entertainment of the screens, learning to manage time and to build their subjectivity (Zafra, 2010).

The confluence in the network of production, reception and distribution spaces and, as a consequence, the apparent horizontality of these practices backed by the celerity and the excess as signs of this confluence. generate an illusion of choice and emancipation. Taking into account that the logic that manages this excess in large, huge numbers cannot be but statistical, it is not strange to notice the rapid equivalence of connectivity with service. As a counterpart to this hyperconnectivity, the excess of time and dedication spent by women in particular, seems to us a new form of saturation and vulnerability.

The swift from "I" to "we" in the community space, the technologically implemented and connected city, becomes an illusion. Technological immersion mutates into individualities that, in a first impression, move from old strong bonds to light bonds marked more by affinity than by identity, more by presence than by belonging, and both by the biopolitics of spaces and the technological materiality as well as by the constraining virtual network. The community seems to be articulated today as a multitude of people alone and interfaced by the machine, a multitude of people that are always connected (Zafra, 2010).

However, from the abovementioned characteristics, the emergence of new scenarios of creative possibility and of entrepreneurship that counteract the adversities inherited from precariousness in so many areas of the working and social life of women, particularly, can be detected.

Political philosophy and feminist political analysis can be productively applied to the new conditions that ICTs have created for women, although much more research is needed on the specific impact of ICTs on different populations of women whose lives are being profoundly altered by the new technologies, often in ways that are leading to serious physical and mental health problems. This holds true for professional women with a high level of education in academia, sciences and industry, doctors and computer engineers, as it is for administrative and factory workers or rural and urban workers. Given that most women are already doing "double shift" (production and reproduction), the demands and pressures of the just-in-time economy (JIT, a method originated in Japan to organize production in factories) and the high speed are affecting women more than most men. The high levels of chronic fatigue syndrome, depression and stress, even among professional women - which is the best documented group - demonstrate the high human costs of our economic and cultural productivity systems. According to Fernández and Wilding (2006), to achieve strategies of action, we must analyze the impact of new technologies on sexuality and the subjectivities of women; the conditions of production and reproduction - already linked in the case of women: gender roles, social relations, and public and private space; and it is necessary to challenge the naturalised value attributed to speed and efficiency, when these do not take into account the limits and needs of the organic body.

#### **3 FOR AN INFORMED DESIGN OF CITIES**

From this shallow analysis it follows the necessity to combine the efforts of the academia and the responsible institutions to investigate the real and specific demands of the different settings; conduct studies that address the complexity of urban conditions in order to design policies and carry out specific urban projects and not simply indiscriminately implement technological products in all spaces. This would serve to bridge a large gap existing between today's operational strategies - built on the basis of homogeneous demands and bureaucratically and rigidly managed - and the current real demands, increasingly heterogeneous, fragmented, and variable over time.

To this effect, the visions of citizens, an incredible amount of subjective data that are generated in the networks, could complement and enrich objective geospatial information. The "collective intelligence", the potential of the presence and participation of citizens in common things and the self-organization capacity of identities through the network that promote actions transforming the urban space has to be placed somehow at the service of the city.

It is true that in the field of disciplines that work on any aspect of the urban space, important methodological changes have been produced as we referred elsewhere (Trachana, 2012), so that Sociology approximates its methods to Ethnology and Anthropology abandoning theoretical models and trying to appropriate the urban through the direct sensory experience and the description of the particular (Delgado, 2007). Lévi-Strauss (1987) already warned us about the impossibility to access the real through the schematization of the action or the conceptualization of experience. The author also warned us about the abyss existing between what is thought and what is experienced. Everything that is present, and susceptible of being seen, observed and narrated matters much more than what is known. What is observable, intuited, the haptic, acoustic, luminous, thermal sensations which immediately affect the life of individuals, which constitute the sensitive space and not merely the formal-material city, is the most important (Trachana, 2013).

The question that arises is how to capture sensations, descriptions, formulations and proposals, which are difficult to classify, compare and analyze, in order to translate them. Blumer (1969) suggests "interractionism" as a set of honest descriptions of the area studied that would be an alternative to the protocolized information formats. This type of research is conceptually opposed to formalist research, so that problems, criteria procedures, techniques, concepts and theories fit the empirical world, a world that seems to have ceased to interest us.

In this context, recording techniques of what happens outside, of what depends on perceptual and sensitive value, such as drawing, photography, video, sound recording and voice, play a key role. Dialogue remains the most effective way to access the meanings that the actors attribute to the elements of the assessed environment. Therefore, the methodological questions concerning the way of detecting, recording, categorizing, and interpreting urban events call for a certain restoration of the much reviled confidence in the direct observation of the flow of urban life. The attention given to bodies and their languages, the role attributed to oral information, the capture of social activity in public spaces, could never be replaced by an established mechanic, by the established statistical values and meanings or simply by the application of regulations and legal prescriptions.

The assumption of this naturalistic perspective, at least regarding a readiness or openness towards the things and facts that are there and seem to be eager to be understood in their composition, requires the humble work of data compilation and inventory. The best we can do is the transcription and classification that properly corresponds to the observations. The detailed description to give an account in cartographic terms and record minutes of the observed, is considered as urgent and indispensable. The intensive and methodical use of the human capacity to receive sensory impressions whose variants are then destined to be organized in a significant way is the previous work to determine the real demands in order to give answers in terms of design and technological implementation of the urban space.

But the exhaustive immersion in the physical-tangible then raises the question of how to combine life with cartography, a map, a plane, a project, which is already the most philosophical theme of the same truth. The digital paradigm provides us with network construction and superposition of layers as a possible way of recording direct observation, the description of the given and its alterations. The digital tools allow to superpose and to read multiple registries, different types of observation, to capture movement, time and evolution, continuities and discontinuities, events, everything exposed to the senses apart from any preconceived idea and the abstract. All that can be converted into project data are no longer exclusively provided by public administrations - which, in fact, are currently undergoing a great effort to openly make them available to the public.

There are several individual and collective initiatives that investigate in this sense to create and transmit descriptions of the urban condition with new types of data that allow to complete the geospatial information and enrich the experience of the city. In this research it is possible to observe the ways in which smart applications affect subjectivities, their implications in daily and family life, the relationship between



genders, the emerging changes and the differences between men and women when dealing with technology.

Our purpose here is to account for the changes and resistances of today's urban life, the role of women contemplated with all the complexity and diversity that the contemporary social fabric presents, together with a technological background that demands a prevailing need to investigate in order to detect, determine and evaluate its effects. During the last decades, in the field of architecture where we are and also in related engineerings in an exacerbated way, action has prevailed over reflection (Lleó, 2006). The technology of products and tools has deeply affected the ways to design, the ways to act, collaborate, participate and produce the architectural space.

But what remains as the main issue is how optimized is the contribution of the media tools arsenal we have and the amount of data and information accessible to provide us with this global and totalizing vision that encompasses real, physical, corporal, intellectual and cultural demands to incorporate to the urban project and city planning. How can we derive from the analysis and interpretation of real and reliable data towards a project specification? Without any doubt, the field of research that opens in front of us is multidisciplinary. It is time to abandon the usual complacent solitude in which projects are developed both in architectural studios and research groups at the university.

To deal with the world of authentic specialization, we are asked to assume the need to interconnect specialized worlds, getting trained as authentic generalists in an institution such as the School of Architecture which, from a complex knowledge has to connect and relate the multiplicity of expertise. We have, in this sense, as teachers and mediators to promote substantial changes in the discipline by training agents as mediators, negotiators and communicators.

Advancing a little more in our thesis, we could say that the city and not the building, is the scale, the augmented framework of architectural intervention. The expanded architecture is the city, the city that becomes home. And our mission is to endow the city with this condition of use. What we need to change is its use value versus its value as a product that characterizes the current city. The new paradigm integrates elements of the virtual and the material world. Being already a "mixed environment" where the advancement of technology allows the juxtaposition of virtual information and the material environment where citizenship activities take place - giving rise to what is known as augmented reality (RA) – that is a new way of being in the world and related to it, between the body of the user and a generally mobile device.

The path taken towards a stage of complete digital and face-to-face integration effectively responds to the bipolar condition of the individual and by projecting it into the realm that inhabits get, on the one hand, an introverted position that explores the house and the city as a shelter of the self, and on the other, it considers them as the structure that enables and organizes all what is circumstantial.

The words that allow us to describe the city as a real and contemporary alternative, after having mapped the diversity and complexity of the variables analyzed above and many others, is hybrid (Trachana, 2014), liquid (Bauman, 2007), movable (Delgado, 2007), invisible (Innenarity, 2004). We are able to approach the project understanding it not as the quasi-mathematical consequence of a linear process with the hermetism of the finished product. Against the permanent materiality of the architectural orthodoxy and the project rigidity there is the heterodoxy that promotes change, the assimilation to a fluid environment, the aesthetic dematerialization of construction in favor of facilities, the consideration of flexible and adaptable strategies in any field, and the convergence of a digital immaterial environment that extends and increases the traditional architectural space.

#### 4 SMART CITY AND WOMEN: THE CHALLENGE OF TIME MANAGEMENT

Today's society is changing its habits due, firstly, to the continuous variation of the vital situations that allow us to identify ourselves as nomads due to globalization, labour circumstances and the elimination of borders as well as the acceptance of the destabilization in everyday life, which is identified with the concept of "performativity" posed by Judith Butler (2007), and that makes reference to the existence of many forms of behavior as identities. What affects us fundamentally is time much more than space. The interaction with space and objects takes place in time, a time that is not neutral but specifically dedicated



to our body, our mind and our relationships. Relationships for a physically and emotionally developed life in an ecological and sustainable space designed with responsibility and, as it cannot be otherwise, pierced by large amounts of bytes. We continuously transform, either consciously or unconsciously, this space through its use, manipulating matter and transforming energy with our bodies. We alter the environments through the information we receive and transmit leaving traces that are changing the social environment. We generate affections and phobias, desires, ties and works, and generate waste, much more waste than an evacuation network can withstand with the hope that an intelligent system will transform it into new consumption possibilities and release the overload of a deteriorated world.

If the woman, with her imperceptible t daily task hrough daily domestic work guaranteed that in the face of the threats of an unstable, changeable and hostile world, the house would remain unchanged and became the home to which we all arrived sooner or later, who will be able to guarantee now this immutable condition of the home linked to the maintenance of space and its inhabitants?

Now the permeability between the body, the house and the world through ICT is a fact. It is not a question of avoiding a conflict or an alleged deficit of domesticity, but of taking care of all the unsustainable aspects derived from the management of the augmented habitable environment.

Undoubtedly, time is the variable that appears as a priority for the development of a truly intelligent city proposal. A time intelligently managed after an experience accumulated by women over the centuries and undervalued and ignored by the rest of humanity. An administration of time that guarantees the fulfillment of all needs so that each one of the activities of the human being can be developed in this scope. A time that systematically analyzed through cartographies of daily life allows to visualize each of its derivations and implications with the body, the city and the rest of the planet. A time to meet demands that, once detected, can be introduced into a complex system of interrelationships and implications and be assumed by a set of design specifications, management, maintenance and control of a responsible urbanity.

We are not very sure of what we have in our hands, perhaps because of sheer ignorance of the technological potential still in development, but we can bet that between a variable, diverse and indefinite body and a global city, complex and plural, we need to find the solution together with the fellow engineers, psychologists, anthropologists, sociologists, and housekeepers of any sex, race, and condition as we are irremediably connected.

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IGOT Instituto de Geografia e Ordenamento do Território UNIVERSIDADE DE LISBOA





# 30<sup>th</sup> annual AESOP 2017 Congress Lisbon, Portugal

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