Urban devices
The representation of the urban landscape and scenarios of endogenous transformation

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To understand what urban places are and how they work, Michel de Certeau, in *The practice of everyday life* (1990), introduces the metaphor of 'urban tactics'. De Certeau's perspective is the starting point of this article that aims to investigate the complex relationships between urban spaces and activities, generally of a spontaneous nature, undertaken by citizens. In this metaphorical perspective, the urban space, made of symbols, signals, and linguistic codes, is a book to be interpreted properly and quickly, in order to cope with the multiple strains and unforeseen occasions contemporary city offers, and produce collective actions capable of altering the physical structure and relational components of public spaces. The research concerns the theme of *Urban Interaction Design*, an appropriate research field for defining the tools and processes of intervention, considered to be the result of negotiation practices and of an analysis aimed at transforming the components of the intervention sites into design proposals and decisions, based on the capacity to 'identify' and 'describe' the identity of urban contexts as the value that defines the places and their systems of reference. The article will proceed with an application of a specific example - the urban area of *Lavinaio* in Naples - which will be examined by the authors.

Keywords: Urban interaction design, behavioral design, metropolitan languages

1. Introduction
This article examines the abandonment of the notion of space – and, in particular, the space of the city – as a series of places corresponding to functions rather than people, and the adoption of a concept of space as a network of relations and thus in a broad sense as a 'space for living'. These reflections revolve around

the contemporary dimension of urban life, its complex connections, and the need to redefine interpretative strategies and representative paradigms.

The focus will initially be on the alterations affecting forms of contemporary living and its own vocabulary, which are leading to a general rethink of the methods and strategies involved in the rigid paradigm concerning the representation of the city and its territory. The visual conventions of the representative processes of urban space have experienced an unstable and turbulent period for a considerbale time. This is not principally due to the major innovations in digital representation systems, but rather due to the fragility they demonstrate in adequately expressing the accumulation of differences and contradictions that characterise the new forms of living and the new tactics of using urban places. New ways of interacting with the territory are emerging, in which the processes of signification of space multiply and overlap. Unprecedented temporalities regulate individual and collective experience. Interconnections are intensifying and the processes of globalisation are radically altering the relationship between space and time, leading to a new condition of an elsewhere that is simultaneously everyhere or nowhere. Representing this complex polyphony is a crucial challenge for understanding contemporary life, but also for addressing its modifications with greater awareness. Representations have the power to construct meanings, to institute and shape forms of knowledge, and to transform the collective perception of reality. Galimberti is absolutely right when he argues that "men have never inhabited the world, but only the description that religion, philosophy and science have, in turn, given of the world" (Galimberti U., 1994). One inhabits representations of reality and these "founding tales or maps have the power to construct belonging and relations, stratifying images and common sense, embodying desires and the possibility of control" (Attili G., 2008). In this sense, attention will focus on the practices of the 'invention of reality' (de Certeau M., 2001) which interpret the complex relations between places and the activities that take place there. They configure the 'life space' of the city, which is a fascinating maze of signs, symbols, codes and metaphors of living. It is a complex system whose signals should be intercepted in order to understand the sense of individual or collective actions. These actions have the power to modify the physical structure and relational components of urban space through a process that often spontaneously activates behavioural strategies that give new possibilities of meaning to inhabiting space[1].

2. Intercepting the city. Circumstantial views

In this dynamic, which refers simultaneously to 'representation' and 'self-representation', the contemporary city displays its clearest aspect: the state of belonging simultaneously to multiple collectivities, involved in a permanent flow in which there is a coexistence of local and global, near and far, past and present. These pluralist cities provide anyone interested in grasping its importance and significance with a new perspective: a 'nomadic' point of view which is far more capable of prompting a mobile view of a space that is in a constant state of becoming and manifests itself essentially as the space of relations and connections, a space of interferences. The descriptive anxiety that has marked the analysis of urban processes in recent history has adopted a zenithal morphology as its almost exclusive paradigm. This paradigm attributes meaning only to the figures that express themselves in complete form within a two-dimensional surface. According to this paradigm, it is desirable to establish an observation point in an absolute position, remote from the observed object, almost as if the impersonal and synoptic gaze of the observer somehow guarantees the 'objectivity' of the process of investigating the city. This kind of visual paradigm finds it hard to recognise that urban reality is not a simple overlap of levels of information, ascribable to flat two-dimensional representations, but rather a "collective way of conceiving

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[1] It would be more logical, in the case of spontaneous practices of urban planning, to refer to the notion of *Interaction Design* in a broad sense, not linked exclusively to new technologies, but rather to a wide-ranging concept of interaction as 'negotiation'. This could lead to decision-making processes and intervention proposals that stem from the capacity to identify and describe the identity of urban contexts in the sense of "the complex product of a set of circumstances, the overlap of different writings, social relations, paths and conflicts" Cf. Manzione L. (2000). Descrivere il resto. Altri sguardi sulla città, http://architettura.supereva.it/files/20000831.

space" (Boeri S., 2003). In order to represent it, it is essential to combine different languages, adopt alternative forms of representation, alternative visual conventions and alternative investigative strategies. Recognising the opaqueness of zenithal representation is the first step towards discussing the relationship between the map and the territory and the need to adopt a circumstantial approach to viewing, a sort of lateral approach to the observation point which makes it possible to create other maps. They are provisional maps which are at times incomplete but capable of expressing subjective points of view. "The map is not the territory" as Bateson reminds us (Bateson G., 1997), but merely a way of interpreting it and codifying it. From this perspective, mapping a city means "organising one's own spatial experience through highly subjective operations of selective representation" (Attili G., 2008). It is no mimetic seduction nor surrender to a passively descriptive approach, but rather a reinterpretation and transfiguration into image and narrative. From this perspective, maps and territory interface according to relations of sense rather than mimetic analogies. The adoption of an intentionally lateral and circumstantial view means choosing a self-reflexive and, in a certain sense, 'biased' condition of a representation that deliberately avoids adopting, as an operational category, the objectivity that 'leads the observer to *keep a distance* from the territory and delude him or herself into employing the same impersonal and powerful perspective that he or she uses"(Boeri S., 2003). However, this relational dimension should not be considered as conflicting with the physical dimension of urban reality. On the contrary, physical space and relational space should be explored in dialectical terms because both define the plot that connects humans to their surrounding environment. It is a scheme in which perceived space, conceived space and experienced space are intertwined (Lefebvre H., 1991). Concerning this point, Soja's observations in his theory of 'third space' are particularly illuminating (Soja W., 1996): while the first space is the material space of spatial forms and the second one is the perceived space that derives from mental representations, the third one is the space of experience and practice, a conceptual category in which materiality, perceptions, imaginary worlds, desires and actions merge with each other. It is a space whose representation does not simply involve enriching previous paradigms with 'new images' but, instead, involves developing "a new spatial thought made up of interconnections, short circuits, fluidity and dynamic tension" (Attili G., 2008). This form of representation should be sensitive to processes of signification and focus on qualitative rather than quantitative methodologies, examining differences with far more interest than invariant features. What is therefore required is a truly pluralist form of representation.

3. The area of Porta Nolana in Naples. Representation and pluralist thought

Exploring the depths of urban reality and examining the variety of worlds and stories within it means, to use the words of de Certeau, "thinking of the pluralist nature of reality and making this pluralist thought effective" (de Certeau M., 2001). This is the spirit that lay behind the analysis of the 'urban experience' of 'Porta Nolana' and the definition of the narrative strategies and planning actions capable of capturing the spirit and profound link with the sense of place.

It is not completely obvious that an urban plot can generate a coherent narrative.

In the case of Porta Nolana[2], which is a market area because it is a frontier zone, this has been clearly confirmed over the centuries. In a period of little more than a hundred years, the urban frontier has

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[2] The area of 'Porta Nolana' is a fragment of the urban fabric of the historic centre of Naples, situated near to the infrastructural junction of the central railway station and the old piazza del Carmine. The area is clearly bounded to the east by the presence of the gate, the traditional access point to the city, and the remaining part of the Aragonese defensive wall system of which the gate was a part, and is closed off to the west by the irregular layout of the road network of Lavinaio – which can be clearly distinguished from the right-angled layout of the late fifteenth century urban fabric. The Lavinaio was an old water course that flowed close to the old Angevin walls and collected the rainwater from the hills of Capodimonte, taking it to the nearby sea. Over time the area has maintained its ancient nature as a 'market area', in particular a fish market. However, it is now crossed by flows of migrants and is marked by distinct alterations in the relational systems between different social and cultural contexts. New interpretations of the sense of places move restlessly in an urban context which, each day, invents and stages strategies and devices for individual and collective survival. This area represented the opportunity to examine the above-mentioned cultural assumptions and pre-conditions and rethink the forms of a 'view' of the city that can interpret its vocation

shifted considerably. The marshland to the east – flourishing areas dotted with mills – has witnessed the invasion of the industrial structures of modernity which were unrealistic and have already been dismantled in a squalid landscape. The eastern port has been handed over to Chinese containers. The new social fabric outside the gate is an area of commerce, much of which is of an unmentionable nature. However, the fish market is almost identical to how it was in the past and the activities of the people who crowd the area of Porta Nolana are, now as then, marked by precariousness. There is a sense of precariousness where everything is at the very limit. This is the state of frontiers, a feature of places where the distinction between power and freedom is blurred. There is a precarious balance between law and regulation, of something within bounds that goes beyond bounds. It is both a threshold and customs barrier. This function has been obsolete for a long time and yet it has left an imprint that still remains to this day. This *genius loci* is perceptible each time one passes through the gate because although one is aware that one is neither leaving nor entering, the imposing stones still reflect a sense of adventure and leave-taking. A gate is a gap in an enclosure, a break in a journey, routes that branch out, warehouses and display counters. The names speak for themselves: Via Soprammuro ('above the wall', linked to the larger defensive walls built by the Anjevins) and via Carriera (a street where carriages can pass); via Gabella della Farina (Tax on flour); vico Forno (Oven) e vico Molino (mill) e, poi vico Vetreria Vecchia (old glassworks), vico Ferze (cloth) e via Croce al Lavinaio. If there is one apparently significant alteration to the scene, then it regards the way spaces originally designed as a single urban structure, a busy place for staying within the walls', have been transformed into a series of places that are rapidly crossed in the chaotic and feverish flow of people.

The large historic market of Naples was located nearby. Piazza Mercato, a large square with the church of Madonna del Carmine, the famous bell tower on the side and the scaffold for executions or hangings in the centre, braziers to keep warm in winter and large tents or marquees to provide shade in summer.

The Mediterranean city preserves many such sites: waterfronts and ancient gateways to the east. These cities have always been home to many different languages. Places for meeting, places with no clear membership of a state, foyers for foreign travellers, free-trade areas, places for prostitution and places of excess for various social orders. They are incertain and contradictory places, full of new anthropological features, linguistic crossovers with surprising accents. In these places, where there is considerably more than just colourful tradition, all references to identity should be tentative because they are places where the rapid acceleration of historical events has brought about change. They are places for experiencing the dynamics of mutual tolerance, getting an initial idea of others, of welcome and betrayal.

With the persistence of the same activities and customs, the inhabitants and activities of the market represent a unique cultural heritage. However, this cultural heritage should not be sought in a single identity. This would only be possible if there were a coherent community which is certainly not the case today.

This is not all. The fish market at Porta Nolana in Naples is a place where fish is sold and where a market is held, not just during the period around Christmas Eve, something which is quite clear to every foreign passer-by or resident.

It is a market that has always thrived and functioned without the area where objects and people are situated being legally recognised by the appointed authorities as a market. This instituional vacuum has led to the use of a degree of discretion, as well as the possibility of blackmail, neglect and abandonment. The people who live here, or merely work here, are not protected by the legal authorities and are not free outside it.

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and encourage collective actions. The bibliography on the theme of the biographical approach in the field of social studies and town planning is fairly extensive. For an overview of the subject, see the previously mentioned volume by Attili G. (2008) Rappresentare la città dei Migranti. Other works of interest include Albini, C.(1998) L'intervista qualitativa, in Melucci A. (1998) Verso una sociologia riflessiva, Il Mulino, Bologna; Cavallaro R. (2000) Sociologia e storie di vita: il 'testo' il 'tempo, lo 'spazio, in Maciotti M.I. (ed.) (2000) Biografie, stori e società. L'uso delle storie di vita nelle scienza sociali, Liguori, Naples.

Figure 1. *Naples. Porta Nolana. April 2013*

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Figure 2. *ToLead Nolana, image processing. The images represent the activities in the area of Porta Nolana over a 24 hour period and describe the alternation and overlapping between commercial activities, leisure activities and meetings, together with the "incursions" of tourists. The representation is part of the analysis conducted to design a blog about the inhabitants of Porta Nolana aimed at re-establishing coexistence between people.*

Figure 3. *Babelfish, image processing. Spaces and people overlap in an alternation of uses and customs: 4.00 pm, via Sopramuro is empty, the shops are closing and while in the morning there is smell of fresh fish and the cries of fishmongers, in the evening the area is "taken over by foreigners". There's a person who says he is Sicilian to explain that women are not welcome where he is going: because it is time for prayers and he is going with other "Sicilians", dressed in his thobe, felt hat and a western style men's racket that is slightly too tight for him.*

The aim is to recount this multi-faceted situation and recognise the site's vocation. It is a situation that is chaotic and stationary, surreal and iconic, stratified and anarchic, conspiratorial and circumstantial, multi-ethnic and a linguistic melting pot, supportive and marginalising ... this existential space has been the subject of narratives in a context where individual 'stories' have taken on a special significance and the biographical approach [14] has become a consolidated method.
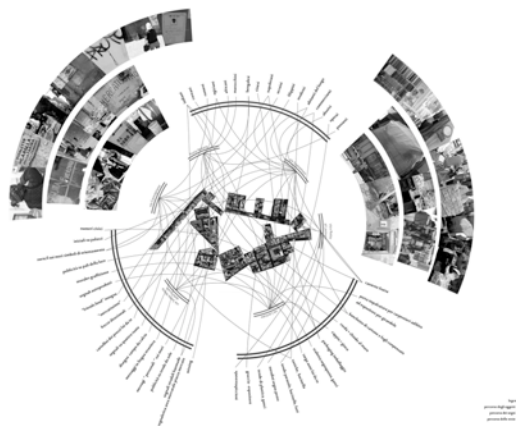

Figure 4. *The map recounts the 'experience of place' during surveys in the area of the Porta Nolana fish market. Before creating the map, files were prepared in which some of the data from the 'sensitive survey', contributed to defining the map of. The map indicates the areas and itineraries of the market, together with objects, signs, people that are present there.*

The aim is not just to explore a context made up of fluid identities and emerging forms of citizenship, but also to ensure that life stories represent a form of dynamic and interactive knowledge where it is possible to trigger processes of *sensemaking* that can reveal unprecedented imaginary worlds and the potential for change. These micro-narratives are full of meaning and tell the story of people and their relations with the city's space. The awareness of being inside observers of a field that 'contains' and 'interacts' strongly with the observer - rather than external observers - has inspired a representative approach that is organised into cognitive maps, infographics and hypermedia products. The perceptive, nominal and biographical dimension is intertwined in a 'space with different perspectives', rattling off a pluralistic account of observed reality. It requires an investigation that is careful to recognise systems of objects, sensations, signs, symbols and traces that define identity. Besides creating an effective map of reality, the accurate association between places and objects, places and sensations, places and signs, and places and stories has

given the observed data the significance of an 'informative piece of evidence'[16] which is somehow geolocated, from which precious clues can be detected in the process of interpreting the meaning of a place.
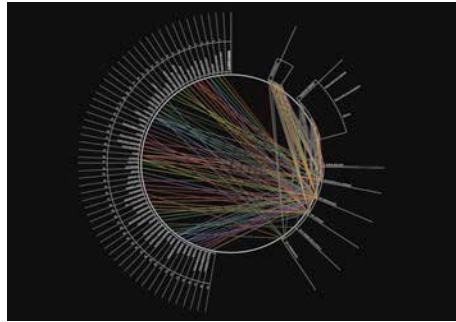

Figure 5. *Babelfish, the map of objects. The map describes objects in the area of the Porta Nolana fish market as relational devices. The cataloguing of 58 everyday objects was carried out using individual files. Their functional and relational uses were then linked to the places of Porta Nolana in this map, from which it emerges that the practical uses and uses related to urban practices overlap and are repeated in different areas of the market. Indeed, besides its strictly functional use, the same object may be used to mark out a boundary, as a means of defence, or to indicate links.*

Figure 5. *Babelfish, drawing of one of the possible configurations of the endogenous device.*
Babelfish is a sort of "useless machine", an accumulation of obsolete electronic "devices", such as cathode ray televisions, old generation computers and inkjet printers. The project aims to orient the user towards the discovery and translation of the code linked to the functional and communication uses of the objects in a place. The information can be consulted, printed, downloaded or uploaded. Anyone can contribute to extending the know-how of installation through audio, video or text files that are added via bluetooth or USB ports. Babelfish is a device that consists of a computerised system comprising the following elements: video cards; electric generators, the Arduino open-source framework; a series of USB links; processors and a series of peripheral devices: monitors, or video output; loudspeakers or audio output; video cameras; Hello Little Printers (2012). These elements were supplemented by the software and the supports that consisted of materials and objects available in situ such as the following: fruit or vegetable crates, wine barrels, wooden planks, rubbish bags, tyres, chairs and old furniture, cardboard boxes…

The recurrence of disarming strategies of decontextualisation of use objects gathered in eclectic lists has inspired endogenous devices where the hypermedia aspect of interactive communication has become the medium for the discovery and translation of the authentic urban ready-mades that make up the experience of Porta Nolana. The tendency for self-production in the systems of informative or directional signs, the habit of symbolic as well as physical appropriation of collective space as highly 'personalised' space, the gesturing that becomes a ritualised part of the daily mounting of the urban set, have all been transformed into various categories of a 'collective form of conceiving urban space'.

This approach regards self-production and adaptation as the inspiring feature and underlying idea of a militant design where sense-making and framing operations activate processes of attribution of meaning and define the transition from an analytical approach to an interactive, problem-solving approach.

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