

# Chapter 4

## To Be There, or not to Be. Designing Subjective Urban Experiences

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**Abstract** This chapter proposes innovative paths of interaction between design sciences and psychology, highlighting man-environment transaction models that could be integrated into design practices through the aid of urban simulation techniques. In particular, it is argued that designers mainly base their activity on implicit models coming from the behaviorist and cognitive psychological tradition, criticized as inadequate to richly depict people experience in environment, as they neglect its complexity, immersivity and eminently social nature. A psychological approach based on the central role of subjective experience is advanced, focusing on optimal experiences and their heuristic potential for design sciences. Some useful tools for an anticipated assessment of spatial design projects through urban simulation are presented. It is also underlined the relevance of urban simulation for the general public, as it is often involved in processes of urban renewal that are strictly connected with the social debate in the contemporary city. The need for an interdisciplinary approach is stressed, proposing to conceive the simulations as urban cultural artifacts able to promote social engagement and community well-being.

**Keywords** Psychology · Subjective experience · Social context

### Introduction: A Psychological Contribution for a Multidisciplinary Approach to Urban Design

The general purpose of this chapter is to contribute to the development of an interdisciplinary approach to urban design. This need is well delineated by Romice et al. (2016), who suggest to reframe the concept of city as an element that is

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constitutionally defined both by its spatial features and the social processes occurring in it. These two dimensions should then be conceived as reciprocally influencing each other, with no hierarchical subordination of one to the other. Even though some disciplinary integrations have occurred, looking at the correlation between space and social dynamics or at the contribution given by powerful mathematical models, the role of social sciences remains restricted mainly to research and only occasionally included in the actual design process. This condition is well observed both in the research field, where terminology obstacles prevent scholars from reaching effective disciplinary exchange, and in practice, where consequently just a superficial awareness of the topic is spread. An example is represented by the concept of well-being, described mainly in terms of comfort by designers (e.g. temperature, light, sound) and conceived by psychologists as a multidimensional notion that can be at least separated in its hedonic and eudemonic components (e.g. satisfaction and self-realization) (Ryan and Deci 2001); such reciprocal difficulties in the use of lexicon certainly does not favor the spread of an informed vision among practitioners.

More specifically, the first goal of this chapter is to delineate the role that simulation can have for urban design, as reinforcement of the connection between physical and psychosocial aspects. Indeed, in our perspective the experiential simulation of environments is the activity where the natural encounter between social scientists and designers can most fruitfully take place. Urban design, if interested in projecting spaces enhancing human quality of life, is expected to devote more attention to the inhabitants' scale (Romice et al. *ibid.*), which implies an increased sensitivity to human experience. In this transition we see the main connection with psychology, especially referring to studies exploring the components of well-being. In fact in the last years different branches of psychology faced a renewed interest for the positive features promoting optimal development of individuals and communities (Seligman and Csikszentmihalyi 2000); even if it cannot be defined as a scientific paradigm shift, considering the important dissimilarities observed in the theoretical and methodological approaches, it certainly gave more prominence to the study of subjective experience and its relation with other dimensions, including environmental and social aspects.

The second goal of the overview of psychological theories, presented in the following paragraphs, is to increase the awareness of designers about the implicit use they make of psychological concepts. As the core competence of architects is to design spaces for people, they develop strong skills in analyzing and reproducing the environmental elements necessary to realize the physical transformation. Yet, since the human component cannot be neglected in the process, they rely on implicit assumptions about human functioning that only occasionally are formalized, and which appear diluted in design theories, even when they represent actual models describing a human-environment relationship (Hanson 2000).

In the second part of the chapter we discuss the common scenario occurring when the psychosocial aspects are taken for granted without an explicit reflection on the psychological model. In fact, within the wide spectrum of the discipline, design sciences mainly derive the psychological approach to the perception of space

and its qualities from a cognitive and rational perspective. For this reason, they assume that the individual can be described as a processor of information received from the outer world, who analyzes its components and formulates a judgement based on utilitarian goals and aesthetic elements, which are supposed to be universal and culturally invariant; even more, in some cases the human being is conceived as automatically driven to perform a behavior by external stimuli that function as activators. Namely, in such perspective, the needs for understanding, orientation and territorial defense steer individual preferences.

In the third part of the chapter we show how this view neglects three elements equally present in the psychological literature. First, everyday life can be interpreted not as a context to be analyzed separately, but rather as a subjective experience, in which there is no separation between momentary cognition and bodily presence in the socio-physical environment where it is generated. Second, such experience is characterized by being a unity (*gestalt*, atmosphere) which cannot be described referring to specific or isolated aspects, but rather depending on their temporary relations. Third, the wholeness of the experience includes the social relations and the public discourse, rather than resulting from a purely individual perception of space. From this point of view, urban simulation processes, designed to collect impressions and suggestions by citizens, should take into account the complexity and inseparability of the relationship among person, society and environment. This implies to analyze the user experience focusing on theories like sense of presence (Ijsselsteijn and Riva 2003) and flow of consciousness (Csikszentmihalyi 1975/2000), which are related to the quality of the simulation and the features of the environment. This approach also leads to devote more attention to systemic features of spatial experience.

In the fourth part of the chapter we finally explore those aspects regarding social interactions, considering how they affect the individual and collective relation with the urban environment. The level of investigation in this case is no more exclusively focused on individuals, but on communities as a whole. We argue that theories developed in this domain should be taken into account not only to assess specific aspects of a simulation, but also to manage the whole process that includes the simulation itself. The main aim is to emphasize the value of this process as a way to engage people in taking care of their spaces and communities, that is a meaningful qualitative improvement of civic participation. Then it is not only a technical issue regarding those directly involved in urban simulation, but also the wider spectrum of public and private social actors who benefit from it.

## **Human/Environment Interaction: The Behaviorist/Cognitive Perspectives in Psychology**

Man-environment transactions are a privileged subject for both the design sciences and the psychological ones. It can be said that these disciplines are two sides of a same coin, as they look at a unique phenomenon, the person in environment, from

two different perspectives. Since the late 50s the two research traditions have been progressively contaminating each other, creating hybrid disciplines such as architectural and environmental psychology. This process entailed a gradual transition, from psychology to design and urban simulation, of the mainstream frameworks that were used to model the relationship between man and environment. In this regard, two reviews (Altman 1973; Altman and Rogoff 1987) underline the existence of four general models across the psychological literature on environment: (i) mechanistic, (ii) behaviorist, (iii) cognitivist, (iv) systemic (ecological/transactional). In a parallel way both disciplines have aligned in interpreting such frameworks, postulating holistic approaches but conducting their researches as if environment and man, and their wholeness, could be disassembled in a huge number of atomistic variables that influence or are influenced by other elements, to be observed separately. In other words, the mainstream approaches claim to be inspired by ecological models, rejecting the linear causality in favor of a multifactorial interpretation able to take into account the dynamic complexity of the real contexts. Nevertheless, in practice they tend to use as daily research tools measures of discrete and separate physical or psychological variables, denying the holism assumed as the theoretical foundation for their research. For example, simplified indicators are often used both to measure complex psychological states (e.g. blood pressure as representative of a stressful experience) and to epitomize environmental qualities (e.g. light intensity, number of trees).

Such a way of thinking is criticized by Bonnes and Secchiaroli (1992) as they state that this field shows a divergence between its theoretical intent, oriented in a psychosocial sense, and research practice, basically oriented rather in a molecular way. Taking as reference Altman's taxonomy (1973) described above, we can say that there has been a tendency to evoke systemic models on the theoretical level, except then applying mechanistic models in practice, whether they were behaviorist or cognitivist. These two facets of dominant models show fundamental analogies and some significant differences. The behaviorist approach is supported by a fairly stable form of environmental determinism, assuming the existence of variables that affect the individual from the outside and invariably produce the same physiological, behavioral, or perceptual/evaluative reactions, in a context-driven framework called stimulus-response (S-R). This can be considered the oldest form of models describing the human-environment relationship in psychology, in which a mechanistic linear causality model is applied to human behavior. In the cognitivist approach, a perspective that remains individualistic and mechanistic but introduces a circular information-processing system, external stimuli are supposed to be analyzed through schemes and cognitive maps. The analysis then produces a behavioral output consistent with the cognitive categories and the personal history of the subject. So this is a schema-driven vision, focused on the study of the human information processing, namely the human capacity to cope with an external environmental stimulus or set of stimuli (Stimulus-Organism-Response, S-O-R framework). In this vision, human beings provide a rational analysis of the perceived environment, relying on utilitarian goals and/or on a limited number of environmental features with an "universalistic taste".

It seems possible to hypothesize that, in addition to an objective need for simplification, there are two concomitant causes for the central role gained by these models in design sciences. Firstly, it could depend on the traditional structure of the scientific method, which is based on the manipulation of the independent variables measuring its effect on human behavior, and is thus defined around discrete, atomistic variables, separated one from the others. Secondly, it is noteworthy that the historical period when the integration between the two disciplines started was also marked by the affirmation of cognitivism as the mainstream paradigm in psychology. Probably, design and urban simulation have been then mainly influenced by cognitive psychology rather than from other theoretical trends. The pervasiveness of these orientations contributed to make them “immanent”, as they are automatically adopted without a conscious reflection on implied weaknesses. Far from being neutral, the chosen human-environment interaction model influences any further development, severely impacting on the practical aspects of research. From the definition of a reference model derives in fact the operationalization process, i.e. the translation of abstract concepts such as behavior, environment, well-being in concrete variables and indicators to be measured and analyzed. That immanence emerged to the detriment of other less known theories which could show a wider heuristic power in building innovative models about the man-environment transactions. In the next section, they will be explored as responses to the main critiques addressed to behaviorist and cognitive models, and their use as new research tools in urban simulation will be suggested.

## **Human/Environment Interaction: Towards a Holistic Perspective**

With respect to the popular visions described above, three significant criticisms may be advanced (for a more comprehensive discussion, see Rainisio et al. 2014). First of all, the normal condition of everyday life is not a rational analysis of the context, but a continuous experience, in which is impossible to separate subjective cognition and bodily presence from the socio-physical context by which they occur. As noticed by Ittelson (1973): “*One cannot be a subject of an environment, one can only be a participant. The very distinction between self and object breaks down: the environment surrounds, enfolds, engulfs, and no thing and no one can be isolated and identified as standing outside of, and apart from, it*” (pp. 12–13). Secondly, such a continuous experience is subjectively perceived as a whole (a *gestalt*, and regarding the urban space, an *ambiance*) not reducible to particular/isolated stimuli/spatial objects, but rather dependent on their momentary relations. Furthermore, this gestaltic experience is a result of the social and public discourse too, hence more than the outcome of a purely individual perception of space.

A qualitative urban simulation process, designed to collect impressions and suggestions from the citizens, then should take into consideration some contributions from psychological theories that have not been adequately considered so far in

this field, as they are based on a different conceptualization of the human-environment relationship, founded on the unifying concept of *experience*. This research paradigm characterizes in fact part of psychological research since its origins, focusing its attention on subjective experience seen as a totality and on the inseparable nature of the person-environment dyad, thus rejecting every type of mechanistic reductionism. We could define such an approach as phenomenological, and select among its most recent contributions two concepts that might be a useful support for the design process: *presence* and *flow of consciousness*.

The concept of *presence* was defined by Lombard and Ditton (1997) as a “*perceptual illusion of non-mediation*”, which is a basic condition to allow a subject to interact realistically with an environment through the mediation of a virtual reality support. It was born within the studies on the user experience with telecommunications and videogames, which consider immersive experience in virtual scenarios one of its central research topics. A causal correlation between a high level of perceived immersivity in a virtual environment and its perceived realism has been proven in this research area, and a high perceived value of immersivity is then considered conducive to the involvement in the game and to the pleasure of the game itself. As summarized by Ijsselsteijn and Riva (2003, p. 3), presence is neither a reaction neither a response, but a gestaltic experience grounded in the phenomenological *here and now*, and “*there is consensus that the experience of presence is a complex, multidimensional perception, formed through an interplay of raw (multi-) sensory data and various cognitive processes*”. Although being not feasible to completely eliminate the *mediation bias*, namely the distortion forcedly introduced by the mere presence of any kind of medium, it is in any case useful when using a virtual environment to measure the “*presence*” variable, in order to understand how this is related to some features of the medium and to what extent it is instead connected with the environmental assessment eventually requested to the users.

Moreover, in a broader vision that goes beyond the media field, the presence (called *inner presence*) is a system of continuous monitoring of individual activity operating in two ways: “*first, presence ‘locates’ the Self in an external physical and/or cultural space: the Self is ‘present’ in a space if he/she can act in it. Second, presence provides feedback to the Self about the status of its activity: the Self perceives the variations in presence and tunes its activity accordingly*” (Riva et al. 2011, p. 3). This means that presence is connected with human well-being, because a greater sense of presence corresponds to a feeling of optimal functioning of the person in a given environment, whereas the opposite perception (a lower sense of presence) is conducive to a breakdown and a behavioral re-orientation.

The possibility of measuring this optimal experience in its entirety is given by another construct that have received wide consideration in psychology, called *optimal experience* or *flow* (Csikszentmihalyi 1975/2000). Flow is described as a condition of engagement and enjoyment lived by people while performing challenging tasks. When the task is performed well and naturally, the individual experiences a feeling of involvement that merges concentration with action, resulting in a smooth execution “*flowing*” spontaneously. It is considered an *optimal experience*, because *in such complex state cognitive, affective and*

*motivational processes interact in an ordered way eliciting a positive sensation and hence becoming intrinsically rewarding.* The flow of consciousness can be experienced only when individuals perceive the environmental challenge as highly demanding and at the same time feel they can cope with it. Since the first studies Csikszentmihalyi have described different components to be included in the definition (Csikszentmihalyi and Csikszentmihalyi 1988): challenge-skill balance (subjective perception of competence in the situation); action-awareness merging (actions are done spontaneously without effort also when including complex tasks); clear goals (to identify specific route of action); unambiguous feedback (regular monitoring of how well one is going); concentration on the task at hand (ignoring thoughts and environmental inputs not related with the performance itself); sense of control (it transmits a feeling of mastery and self-confidence); loss of self-consciousness (oneness with the environment that leaves no space for others' evaluation); transformation of time (it seems to speed up or to slow down); autotelic experience (the reward is the positive feeling itself, that is the ultimate aim of the activity: it is intrinsically motivated). The flow experience cannot be consciously controlled: it is not possible for individuals to make it voluntarily arise at any given time. Researchers though identified individual (Csikszentmihalyi 1997; Csikszentmihalyi et al. 1993) and socio-cultural characteristics (Delle Fave et al. 2011) that can affect the insurgence of flow, increasing its frequency, the quality of the experience and the activities from which it originates. Empirical studies have focused largely on positive effects that flow has on performance in a variety of domains such as education (Shernoff and Csikszentmihalyi 2009), work (Wright et al. 2007) or sport (Jackson and Csikszentmihalyi 1999). This dynamic is considered the driving force generating the phenomenon defined as *psychological selection* (Csikszentmihalyi and Massimini 1985), the process that accounts how choosing on a daily basis the activities source of flow we build the cultural environment and our personal *life theme* (Csikszentmihalyi and Beattie 1979; Inghilleri 1999). It is in fact assumed that flow is an active incubator of socio-cultural dynamics through the ongoing selection of simple and complex artifacts (e.g. objects, concepts, places) and their dissemination across the life contexts.

In summary, it is possible to suggest a new interdisciplinary holistic approach for guiding urban design and simulation towards the delivery of a comprehensive strong methodology grounded on the human/environment relationship. This framework emphasizes the existence of an *entity*, namely the *person-in-environment*, that does not receive stimulations from another separate entity, but that is instead an inseparable part of the whole; thus, it is not affected by single stimuli but is rather involved in an ongoing and totalizing experience of *being in place*. In this sense the *person-in-environment* is not passive, but rather actively builds the conditions to improve its individual and social wellness. As presence and flow have been found to be connected to optimal cognitive functioning, positive emotions and well-being in general, they can become operational indicators of a wider experience of space, describing more accurately the spatial-socio-cultural dynamics of everyday life; hence, the proposed approach does not fragment the *person-in-environment* entity in a myriad of single stimuli disconnected between one another.

Moreover, we are not proposing to rely on a purely abstract framework, since in both cases several measuring tools have been developed over time able to ensure an adequate operationalization of the two concepts, making them suitable and fruitful for applied research too. With regard to the presence, we can indicate as useful tools two questionnaires validated in the international literature: the UCL Presence Questionnaire (Slater et al. 1994) and the Independent Television Company Sense of Presence Inventory (ITC-SOPI; Lessiter, et al. 2001). Also flow could be measured using several quantitative instruments, including the Experience Sampling Method (ESM, Csikszentmihalyi and Larson 1987), the Flow Questionnaire (Csikszentmihalyi and Csikszentmihalyi 1988) and the Flow State Scale (Jackson and Marsh 1996), just to mention the most widespread. These tools may be supportive for architects and planners decision making in some crucial phases of their work. Through the support of the environmental simulation, a quick assessment could be conducted during any step of the design process to find out whether places/buildings currently under design are able to elicit a flow experience in a chosen audience, or which intensity in the sense of presence can be generated by a given virtual environment. The collected values can be correlated then with different design versions, to understand which design elements can be varied to generate optimal experiences in people. Moreover, these tools can be used by the public authority to define richer design guidelines, or to choose between different projects in an open competition. As discussed in the following section, these tools would also appear relevant for the broader social context, given the importance of environmental simulations as objects of social interaction and debate on a local scale.

## **Human/Environment Interaction: The Perspective of Community**

The theoretical and methodological contributions summarized so far investigate the relationship between people and environment exclusively or principally at the individual level. However, taking into account the contribution that can be offered by the psychological field to urban design, we cannot neglect the branches more focused on social dynamics and on their influence on such relationship. In our attempt to depict a broader framework for the kind of interventions developed by urban designers, we are stressing the consequences that their work has on people living in the environment, who can be conceived both as individuals and as communities. Referring to this specific aspect, we are assuming that communities cannot be simply described as a collection of individuals, but instead represent a level of investigation that requires particular constructs and tools in order to be portrayed (Kitayama et al. 1997; Zimmerman 1990). This means that, as for the transition from a merely cognitive and perceptive level to a more experiential one, a theoretical shift should be considered in order to tackle group interactions. To do this, it is important to identify the proper conceptual background and consistent methodologies.

As we have already discussed previously, flow is a construct that opens the way to the description of social and cultural experience, building a direct connection between the intrapsychic world of the individual and the physical and social environment in which s/he lives (Boffi et al. 2016). Then, if we consider urban environments, where transformations are planned and take place, as complex systems of socio-cultural artifacts which are the precipitate of symbolic and affective meanings, we cannot ignore the people who give origin to those meanings.

Moving a step further in that direction, we consider in this paragraph some of the concepts developed by social psychology that can fruitfully integrate the perspective of designers. Our goal is to sketch out the kind of contents that we consider generally underrepresented in urban design processes. In particular, we are mainly interested in clarifying two levels of disciplinary contribution. On the one hand, some constructs can be directly included when assessing the features of places most probably related to psychosocial aspects. On the other hand, the wider psychological approach to group dynamics, especially when regarding the interaction between citizens and institutions, can be considered as the general framework to manage the whole process of participatory design.

The first level, likewise contents presented in previous paragraphs, is mainly focused on psychological notions useful to interpret the physical and social environment. In fact there are some specific constructs developed in the field of social psychology that could be included in the process of evaluation, both of existing conditions and simulations of planned changes; such constructs would allow to inform designers about social consequences of their projects, helping them in anticipating some features of their projects not directly inferable through their own technical skills.

*Sense of community* is recognized in the literature as one of the most fruitful constructs describing factors promoting positive communities (see Talò et al. 2014 for a review). It was first defined by Sarason (1974), and then described by McMillan and Chavis (1986) as formed by four distinct elements. *Membership* regards the sense of belonging to and identification with a given group, which implies the exclusion of those who are considered out of the boundaries; this element is connected with emotional safety, the sharing of a symbolic system and a sense of personal investment. *Influence* includes the bidirectional relationship involving the individual and the community, hence describing the perception of both the opportunity a member has to exert an impact on the others and the role that the group plays in affecting individual decisions. *Integration and fulfillment of needs* describes the positive effects that being a member of a community produces on individuals, satisfying needs that would not be answered otherwise. *Shared emotional connection* covers the relevance of positive interactions reinforced through important events and opportunities, which results in stronger social bonds. Such construct, although over the years has been modified with reference to specific populations and measured with an array of instruments, is widely recognized as a positive factor influencing individuals and communities, playing a role in promoting well-being (Francis et al. 2012). Among the measures used to assess it, the most widespread in the literature is the Sense of Community Index (SCI; Perkins

et al. 1990), applied to different populations under examination. Notwithstanding the difficulties of translating these theoretical concepts and their assessment directly into operational recommendation, findings suggest to increase sense of community by facilitating interaction among neighbors and their long term stability in the area (Farrell et al. 2004), or by offering public open spaces and shops in residential areas (Francis et al. *ibid.*). Interestingly the construct is positively associated with other measures, like sense of safety (Zani et al. 2001) and place attachment (Long and Perkins 2003). The latter is particularly profitable for the purposes of the present chapter.

*Place attachment* is a set of place-based bonds existing between individuals and the environments important for them. It can be conceived as a multidimensional construct, including three main dimensions (Scannell and Gifford 2010). *Person*, describing the actor of the attachment that can be both individual and collective; even if these aspects can overlap, it is useful to emphasize distinct features referring for example to personal memories and shared historical events, respectively. *Psychological process* concerns the dynamics taking place in the formation and maintenance of place attachment, which are mainly organized around three kind of components: affective, cognitive and behavioral. *Place* represents the object of attachment, that is inherently physical and social; the first aspect is studied at different geographic scales (e.g. room, house, neighborhood, city) or in various typologies of environments (e.g. built, natural), whereas the second is explored by a bulk of literature describing the connections with other psychosocial constructs. Among these, it is relevant to consider its association with well-being (Brown et al. 2003) and the general positive aspects it implies, that can affect also the behavioral dimension encouraging people to maintain closeness to meaningful places (Giuliani 2003). According to Fullilove (1996) familiarity with an environment is an essential cognitive component of place attachment: in our perspective if experiential simulation of a place enhances the knowledge and the organization of its components, it can serve as an indirect instrument to increase place attachment. In a broader perspective, Manzo and Perkins (2006) suggest that acquiring information about place attachment of different groups in a community can help in developing more successful strategies of land use, resulting in higher consensus of the population. A questionnaire developed by Hidalgo and Hernandez (2001) explores the construct including social and physical dimensions at three different levels (house, neighborhood and city).

The findings illustrated so far, like those deriving from social sciences in general, require caution in generalizing the relations among variables and even more in applying them on the field. As claimed by scholars, even if it is possible to depict some general trends, assessments regarding particular populations (e.g. adults, adolescents, immigrants, wealthy people) or specific places (e.g. metropolitan areas, small towns, green spaces) can significantly vary the results (Long and Perkins 2003; Zani et al. 2001). The phenomenon is even more pronounced when combining these factors among them. For this reason, relying on literature when designing a specific urban area can offer some general insights, to be complemented with in situ evaluations in order to better tackle the overwhelming complexity of the

real context. The role of experiential simulations in building this specific added value is discussed in the following part of the paragraph.

The second level of contribution of social psychology is represented by a shift from theoretical and methodological knowledge to the application of such knowledge to the management of the process. So far we have considered the kind of information that can help designers in directly assessing the advancements of their work. But in an interdisciplinary perspective the whole process of designing an urban transformation, simulating it, and communicating it to citizens in order to obtain a feedback cannot be handled by designers alone. We imagine such a process as a cooperation among different competencies, for a series of good reasons. In fact, proposing the citizens a simulation of future changes of the spaces where they live, work, spend their free time and in sum build their lives cannot be considered a neutral action: in doing so one not only collects information and feedback from them, but also actively changes the social field by creating expectations, stimulating the formation of new groups (e.g. those directly interested by the project, those resisting to the transformation), inserting a new topic in the public debate. Underestimating such aspects would lead to a great misconception of the social consequences of this activity, which indeed is not simply a collection of information from passive individuals but instead a call to engagement to active citizens. This topic may appear less important for designers at first sight, as it is not directly informing them on the qualities of their projects. Yet, the effectiveness in governing the entire procedure of involvement is key to make simulation be perceived as an informing tool for decision making, and not as an appealing toy for institutions or private actors to cheat citizens. This aspect is particularly crucial, considering the decrease of trust in institutions that is observed in many countries, including the United States (Dalton 2005) and the European Union (Braun 2012). As shown in literature, the lack of trust can be considered either a general obstacle to the development of active citizenship (Uslaner and Brown 2005), or a catalyzer for it but promoting forms of participation alternative to the institutional ones activated by those seeking an interaction with citizens (Citrin and Luks 2001; Dalton 2002). Then it is fundamental to conceive experiential simulation as part of a deliberative process aimed at involving citizens, and not as a technical tool to inform designers only. As such, it is required to face two different paths that can lead to participation (Stürmer and Simon 2004): the first is linked to social identity, therefore more sensitive to the identification with the group; the second is instead based on personal identity, hence referred to the cost/benefit ratio regarding the effort of participating to the process and the actual results deriving from it. The first path is traditionally followed by those who self-identify as activists (Klar and Kasser 2009), namely people with a high sense of responsibility toward the community as principle driving their choices, who live it not as an imposition: “activism is not merely something which the respondents do, nor even just a part of them. It is them. During their long, accumulated years of engagement, they have come to define themselves through their activism” (Andrews 1991, p. 164). These people are extremely sensitive to the political, ethical and social imperatives that call for a development of participatory practices (Burton 2003). Obviously this general

identification is not sufficient to activate and maintain in the course of time the participation of citizens, whereas more meaningful group identification (e.g. inhabitants of a given area in a neighborhood, local associations, parents of kids attending a specific school) can foster the will to directly engage. The second path regards those who are more interested in the concrete outcomes resulting from the process. In this case people are more interested in evaluating the quality of participation, namely the effort required in terms of time and competences to handle the issue at stake, and the benefits deriving from the whole procedure, in order to decide whether to be directly involved and persevere in it. Scholars in the social field include among such benefits not only economic improvements or better services, but also relational rewards like the perception of having more responsive institutions (Finkel 1987) or individual gain in terms of subjective well-being (Stutzer and Frey 2006).

The very nature of experiential simulations we are taking into account, that are applied to real urban environment, defines the boundaries of the consultative arenas they can be included in, that in the first place would be mainly focused on pragmatic issues regarding the qualities of the project. Moreover, considering the amount of effort, in terms of time and economic resources, necessary to build a reliable experiential simulation with current technology, it is plausible to imagine their use in one or few recursive phases with predetermined duration, since the implementation of the changes resulting from the information obtained by citizens would not be sustainable if repeated too many times. Finally, the resources and the technical skills required to develop the simulations suggest that they would be included in processes managed by influential stakeholders, who then would activate ad hoc deliberative settings which would be perceived as controlled and non-spontaneous. In consultations sharing these kind of characteristics, that is (i) focused on single pragmatic issues, (ii) most likely concentrated in a short period and (iii) formally led by public or private institutions, it is more plausible that social identity remains less significant, shaping a situation in which participants are more prone to consider themselves as single individuals (Mannarini et al. 2010). This is not a problem per se, but implies that setting-related variables, like the evaluation of efforts and benefits or the emotional aspect of the experience, acquire even more importance. The weight of these variables is intensified by the fact that in this kind of consultation it is more frequent to observe intermittent attendance at the meetings and pragmatically oriented approaches. To put this in different terms, the kind of participatory processes where experiential simulations can be most effectively included are those where the quality of the tools and procedures is overall crucial to facilitate the inclusion.

We are sketching out the guidelines of a method integrating design phases and decision making process, which is hinged on experiential simulations as pivotal decision support system (Bosselmann 1998; Piga and Morello 2015). The ultimate goal is to provide architects, public institutions and private stakeholders with the most adequate information necessary to manage urban transformation. In order to maximize the possibility to acquire those information, social actors in charge of designing inclusive practices should create positive participatory settings

(Boffi et al. 2014), which can be defined by accessibility (amount of time required and information given to participants), sustainability (relational and emotional experience), transparency (aims of the consultation) and effectiveness (actual consequences of the opinions collected) (Mannarini et al. 2010). Some of the required properties can be directly tackled through experiential simulations. For example, they can facilitate the transmission of information regarding a given space, especially with a population without technical skills in envisioning it; this would also result in time savings. Sustainability is reinforced by the degree of playfulness introduced by the technological tool supporting the simulation, which is a valid help to build a general positive emotion—clearly such effect should be given adequate consideration when using the assessment of the simulated environment to forecast the assessment of the real environment. Finally, it is useful to enhance transparency, making more evident the elements and their related attributes potentially modifiable in the project. As we already highlighted, the use of simulations must be consistent with the whole process which take place before, during and after simulations themselves. The expectations elicited during the initial communication, addressing participants as “beneficiaries”, “clients”, “users” or “citizens” (Cornwall 2003), define a specific framework that must be in harmony with the activities designed. In a similar way, the complete lack of impact in the real space of the suggestions gathered during the process can severely ruin the reliability both of the proponent and of the methodology.

## Conclusions

Our attempt has been to delineate the logic that should drive the creation of a shared ground for urban design. In such perspective designers and planners are seen as professional figures at the intersection of a flow of information, coming from different disciplines. The main point we have tried to stress is that they are not supposed to become experts of other fields, but instead (i) be aware of the competencies available to complement their skills and (ii) recognize the consequences of a theoretical or methodological choice made at any stage of the design process. From a broader perspective we are imagining a cultural shift in the professional domain of architecture and planning which redefines its borders. On the one hand, it requires to expand the area of information collection when designing, giving actively more space to other professionals or to non-professional figures, considering in the first place citizens and users of the spaces. On the other hand, such professional variation implies to loosen these borders, favoring an informed use of other expertise even if not directly involved in the design process. The ultimate goal is not to substitute designers, but to reinforce their capability to transform ideas and principles into spatial features by providing them feedbacks about the development of their work.

From the psychological point of view such feedbacks are mainly focused on subjective experiences. Given the nature of psychosocial variables, it is key to

remember that the choice to refer to a specific construct to conduct data gathering and assessment is not a neutral action, as it influences the subsequent representation of the topic under investigation. Indeed, psychological constructs are not directly observable, but rather hypothetical explanatory concepts, often composed by related sub-concepts, which can be measured by means of different tools. Among the most used are focus groups, interviews, questionnaires or validated scales, which can depict the construct itself in a wide range of shades. Unlike physical variables, which remain stable across various tools even if the accuracy of measurement can increase, psychological variables are affected by the epistemology of the tool. In other terms, measuring the length of a building using a professional tape measure or a laser meter can increase the precision of the assessment, but does not change the numerical synthesis of the information obtained and the nature of the length itself. Appraising the capability of a building to favor the sense of community with an interview or with a scale not only can offer qualitative versus quantitative data, but changes the type of phenomenon described, as choosing one tool or the other has deep theoretical implications.

Effectively developing the disciplinary integration described beforehand has important consequences not only in the field of research, but also on education and practice. It implies the recognition that the role of designers is to create the pre-conditions for flourishing communities, not to prescribe their behaviors, and that a complex interaction among external variables play a crucial role in determining social dynamics in relation with environment. The over professionalization of urban place-making isolated designers from the beneficiaries of their work, and covered any decision with an aura of technicality (Romice et al. 2016), erasing the space for consultation whose recreation is ultimately the main political goal to be addressed.

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