

A Place for Presence. Understanding the Human Involvement in Mediated Interactive Environments

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ABSTRACT

The focus of this paper is the connection between presence and place and the strong belief that it can illuminate unexplored aspects of the human experience in virtual and mixed environments. Action is identified as the crucial catalyst for that connection, organizing the material and symbolic resources that constitute a place and setting the terms of the agent's presence. Based on recent contributions from ethnography, cultural psychology and human geography, the perspective of a Presence-in-Place offers many advantages, including the adoption of several investigative methodologies beyond self-reports, the connections with the larger normative and cultural order and a unified approach to any hybrid environment, whether it be Virtual, Real or Mixed.

Keywords: *place, action, presence, hybrid environments.*

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1. Introduction

A vital topic in the area of virtual environments is the users' sense of being inside the simulation, her genuine feeling of been located in a world that is patently synthetic. This experience is referred to as 'presence', a concept that makes an important difference to the study of technology, because it implies that using a device is not just about deploying an external tool to carry out a task, but also about activating a mode of 'being in the world' with its own coordinates and consequences. The concept of presence suggests that the user becomes involved in a locus made available by the digital technology, with implications that involve the social, cultural and material dimensions of this experience. With the remarkable exception of science fiction, where the idea of a possible cyberspace was successfully received, these observations have not been convincingly pursued. In academic research on presence, the private sensation of being in a place is usually divorced from the place to which it refers (Reno', in press): the

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virtual place has an ambiguous status that hovers between literal and metaphoric, or it is reduced to an external object with respect to the participant, who can be aware of it, but not created by it. Neglecting the importance of the place in which the user is present is not theoretically justified and risks undermining the validity of research into the subject. We will try to take place seriously with the help of disciplines that have a long tradition in studying human environments, such as ethnography, cultural psychology and human geography. This paper is organized as follows. Section 2 emphasizes the interdependence between presence and place. Section 3 outlines a model of this interdependence that is valid both for environments that are heavily dependent on technology and for those which are not. Section 4 reflects on some practical and conceptual implications of the model in the research on presence.

2. Place, presence, action

Being present means being somewhere: whenever a person is qualified as 'present', her location is the salient feature above any other attributions. This is partially acknowledged by the conventional definition of virtual presence as 'the sense of being there' (Lombard & Ditton, 1997; Biocca & Levy, 1995), where the deictic 'there' points directly to the context and leaves to it any further specification of the users' psychological experience. This 'there' provides the frame of reference within which a presence can be defined and detected, not only for third parties, but also for the subject herself: in order to be present one must be implicitly or explicitly associated with a place where such presence manifests itself, otherwise the quality of being present would not predicate anything useful. One can be present at the scene of a crime, in which case it is not the space as such that is important, but rather the witnessing of a crime with its possible juridical consequences. Alternatively, one can be present in someone's life, in reciprocal connection with another person at moments when this connection has proved useful. Or we may have noticed weird 'presences', traces of action played out in a place where they are not expected. In all these cases, presence is bound up with place and its human significance. What are the defining characteristics of Place?

Place is not reducible to *Space*. Casey (2001) effectively formulates the difference between the two concepts in the following way: Space has to do with the relative location of objects, Place to their meaning and significance for human life, 'including the whole sedimented history of cultural and social influences and personal interest that compose my life-history' (ibidem, p. 404). Place provides a perspective from which

Space can be defined, a subjective perspective rooted in the contingent situation, its history, its projections on the future. For example, the distance of a certain destination (Space) depends on the transportation medium one intends to use, her discomfort with the present location, the feeling attached to the destination (Place).

Place is not a stable, objective formation. As Edward Casey explains in his essay (1997), it reappeared on the philosophical scene when the mental involvement with the environment replaced the Cartesian dichotomy between *res cogitans* and *res extensa*. This idea of a constitutive involvement with the environment was at first formulated from a phenomenological perspective, embraced in order to 'challenge empiricist and positivist approaches' (Adams, Hoelscher, & Till, 2001, p. xvi). Subsequently, this perspective proved too much oriented towards the individual inner experience, trapped within the idiosyncrasies of the individual; reformulated as rooted in action, the involvement with the environment then becomes a public, material and consequential phenomenon (see the section on 'space, place and activity', Nova, in press). More than just a series of physical movements, action gives way to repeated practices according to which place is constructed by a community of people ('situated action' theory, Suchman, 1987; 'distributed cognition', Clancey, 1997, 'cognition in practice', Lave, 1988; conversational sequences, Wooffitt, Fraser, Gilbert, & McGlashan, 1997); in this way, the variety of different places hosted by the same objective space is not due to incommunicable individual constructions, but to situational contingencies and cultural repertoires.

In light of these reflections we can now provide a definition of Place and Presence that does not stem from the availability of a certain stretch of territory but from action. Place is *the set of resources organized and transformed by the involvement in human action at any certain moment*. The term 'resource' is adopted because it implies interdependency between a certain object and action: a resource is defined as such for its relevance to action and, in turn, action emerges because it is oriented by the available resources. Presence is *the property of the agent who manifests herself through the constitution of a place during action*: action catalyses some cultural, material, and cognitive resources and holds them together in a new whole, the Place; the agents' connection with those resources becomes the origin and the evidence of her presence. Space is *the relative location of objects, appreciated according to the pragmatic concerns of the agent*. In the following paragraph, we will translate these definitions into a model, and provide a characterization of mediated places.

3. A model of the hybrid place of presence

Place and Presence are inseparable, as different sides of the same coin, even though disciplinary traditions or contingent research goals may concentrate on either of them. Figure 1 offers a schematic representation of the resources constituting the Place of Presence: the solid figures represent different 'layers' of Place, while the sketched human figure in the center symbolizes a specific 'action' from which a place emerges.

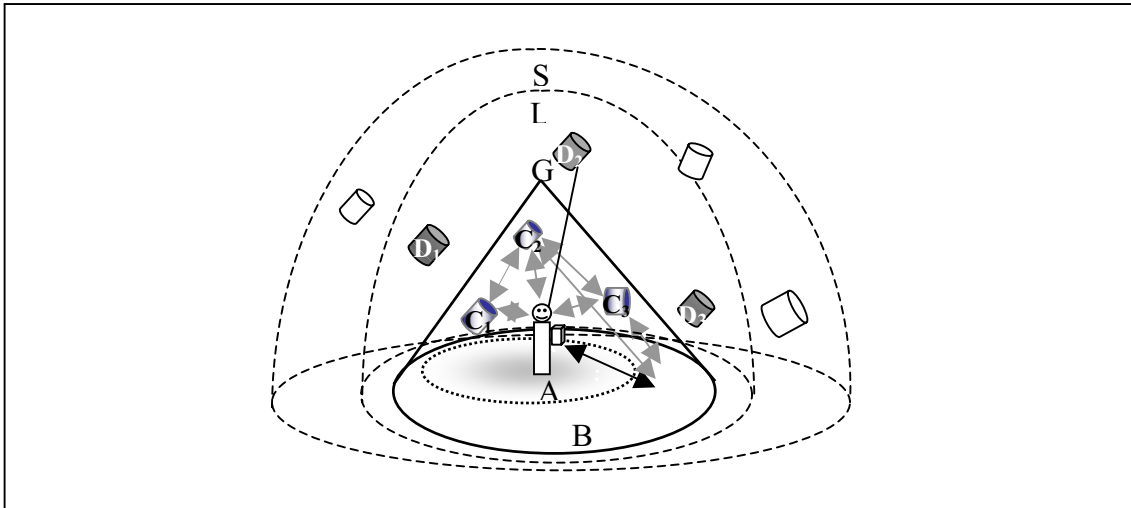


Fig. 1: The place of mediated action consists of physical (A, B) and cognitive-cultural resources relevant (G) and possibly relevant (L) among those available (S).

In particular, the bases of the solids represent the material dimension, often neglected in presence studies. The agents organize their physical presence through their body (including the brain, the motor system, the sensory apparatus and other biological mechanisms) and its peculiar ways to get interlaced with the material environment¹ during action (also in aesthetic experiences, see Gemeinboeck & Blach, 2005). The agents enrich this dimension with expectations, possibilities, and information by adding those cognitive and cultural resources (objects C_{1,2,3,n}) that –building on material ones– make action possible. All together, these resources constitute the inner solid, the cone in Figure 1. The outer solids, represent the unexploited potentialities: Semi-sphere L represents all resources related to action, but not involved in it for various reasons

¹ Pioneer psychologists have detailed the different sensory-motor parameters that organize the animals' space (e.g. Mach, 1966). Anthropologists have outlined the characteristics of the human sensory spaces (Hall, 1966) and Environmental Psychologists have investigated the relationship of the human behaviour with the socio-physical space (Bonnes & Secchiaroli, 1992) sometimes together with Architects and Engineers (Canter & Lee, 1974). According to the phenomenological school started by Merleau-Ponty and continued by psychologists such as Mark Johnson (Lakoff & Johnson, 1999), basic orientation categories such as up and down, front or back, symmetry or asymmetry would depend on the spatial orientation of the human body.

including cognitive limitations; Semi-sphere S represent the discarded alternatives, opposed to the one embraced by the agents.

Where is technology in this model? We learn from Activity Theory (Nardi, 1996; Engestroem, Miettinen, & Punamaki, 1999) and Cultural Psychology (Cole, 1996; Mantovani, 2002) that any action relies on some kind of tool: not only machines, wheels, or hammers, but also language, mathematics, and norms. Tools mediate the relation with the world allowing actions that would not otherwise be possible. Since time began, they have supported human activity in near space (the 'A' area in Figure 2), overcoming bodily limitations for manipulating, cleaning and constructing and inevitably influencing back human beings and the spatial-temporal structure of their action (the bidirectional 'i' arrow in Figure 2). Today, human possibilities have been modified, amplified and differentiated by technical innovations, further extending the reachable space and the flexibility of the cone (the 'B' area in Figure 2). As illustrated in Figure 2, action may occur in two concentric circles; the inner one represents the space reached by the body, possibly incremented with the help of local technical artifacts (area 'A'); the outer one represents the space reached through Information and Communication Technologies (red area 'B'), extending the amount of human material and cultural resources deployed (red objects in Figure 2). They have multiplied the possible modes of presence with unprecedented spatio-temporal configurations of material, cognitive and cultural resources.

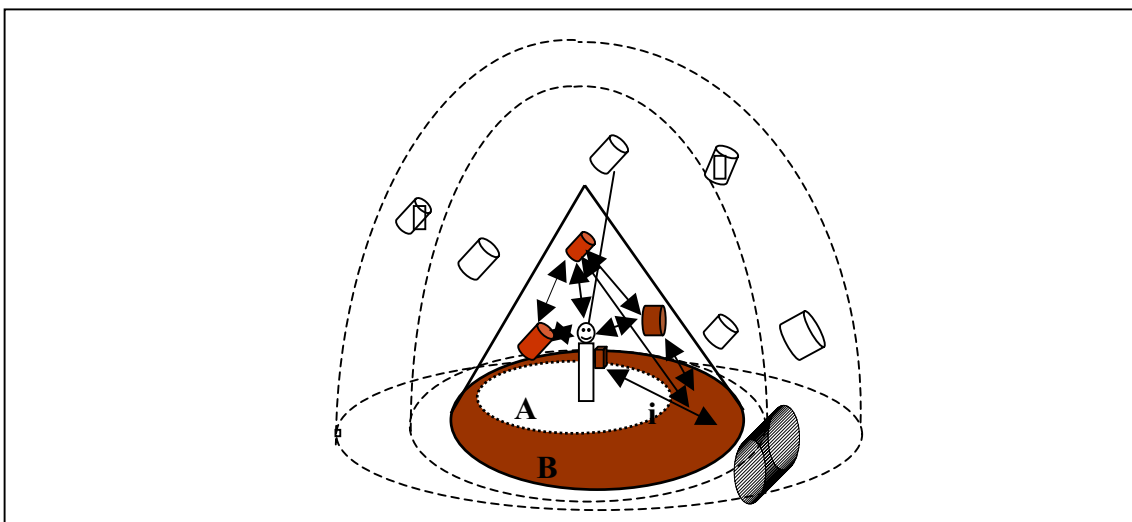


Fig. 2: The mediated place, close (A) and distant (B).

From this point of view, technologically mediated environments do not represent a discontinuity in the human landscape, but a further instance of a familiar phenomenon,

its peculiarity residing in the specific kind of mediation afforded. If mediation is so widespread, when can we properly speak of Virtual/Mediated Place and Virtual/Mediated presence? These attributions, which cannot be but conventional, may be posited as follows: a place is virtual or mediated when actions are *supported by digital resources and are recognizably oriented to them*. Dragging a file over a folder to clean up the computer desktop, for example, is impossible without the digital screen and is oriented to it; therefore, it creates a mediated/virtual place. This does not mean that it is constituted of digital resources exclusively: material resources such as mouse, monitor, hand and light, are obviously part of it.

It is necessary to specify that Figures 1 and 2 are a simplified illustration of the Place of Presence during action: they illustrate the place of *one* action. However, Place is not an individual exoskeleton with a fixed extension carried around by turtle-like individuals across all circumstances. It has specific content and shape. If we had to represent an actual place, we would probably need to connect it to other overlapping ones since people are frequently involved in simultaneous activities (Rettie, 2005). People interact, and their conjoined actions give way to a conjoint place, with asymmetries and common areas (Figure 3). Finally, Place has a temporal as well as a spatial contour: its resources include the history of an action and its projected development. This means that when one interlocutor pauses and the other takes the turn, she still remains somehow present in a conjoint place, as long as she is still involved in that action sequence. In the following paragraph, we will reflect on these and other theoretical and practical implications of the model.

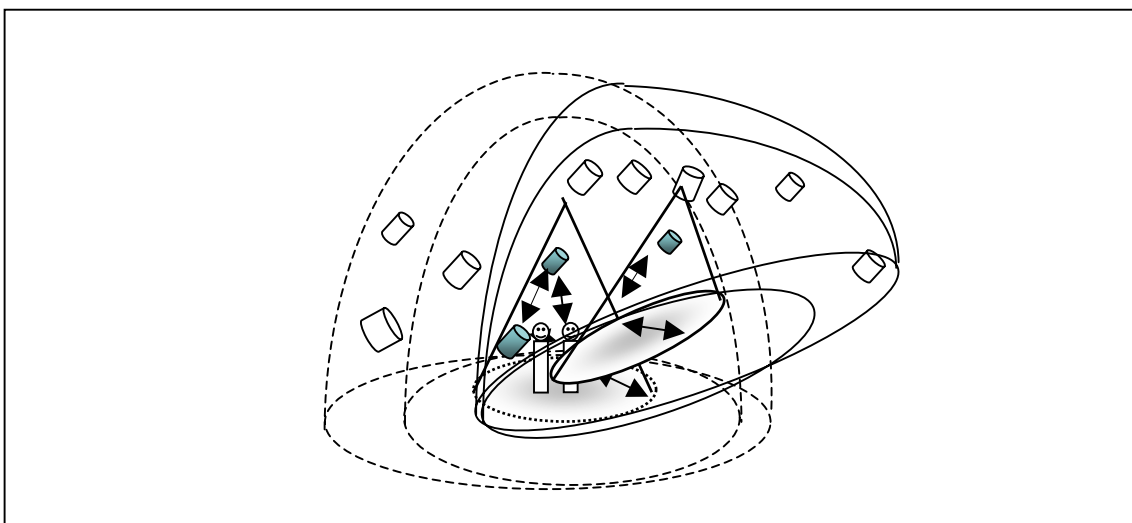


Fig. 3: The place of social interaction (horizontal) overlapped with the place of individual action (oblique).

4. Implications

The definition of presence proposed here has important consequences for the way human interaction with technologies can be conceptualized. Some have been touched upon in the previous paragraphs, others will be mentioned here.

a) Technologies do create **virtual places**. Objective distinctions based on spatiality and materiality alone, made it hard to locate virtual activities somewhere other than in the space where the technical infrastructure is hosted, thereby depriving mediated experiences of a citizenship on their own. But in the model highlighted above, Places are identified by actions and by the resources connected to them. It won't be necessary for such resources to be homogeneous or located in close continuity on the same stretch of land, if they're part of the same course of (inter)action. Thus people talking on a mobile phone inhabit a communicative place, supported by mobile phone technology and characterized by specific resources for action. On the other hand, the flexibility of this model makes a definition always necessary: while studying presence, one must take care to ascertain its configuration and the way in which different places are discriminated.

b) Technologies are always socially positioned (Kling, 1996); each place has access codes to the actions afforded and to the resources available. As pinpointed by the phenomenon of the digital divide, mediated places have rules for letting people in and allocating benefits. Cultural norms appear that make a claim on what is the appropriate and legitimate form of participation. As a result, mediated actions are **never neutral**, but positioned vis-à-vis other alternatives within a matrix of social differences.

c) Presence is a **process**, not a state. First, it unfolds temporally as well as spatially, simultaneously taking into account both future and past. Place is experienced for what it is likely to become in the next future and for what it has just been in the past. So Presence can be resilient, mutable and distributed across different places. If a user temporarily interrupts her action in a virtual environment but at the same time displays a continuous involvement with its trajectory, than she is still inhabiting the virtual place. Presence departs from the virtual environment when *the ongoing activity is no longer primarily mediated by the virtual environment and oriented to it*. Second, Presence is an active process, for people *orient, re-configure and challenge* their presence continuously. If the identity of each participant is subject to the expectations and possibilities endowed by a certain mediated place, then it is a natural territory for negotiations and struggles. Participants exploit those resources strategically to save

face and maintain a positive identity. Finally, Presence is a relational process: being in a place always means being involved with specific objects, exposed, interdependent. Therefore, designing presence will be a matter of designing a whole series of situations that go *beyond the digital stimuli per se* and studying Presence will include several observational methods, not only self-reports.

d) In a place, the material and non material dimensions share an equal status as resources for action. For the acting subject, the mediated Place is **simultaneously physical, cognitive and cultural**, populated by objects that are hybrid in nature, segmented according to their pragmatic properties (Gamberini & Spagnolli 2003; Spagnolli, Varotto, & Mantovani, 2003). Even the Body, which is a neglected component of the virtual experience, is an essential part of it, operating on the interface, processing stimuli, experiencing states (fatigue, ...), and executing familiar routines. In the design of mixed or augmented reality, when technology is supposed to recognize natural behaviours as inputs, the body will clearly emerge as a key element.

5. From inh/biting to inhabiting the Place of Presence

In this paper, some conceptual tools to address the users' experience in mediated environments were proposed, on the basis of contributions coming from several disciplinary fields; it was argued that a distinction between the subject and her environment can make 'virtual places' difficult to identify and her experience difficult to grasp. Being present is not a consequence of staying in a certain spatial context or wearing a certain device, but the result of an involvement with the environment. If Presence stops being 'an inner citadel of unimplaced freedom' (Adams, Hoelscher, & Till, 2001, p. 406) and become relational, it can acquire a central position in the study of mediated experiences. First, self-reports that are necessary if presence is meant as a private, intimate phenomenon, cease to be central in a public, relational perspective rooted in action: the modifications of presence can be appreciated with quantitative and qualitative methods for the analysis of the users' actions and resources. Second, the model of Presence as positioned in a Place highlights the connections with the larger normative and cultural orders and offers a unified framework to the macro and micro dimensions of the digital experience that would otherwise be scattered across different disciplinary agendas. Finally, the model considers any a mediated environment as constituted of both natural and digital components, whose depiction is necessary in evaluating the nature of people's presence in a certain environment. The model is then

not confined to a conceptualisation of Presence in Virtual environments, but also in mixed and natural ones, and is then well suited to a range of mediated situations.

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