Is Reality Real? Thoughts and Conjectures about Culture, Self, Intersubjectivity and Parallel Worlds in Digital Technologies

Ana Carol Pontes de França[1], Marcelo Márcio Soares[1],
and Luciano Rogério de Lemos Meira[2]

[1] Post graduate Program in Design, Federal University of Pernambuco, Brazil
[2] Post graduate Program in Cognitive Psychology,
Federal University of Pernambuco, Brazil
acpsicologa@gmail.com, marcelo2@nlink.com,
luciano@meira.com

Abstract. This article makes a brief foray into state-of-the-art in Virtual Reality technologies and into semiotic studies in the field of Human-Computer Interaction in order to invite the reader to think about human´s current situation. From this perspective, we shall seek to raise new questions about the forms of communication and interaction mediated by digital technologies. These forms deal with the fact of fiction and non-fiction going hand-in-hand, taking shape in images which, and in virtual beings who, co-inhabit both our imagination and the scenarios which comprise the parallel worlds of virtual environments. This thinking is indispensable for us to understand, for example, the implications of these changes on children and young people development and how we conceive education in today´s world. Therefore, this article is based on: 1) studies that led to the dissertation entitled *Digital Self: exploring the "I" construction on the Internet*, submitted to the Post graduate Program in Cognitive Psychology at the Federal University of Pernambuco, 2) discussions kindled at the Laboratory of Interactional Analysis and Videography, which is linked to the Post graduate Program in Cognitive Psychology, and 3) discussions and projects developed in partnership between the Center for Informatics, Department of Design and Human Factors Researchers at Federal University of Pernambuco.

Keywords: Virtual Reality (VR), Human-Computer Interaction, Semiotics, Sense of Self.

1   Introduction

With the emergence of Virtual Reality and the increasingly frequent presence of digital technologies in everyday life, some considerations and ways to question the world we live in have become imperative and ever more frequent.

Questions like: does reality exist? Are we who think we are? Could we be living in a Matrix? In the contemporary world what cannot be taken for a simulation? Could it be that our lives are governed by us, or are we at the mercy of a computer program

that controls our minds? Are we of flesh and blood or could our likenesses be a mental projection of our digital "I"? Could it be that we are "awake", aware of what is happening to us? Or could it be that we have fallen asleep, having given ourselves over to our wishes, while machines dominate the world and feed themselves on our energies, and our being?

The idea of parallel virtual worlds counterpointing the idea of reality as something that is out there, independent of us, marks an evolutionary moment in the history of the human race in which we have become ever more dependent on digital technologies, this being a special feature that has arisen from the changes observed, given the increasingly frequent and extensive presence of Virtual Reality and digital technologies in our lives.

In general, we are immersed more and more in digital culture so that we might experiment with and experience the Internet and cyberspace as real phenomena that affect our lives and our subjectivities, our ways of being and of living in society.

In this perspective, we have started to be influenced by technological devices and digital environments from the moment we get up until bedtime in ways to have more often fiction and imagination in our everyday life.

In order to better illustrate the above statement, let us take as an example a typical day in the everyday routine of screens, displays and icons with which we live: a day filled of updating online profiles on social networks and virtual communities of practice focused on education, work or even entertainment. Situations in which any commercial designation may well no longer to make sense, since the supposed "subscribers", "clients" or "users", are involved in weaving a plot that intertwines their on-line and off-line lives and destinies in order to give meaning to life and actions in the world doing reference to the forms of life that they are very familiar in face-to-face world [1, 2, 3].

In this sense, the convergence and the technological advances of the resources of audio, video, computing, and imaging make it possible for users to immerse themselves in three-dimensional virtual environments, which have texture, mass and dynamic interactions, in order not only to dive in an illusion, but to contextually undergo the experience that lead to the sensation of physical involvement.

2   But finally, What Is Virtual Reality (VR)?

In general, Virtual Reality (VR) is a term that is applied to computer-simulated environments. As the definition itself suggests, these environments simulate physical presence in both the physical and virtual environments.

Also known for describing a wide variety of applications frequently associated with 3-D, immersive and visual environments, experiences in Virtual Reality arise from sense-perceptual experiences that cover visual, auditory, tactile and kinesthetic experiences by means of multimodal and stereoscopic devices or three-dimensional images that enable users to step into and interact in parallel worlds.

Originally conceived to serve both military purposes as for educational, work, leisure and entertainment situations, Virtual Reality can create situations and provide experiences similar to those existing in the physical world, and yet it may differ from "reality" by creating simulations of fictitious and even unlikely situations.

3   Culture and Subjectivity in Virtual Environments

In order to better understand how interactions, communications and the human processes of subjectification occur in virtual environments, we make a link to an integrative perspective that considers the real and virtual as continuous.

According to de França [2], "in this context, paradoxically, digital culture allows us to experience our own identity as being fluid, multiple and complex by supporting our practices with resources that allow us to compensate the lack of a physical body".

To do so, we resort to a theoretical-conceptual approach that focuses on a conception of a dialogic subject [4, 5, 6, 7, 8, 9, 10, 11] and of an interactional subject [12, 13, 14, 15] which is rescued form the polysemic flow - or from a range of possible meanings and senses – by the narrative form of how people talk about themselves [16, 17].

In these terms, we stress the importance of language in the representation of oneself in virtual environments, which confers on a computational artifact the property of operating as an extension of the individual's cognition beyond the body.

4   Self, Intersubjectivity and Semiotic Mediation

With paradigms changes, modern conceptions grant space to the socio-cultural-historical perspective that emphasizes language and narrative constructions, giving a new contour to the notions of self and reality.

This reality, permeated by what is symbolic, is no longer independent of the cognoscent subject, since historical and situational reflection is adopted as the kernel of psychological activity [5, 6, 13, 11, 8, 9].

In this framework, semiotic mediation gains a place of prominence. Based on intersubjective actions, semiotic mediation confers a primary and central aspect to signs, which allows us to assign a personal meaning to the objects with which we relate ourselves, bearing in mind that, by itself, the object does not have an intrinsic character that acts on the individual [12].

Founded on this perspective, we emphasize the pragmatic aspect of communication to the detriment of a watertight, crystallized structure, which means we consider the notion of genesis involved in an uninterrupted dialogic process.

In this process, intersubjectivity is related to our awareness of others as well as to an orientation to the other that allows communication be established from the beginning of life [7].

Taking these considerations as a starting point, we join this to a perspective that characterizes the self as a discursive, social and narratively structured construction

that emerges and develops in the course of the dialogic sequences of action, established by interlocutors located in time and space.

In this construction, new versions of self are possible thanks to semiotic mediation, the influences of social norms that regulate our actions and the specific situations in which they occur.

These new contours of the self are marked in the moments of interaction between the participants, from the way that people describe themselves and are described while they dialogue with each other's, which makes it vital for us to consider the message frameworks by the human action of making sense.

Thus, in the continuous flow of communicative action, the person, the user of the discourse [18], reveals himself/herself to be a unique being, with differentiated characteristics and powers and with a history that is distinct from those whom he/she considers as his/her peers; a being who acts together with many others in different face-to-face and virtual scenarios, wherever he/she transits while simultaneously he/she shows himself/herself to respond and to be responsible vis-à-vis to the others.

In this case, we consider the Self as an embodied reason, simultaneously one and multiple, a discursive construction that confers presence on all those that are significant at the time, even in cases where these others are metaphorically incorporated into the context [19, 20].

Thinking about Self in these terms lead us to consider that the emergence and development of a sense of continuity do not correspond to an exclusively individual movement, but to a situational and dynamic dialogical phenomenon that involves the other parties that make up the system.

5   User-Centred Design and the Conception of Environments Based on Virtual Reality (VR)

To produce a useful and easy to use system is always a challenge, especially if we want to create environments based on Virtual Reality (VR), as such environments are created for people, flesh and blood users, with goals, wishes and expectations, so much so that during the development process of a product, the focus must not be restricted to the technology itself, but may shall also consider the active participation of the user [21].

In other words, as the term itself suggests, in User-Centered Design, the focus of the development process is on the user who collaborates in trying to ensure that the product could be more widely accepted and received by other users.

Nevertheless, why the focus on the user? Because according to Preece, Rogers and Sharp [21], "a well designed system should extract human skills and judgments to the maximum extent and be directly relevant to the job in question. It should support users, and not limit their actions. All this implies much less technique and more philosophy."

In this perspective, the ethnographic method is often used, although the interpretation and presentation of data remains a challenge for the design.

6   Conclusion

The increasing spread of digital technologies based on Virtual Reality throws up socio-cultural implications never seen before in human history.

Face the current situation, Ergonomics and usability researchers, dedicated to analyzing systems with focus on users, need to take into consideration that people leave their marks and style while interacting in virtual environments.

Accordingly, to study users' needs requires thinking about every possible requirement, considering even the desires and experiences of users. Therefore, it is important to talk to users about their experiences to propose Virtual Reality systems that resemble the expectations of society.

Finally we caution that the mere presence of technology does not guarantee an active and effective collaboration, marked by interactional and dialogical potential in order to develop social participation, self-knowledge, the development of individual and group identity as well as the production of content and critical attitude to face the problems and challenges of the contemporary world.

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