

Performing Phenomenology: Negotiating Presence in Intermedial Theatre

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Abstract This paper analyzes from a pragmatic postphenomenological point of view the performative practice of CREW, a multi-disciplinary team of artists and researchers. It is our argument that this company, in its use of new immersive technologies in the context of a live stage, gives rise to a dialectics between an embodied and a disembodied perspective towards the perceived world. We will focus on *W (Double U)*, a collaborative interactive performance, where immersive technology is used for live exchange of vision. By means of a head mounted omni-directional camera and display the fields of vision of two participants are swapped, which enables the participants to perceive the world through another person's point of view. This intermedial experience brings a classic dichotomic perception of space to falter: material reality as a 'live' condition can no longer be opposed to a virtual mediated reality. In the shifting moment between the embodied and the perceived world, on the fracture between what one sees and what one feels, the distinction between live and mediated is blurred, moreover, can no longer be made. The perception of the body is pushed to the extreme, causing a most confusing corporal awareness, a condition that intensifies the experience and causes an altered sense of presence. In a dynamic cognitive negotiation, one tends, however, to unify the divergent ontologies of the 'real' and the 'virtual' to a meaningful experience. In this respect, we refer to recent neurological experiments such as the 'rubber hand illusion' in order to clarify the spectator's tendency to fuse both ontologies and to embody a coherent image-world.

Keywords Immersive technology · Performance · Virtual environment · Sensorial deprivation · Embodiment · Transitional space · (Post-)phenomenology · (Tele-) presence

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1 Introduction

‘Bodies, bodies everywhere’ discerns Don Ihde in his introduction to *Bodies in Technology*. Although art and science have long been dominated by vision, a renewed attention for the overall sensorial system is undoubtedly at stake today, particularly in the realm of new digital technologies and arts. In his recent volume, Ihde reflects upon being embodied in relation to the various new technologies that we are encountering, technologies that change our relation to the world. These changes are also reflected in art practice and theory. Performance art and theory, in particular, had its borders challenged by the advent of digital technologies. Game studies and theory, the interplay of experience design with the fields once recognizable for their focus on bodies in space, tested the limits of an art form commonly defined through its reliance on a shared time-space frame between audience and representation.¹ Furthermore, countering modernist approaches of art and science that divide the senses in separable units, contemporary art theory breaks a lance for embodied experience through senses as a way of thinking and perceiving the world (Jones 2007). This attitude is rooted in the phenomenological tradition, a philosophical method that attributes to the body an important role in the act of perception and knowledge. The possibilities of phenomenology for the study of theatre and intermediality deserves to be studied more closely at a time where the mutual imbrications of machines and real-time performance seems to invade the art scene.²

Seeing through eyeglasses, nailing with hammers (Heidegger), negotiating doorways while wearing long-fathered hats (Merleau-Ponty), the human-machine relation has always been a key aspect to phenomenological thinking. These examples show how a phenomenology of perception articulates human existence from an embodied engagement to the world. That is, the relation of experiencing something in the world through an artifact, a technology. Today, in the digital era, Ihde proposes a *post* phenomenology: a phenomenology that is *pragmatic* (calling up to *do* phenomenology) and based on material evidence (Ihde 2003). Following this call we will try to adopt this pragmatic phenomenological attitude in an attempt to describe and analyze *W (Double U)*, a collaborative interactive performance of CREW. In this performance, immersive technology is used for the live exchange of vision. Two spectators in different geographic locations are equipped with a head mounted omni-directional camera and display. By means of this immersive equipment their fields of vision are swapped, which enables the participants to perceive the world through another person’s point of view. Moreover, they can look and move around in each other’s field of vision, and have to perform by sustaining and guiding each other via microphone and headset. They embody, as it where, the visual field of the other, somewhere else.

This contribution focuses on *W (Double U)*, a theatrical experiment reiterating the mediatisation of our ontological condition through digital technologies. This project performatively construes and at the same time in a theatrical gesture makes explicit our tendency to unify the divergent ontologies of the ‘real’ and the ‘virtual’ to one coherent and meaningful experience. It provides the user with a kind of meta-picture of the dialectics at stake, a picture that stages the ‘self-knowledge’ of the dialectics experienced by the participant as a negotiation zone in-between different states of ‘being there’.

¹ The influence of digital technology on theatre and performance is reflected in the numerous amount of studies and publications on the subject, see for example Dixon (2007), Auslander (1999), Giannachi (2004), Chapple and Kattenbelt (2006) and others.

² Existing phenomenological approaches within theatre studies (States 1987; Garner 1994) do not focus on the relation with technology or intermedial practices.

2 Intermedial Performance

CREW is a multi-disciplinary team of artists and researchers. With Eric Joris as its key figure, the company has been producing performances at the melting point of live art and immersive technology for almost 10 years. Finding in experimental theatre a laboratory where they can test the progress of their own work, researchers from different universities develop original technologies for CREW to use in the performances. Permanent dialogue with the developments in robotics and computer sciences triggers the theatrical imagination of design and production, text and sound. The artistic outcome tends to be hybrid; the technological live art of CREW troubles installed categories of theatricality, leading to immersive embodied environments that challenge common notions of (tele)presence, spectatorship and (interactive) narration. CREW explores how these hybridities can be operated on an artistic, practical and on a theoretical level. What happens when digital technology really merges production and reflection within the context of the stage?

By definition, theatre takes place here and now. As a live event, it pre-eminently aims at a specific public and creates a meaning that originates directly in the social context where the theatre functions. This relates to the unchangeable quality of the theatrical imagination. Strictly speaking, and contrary to cinematographic and electronic media, the theatre does not univocally aim for illusion. In general, new media imply an optimal accessibility for the user by connecting him to a user-friendly and interactive environment (digital tv, internet 2.0, or any kind of cinema). The medium becomes transparent and the user is no longer aware of the functioning of the machine. Performing arts in contrast, are characterized by the simultaneous presence of both actors and public. From this point of view, theatre is real in its material presence: one-off, irreplaceable, unique, and radically uncontemporary. This quality principally entails the possibility of theatre not only to represent but also to stage other media.

In *Intermediality in Theatre and Performance*, the authors propose to consider contemporary intermedial theatre as a 'hypermedium', a paradigm of sorts that is able to incorporate all other arts and media (Chapple and Kattenbelt 2006:32). Moreover, they attribute an important role to theatre in the unmasking of reality as being mediated. Because if one takes into consideration the degree to which reality at the dawn of this century takes the shape of a staged performance, theatre can become the place in contemporary culture where critical analysis of the production of reality is inherently tied to the structure of its own semiotics. In other words, in the actual encounter between performer and audience, the illusion of mediated reality can be deconstructed. In the reality of the theatrical performance, the mediated construction of reality can be made visible. Media therefore become visible as media, as means of communication and perception.

Indeed, in fusing art with technology, the multi-disciplinary team of CREW can be seen to take the platform of live art as a relevant field to experiment with the changing relations to media and reality. The theatre of this company quite literally stages the hybrid space we live in by performing its conditions. This is achieved by integrating immersive audiovisual technologies in the performance, in real-time interaction with live actors. Working in the epicentre of technological developments, the company has acquired a privileged position in exploring and developing the language of omni-directional video (ODV) a new immersive surround video system, developed for the company in collaboration with Eric Joris by the Expertise Centre for Digital Media, University of Hasselt, Belgium (EDM/HU).³ Omni-directional video

³ The research activities of EDM/HU are concentrated in (1) computer graphics, computer animation and virtual environments, (2) human-computer interaction, and (3) multimedia and communication technology.



Fig. 1 Immersant dwells in video-captured environment[©] Eric Joris

allows the spectator a surround video display.⁴ Equipped with an orientation tracker this HMD shows a sub-image of the panoramic video that corresponds with the spectator's view direction and desired field of view. ODV thus places the viewer physically in a video-captured surrounding imagery, generating a very lively environment. Consequently, the filmed image becomes a space in which the viewer can dwell (see Fig. 1).

The first performances that integrated ODV, *CRASH* (2004–2005), *U_Raging Standstill* (2006–2007), *O_Rex* (2007–2008) and *EUX* (2008), were theatrical experiments in translating this panoramic video system into dramaturgical strategies: they investigated how ODV can lead to interesting forms of interactive narratives in live performance. Video streams from the head-mounted cameras, from pre-recorded omni-directional sequences and live on-site omni-directional cameras are multiplexed for the viewers' very eyes. Subtly timed audio feedback and tactile manipulations by the actors in the same room further enhance and enrich the audience's feeling of immersion. By mixing real and virtual experiences in novel ways, this technology offers the possibility to extend the traditional categories of experience: the virtual space coincides with the embodied own space, integrating thus the story world into the physically perceived world of the spectator, installing a new intimacy and a high degree of presence. In cognitive psychology, presence has been defined as the participant's sense of 'being there' in a virtual environment. It is a mental state in which a user feels physically present within a computer-mediated environment (Slater and Steed 2000). It has been widely argued that the interaction with this virtual world on various levels is an important source of presence, stimulating both the bodily and cognitive activity of the user (Schubert et al. 1999). This active engagement to the world is also one of the premises of phenomenology (*être au monde*) that offers a useful frame requiring insight into the phenomenon of presence.

Strikingly, studies on immersion and presence tend to stress the possibility of being completely in an artificial world, thus relating the degree of presence to the transparency of the interface: the more transparent the medium, the more one feels surrounded by the world that

⁴ The development of *full* omni-directional camera systems can be traced back to 1970, when Rees (1970) proposed to use a hyperboloid mirror in front of a normal camera and described a method to map captured images to perspective views. Several other such *catadioptric camera systems* (using a combination of lenses and planar or curved mirrors) have been proposed in the 1990s. Several companies offer such mirrors, which are popular for group videoconferencing applications. However, small mirrors are vulnerable to dirt and scratches. Placing them in a protective glass hull introduces unwanted reflections (Schubert et al. 1999; Baker and Nayar 1999).

the medium represents. The ultimate goal of contemporary developments in digital technologies thus seem to be a full virtual embodiment, to become the perfect simulacrum of full, multisensory bodily action. This supposes the exact adaptation of the disposition of the human senses to the immersive imagery. According to Oliver Grau, author of *Virtual Art—From Illusion to Immersion*, ‘[t]he technological goal, as stated by nearly all researchers of presence, is to give the viewer the strongest impression possible of being at the location where the images are’. Thus, the quality of being present in the images is achieved through maximization of realism. (Grau 2003:4)

This paper, however will demonstrate that CREW uses a different strategy, which, as previously stated, makes the hybridity of contemporary mediatised culture palpable by situating the experience of the user at a meta-level where the ontological ambivalence becomes sensory tangible. This strategy focuses on the intentional disordering of the sensorial system. It does not entirely rely on illusionism, but on the contrary, deliberately and continuously disrupts a unilateral adaptation to the image. We will focus on *W (Double U)*, the latest experiment by CREW, and hold its features in the light of Ihde’s postphenomenological framework. Therefore we will first sketch out the setup of *W (Double U)*, the experimental case study at hand.

3 Phenomenology of the Virtual Body

W (Double U) was an interactive performative experiment that served as a test bed, a responsive environment for experimentation, allowing to field-test the goals set by the European IP project *2020 3D Media*. This large-scale project started in March 2008 the research and development of creative forms of interactive, immersive and very high quality media⁵ (such as 3D, virtual and augmented reality) as well as new forms of experiences for individual users based on omni-directional or surround video. The European Research Consortium consists of 16 participating organizations, among them academic research institutes, such as the Heinrich Herz institute in Berlin, CREW’s partner EDM/HU and some of Europe’s most prominent manufacturers of digital film cameras, projectors, recording and playback systems, post-production and audio equipment and programmers, together with media production and media distribution companies. As an artistic company in a consortium of industrial and academic partners, CREW is in charge of the realization of the empirical research into aspects of presence, narratives and spectatorship in film-based 3D immersive environments, a domain in which this collective has acquired a unique expertise through the creation of their immersive performances. Being of twofold origin, scientific and artistic, *W (Double U)* is typical of the working process of CREW.

As an interactive collaborative experiment, *W (Double U)* extended the immersive experience towards the exchange of visual perception. The fields of view of two users at different geographic locations were swapped by satellite.⁶ One person was located at a theatre venue in Mons (Belgium) the other strolled in the shadow of the Agbar tower of Barcelona, at Spain’s prestigious new *Campus Audiovisual*, the heart of the digital audiovisual research industry.

⁵ The technology and software for this performance was developed by EDM (University of Hasselt), satellite connection was provided for this occasion by DataSat (UK) with the support of MediaPro and Barcelona Media (Spain), all of them, as well as CREW, are partners in *2020 3D Media*. This “SatSwap” was performed in March 2009 as an interim test bed for this project. For more information: www.20203DMedia.eu.

⁶ *W(Double U)* was for the first time performed in October 2008 at the International Film Festival in Vooruit Arts Center (Ghent, Belgium) and in March 2009 through satellite connection between Mons/Belgium and Barcelona/Spain.



Fig. 2 *W (Double U)*, vision swap between Mons and Barcelona © Santi Fort

Each participant was equipped with a HMD and an omni-directional camera. Wrapped up and extended with this immersive outfit, they resembled digital praying mantis, shuffling feeling one's way through the telescoped space (Fig. 2). The footage filmed by the cameras on top of their heads and the audio was conversely swapped by satellite. Consequently, both participants could look and move around in the other's visual domain: Person A in Mons viewed and manipulated the footage filmed by the camera on B in Barcelona and vice versa. Both could move around freely at their own physical location, but they needed to talk to each other via microphone and headphone, and perform by sustaining each other, in order to appropriate the required visual domain. Mutually interdependent, both participants needed to find their way depending on each other's instructions. In their very own interest the companions have to act and move in a slightly synchronised way. This mutual dance between the two immersants, is in real-time witnessed by an audience of passers-by gathering around at both locations. This audience is, in other words, able to follow the inside perspective of both immersants, as the latter's viewpoints are projected on a large video screen. This is the essence of theatre turned inside out and put on display. In perspectivity lies the intrinsic property of theatre, as Bart Verschaffel eloquently observes in relation to the *Theatro Olimpico*, stating that '(m)aking theatre is not performing something, but pointing out the position from where something needs to be seen and creating a show that can be seen in a perfect way' (Verschaffel 1995). The author reminds us that theatre by definition transforms both vision and scene, taking together and guiding to one point, one viewpoint, the event that generally fans out in all directions, the many-folded things, the indefinite and versatile space. Fusing this disposition with an immersive perspective, which depends on a free viewpoint of the spectator (who then forcibly becomes a user) hybridizes theatre as we know it.

Opposed to the dominant disposition of theatre and film, which implies the perspective of an audience looking *at* a stage, the immersive perspective by contrast enables the viewer to see from *within* the performed image, controlling both one's position in relation to the image and the dimensions of the image itself. Where as the first implies a more detached and disembodied relation to the performance, the latter experiences the image-space from an embodied point of view. Identification is the major issue here, understood as the way in which we experience being a body in relation to perceiving a body acting on stage, or, in immersive space, located in our very own life world. This dialectics of embodiment and disembodiment recalls a thought exercise Don Ihde performed with his students and that he recounts in the first chapter of his *Bodies in Technology*. The didactic scene persuasively reveals the ontology

of the *virtual body* in phenomenological terms. When asked to describe an imagined parachute jump in a phenomenological way, the students seemed to divide between an embodied and disembodied mode of the parachute jump. ‘The embodied parachutist describes takeoff, attaining altitude, the leap from the open door to experience the rush of wind in the face, the sense of vertigo felt in the stomach, and the sight of the earth rushing toward the jumper. The disembodied describer sees an airplane take off, climb, and sees someone (identified with himself or herself) jump from the door and speed toward the earth.’ (Ihde 2002:4) The phenomenological exercise thus shows a variation between a full or multidimensional experience (the here-body of the embodied perspective) and a visual objectification of presumed body experience (an out-there body which is spectacle-like). Shortly before the making of *W (Double U)*, the company had tried to integrate both perspectives in a more radical way by implementing the immersive experiments on a classic stage. In *O_Rex* (2007–2008) the mythological figure of Oedipus embodies modern man and his tragic fate. Chosen by the audience and crowned with a HMD, the ignorant immersant—O_Rex—is blind when he can see and he only starts to see when he becomes blind. His personal tragedy is that he never succeeds in obtaining a central—external— perspective on the world.

W (Double U), however, somehow implodes this strained and inherently theatrical relationship through traversing the dimension of the technological, making the immersant experience what Ihde calls an ‘embodiment relation, that is, the relation of experiencing something in the world through an artefact, a technology’ (Ihde 2002:xi). The difference is manifest in that the immersant through the omni-directional system experiences the performance from inside the mediated image, adapting in real time to the sliding perspective that marks the continuum between the objectified body (out there) and the here-body. The technology merges the two bodies in a gesture that functions as a sign of a multistable ontology: it is only by looking and moving around, that one gradually appropriates the required visual domain and through these sensorimotoric actions, the relation to the surrounding image-space, shifts, in a perpetual negotiation, from a disembodied to an embodied perspective towards the imagery.

4 Transitional Space

W (Double U) thus integrated and made both inside and outside perspectives explicit through staging the schizophrenic bodily relation to multiplexed (coexisting) spaces. The visitors of *W (Double U)*, experienced personally how different registers of presence and immediacy seem to telescope in what we would call a *transitional space*, an environment in-between embodied and perceived reality. An example: In the first sequence of *W (Double U)*, the immersant perceives real-time images of his own stretched-out hand. This act is mirrored by his counterpart at the other end of Europe, who follows the same instructions to extend one’s hand (see Fig. 3). The HMD functions thus for both as a see-through, it literally mediates their own personal vision. Then, the visitors’ personal view is switched of, which visually disconnects them from their own physical reality. Common sensorial reference, which is needed to position oneself in place and time, is literally turned of, bringing the immersants in a confusing state of *sensorial deprivation*. When the vision swap is executed, both participants regain visual references. But who possesses the required visual domain? To who does the perceived hands belong now? One has to reconstruct the ‘new’ perceived reality based on the visual, aural and tactile stimuli. As the *represented* hands are touched (by an actor) in the same way as the immersant *feels* his hands being touched, the immersant is stimulated to cognitively match what he sees to what he feels and hears in a coherent whole.



Fig. 3 *W (Double U)*, vision swap between Mons and Barcelona © Santi Fort

This correlation between the perceived image and the tactile sensation can cause a feeling of ownership of the virtual hand in the depicted world, although a friction between these two perceived realities is undoubtedly extant. This phenomenon is known as “the rubber-hand illusion” and has been extensively investigated by cognitive neurologists. In this scientific experiment the sight of brushing of a rubber hand at the same time as brushing of the person’s own hidden hand has proved to be sufficient to produce a feeling of ownership of the fake hand (Botvinick and Cohen 1998). Under such conditions of multi-sensory conflict, vision typically dominates over proprioception and touch (Moreno et al. 2001). In other words, the friction between simultaneous sensorial stimuli is cognitive unified in a coherent experience where the dominance of vision causes the feeling that the virtual hand is owned by the person involved. Thus, it is in the perpetual negotiation between what is seen and what is felt that the immersant has a confusing experience, increasing the corporal awareness of presence in a transitional environment.

This cognitively mapping of the mediated body however is not a unilateral identification with the image, it is, in this disorientating disposition, a perpetual negotiation between the embodied and the perceived world. Dependent on the correlation between these different sensorial stimuli, different levels/registers of presence and immediacy fold together, but with the slightest inconsistency are immediately disrupted again. The friction between the real time presence of being here, in the physical space of the theatre, and at the same time being there in the streets of Barcelona, counterpointed by the real-time presence of the other in Barcelona being (tele)present in Mons, seems to be at stake. Focusing on very simple, ordinary movements—the act of walking, looking around—participants seems to seek for a consistent experience in synchronizing and tune their movements to each other, in order to almost ‘hypercorrect’ or counterbalance the incongruence of the digital dance.

We would argue that presence, or the ‘feeling of being there’, is enhanced in particular during this transitional moments, where one has to redefine ones world based on the sensorial information. It is in this shifting moment between the embodied and the perceived world, on the fracture between what one sees and what one feels that the spectator cognitively needs to negotiate ones own perspective on the experienced environment. In phenomenological terms: a dialectic can be operative there between the embodied perspective of the here-body, which can be associated with the RL body, compared to the quasi otherness of the disembodied perspective, which it’s the more detached (theatrical) perspective of the body-image,

out-there. In this transitional experience, one's perception is thus perpetually pending between an embodied and disembodied perspective, causing a heightened corporal awareness of being present in this mixed environment.

5 Conclusions

Being in the world is in fact a matter of the body. Perception, then, is an active embodied engagement in that world, interpellating all our senses. Following Don Ihde's phenomenological differentiation between an embodied and disembodied perspective on the world, we tried to point out how the ontological state of being is at stake in the performance *W (Double U)*. While both perspectives are deeply embedded in our cultural actions, Ihde shows through means of a very simple thought exercise, how a dialectics can be active between the two perspectives. This same dialectics, we argued in this paper, forms the central crux of all CREW's performances. Moreover, the dialectics between the objectified perspective of a virtual body (with a body out-there) and full sensory embodiment experience (of the here-body) is made perceptible, almost tangible in the experience of the vision swap. Although it is *the here-body in action* that provides the centered norm of myself-as-body, Ihde argues, following Merleau-Ponty's *Phenomenology of Perception* (2002), such a body experience is not simply coexistent with a body outline or one's skin. *The intentionality of bodily action goes beyond one's bodily limits*. These multistable ambiguities seem to be the key to the sliding perspectives from the multidimensional experience of my-here body toward the image-body perspectives (Ihde 2002:6).

In *W (Double U)* the immersive experience does not involve a unilateral identification with the image-body, it's not about drowning oneself in the waves of a stirring illusion in a wish for the ultimate convergence of the organic body with its mirror image. Contrary, the immersive experience in the work of CREW reflects how presence is a perpetual cognitive negotiation about our ontological state of being. Due to a schizophrenic perception of the 'shared' body, being a joint presence in a transitional space and time, the participants need to negotiate their bodily condition in relation to the image. This ambiguous extension of the body, the shifting between the organic and the image, representation and presence, virtual and real, can itself function as the allegory of our multistable ontology. Theatre as a hypermedium very well serves as a platform where, today, these allegories can be replayed, re-enacted and reflected upon.

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