

# From Perception to Recollection: a spatio-temporal mediated interaction

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## Abstract

This paper will consider how a media installation called the *diplorasis*, aims at rethinking understandings of the body in space and time. Through the *diplorasis* there is an attempt to reconsider the scientific view on the human eyes in relation to art historical accounts of the representational image and to revise these from the perspective of philosophical texts on the image and its relation to an embodied and a disembodied perception (Deleuze, Bergson, Merleau-Ponty). Through this mediated visuality, the prosthetic body becomes re-articulated via a re-framing of the relations between perception and recollection.

**Keywords:** visual media, body and space-time, digital stereoscope, media installation, time-image

## Introduction

This article begins by re-considering linear perspectival representation and the divide this assumes between body and space, in comparison to alternative modes such as stereoscopic representation, where this distinction is absent. In Hubert Damisch's *A Theory of /Cloud/* (2002), the cloud, due to its very nature of being a 'body without a surface' (2002: 127), provides a useful prompt to re-think another element that poses a problem to the perspectival model, the human body. We need to posit here that the human body is a 'body without a surface', and as Deleuze and Guattari have suggested, a 'body without organs'<sup>1</sup> (this will be explained later). The boundary between body and space can be re-thought by questioning the solidity of the body itself, as it changes in its increasing interaction with a technological 'prosthetic' interface. The prosthetic re-defines not only the limit and the singularity of the body, but also its duration. The *diplorasis*<sup>2</sup>, my own media installation, explores

an-other understanding of the body, the prosthetic body as we interpret it today. *Diplorasis* derives from the Greek *diplo* and *orasi*, and is translated as doubled sight.

The understanding of the cognitive functioning of this "other" body begins by re-considering the notion of duration through the *diplorasis* and in relation to the understanding of duration by Henri Bergson in *Matter and Memory* (first published in 1896) and by Gilles Deleuze in *Bergsonism* (first published in 1968). The *diplorasis* attempts to re-think how a stereoscopic vision and a cinematic vision might be re-configured and synthesized via digital technologies. The stereoscopic images projected in the *diplorasis* depict the observer's own body digitally stitched and looped backwards. In other words, the participant perceives oneself in three-dimensions and walking backwards. As the projected body stills revolve, they become digitally misaligned and manipulated. As a

<sup>1</sup> See Gilles Deleuze and Felix Guattari, '6. November 28, 1947: How Do You Make Yourself a Body Without Organs?' in *Capitalism and Schizophrenia: A Thousand Plateaus*, trans. Brian Massumi (London: Continuum, 2004 [1980]), 149-166.

<sup>2</sup> The *diplorasis* has been published in various platforms and presented in exhibitions. For visual material on the *diplorasis* visit <http://www.para-sight.org/installations-devices/4589953031>. The list of publications on the *diplorasis* includes: Themistokleous, George. 2019. 'Digitally Stitching Stereoscopic Vision.' In: Ewing, S. and Troiani, I., eds. *Visual Methodologies in Architectural Research*. Bristol: Intellect (forthcoming); Themistokleous, George. 2019. 'Embodiment, Utopia and the Digitized Image.' *The Site Magazine* vol. 39 (forthcoming);

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consequence, the digital stitching of the body is tampered with. This reduplicated and projected self, three-dimensionally simulated, begins to question the interrelation between the perceiving self and the self as an image. For the duration of the visual experience the bodily viewer confronts and constructs (through the stereoscopic operation) himself/herself as image. The durational image, central to the Bergsonian proposition and later expanded by Deleuze with his idea of the 'movement-image'<sup>3</sup>, is key to the understanding of the cognitive function of this "other" body provoked by this "other" vision.

How is a new understanding of bodily duration, explored via the *diplorasis*, accounted for in visual representation? The question of corporeality and space made possible by the use of non-perspectival visual devices, leads to the formation of an "other" body that breaks free from the dominant perspectival rule of a singular, authoritative vision ruling a singular and separate body. An-other definition of the body begins to challenge the very notion of representing the body in linear perspective and provides another understanding of subjectivity in the discourse about space. The "other" body explored here is the infantile body in Lacan's *Mirror Stage* (1949) the experimental body in Stratton's mirror experiments such as the inverted goggle experiment (1897) discussed by Maurice Merleau-Ponty in *The Phenomenology of Perception* (1945), and my body in the *diplorasis*. The categories of "real", "illusory" and "simulated" overlap and diverge into plural combinations of partial representations, proto/retro-representation or non-representation, thus triggering different understandings and formations of the body in space. In this experiment, the role of the "prosthetic body" is to structure the varied and critical relation between body and space, haptic and optic, visual representation and actual vision in the examples cited above. In this sense, the body is already reconsidered as a non-localized place that correlates, via a technological interface, to other bodies, which can be spatially and visually extensive and intensive. In this respect, the interface is the active object that re-defines the subject. The instrumental "prosthetic" condition, intruding

into and extruding from the multi-body, enables the correlation and superimposition of varied bodily and spatial intensities leading to the formulation of a uniquely contemporary, yet undefined, "representational spatial body". My research aims at articulating this new formulation through, firstly, theories which have been tested as constructs, and secondly, constructs which have been theorised (including my own experimental devices). Of the latter, the *diplorasis* becomes a tool for investigating duration in order to inform new understandings of the representational process.

### Perspectival and Stereoscopic Media

In his analysis of the perspectival system in *A Theory of /Cloud/*, Hubert Damisch notes that 'In effect, geometrical perspective does away with the very element of vision, the atmosphere, within which images are conveyed. It reveals perspective as a structure of exclusion' (Damisch, 2002: 136). Damisch unfolds the complexity of this system, as it constantly had to re-think its own pictorial and semantic limits and thus to re-conceive its own constitution; in this respect, the cloud as an atmospheric condition becomes a significant tool for examining the perspectival model. The key limitation of perspective lies with the imposition and reduction of the image to a predetermined point of view. The principle that structures the image according to geometrical rules persists well into the post-digital age. According to Damisch, 'perspective only needs to "know" things that it can reduce to its own order, things that occupy a place and the contour of which can be defined by lines' (2002, 124). The cloud(s), as 'bodies without surface' manifest 'the limitations of the perspective code, reveals the perspective as a structure of exclusion' (Damisch 2002, 124). To this extent, a contemporary understanding of the prosthetic body, in a similar way to Damisch's account of cloud, will reveal that the perspectival system is not able to represent this type of body. This is due to the fact that the body here, as I further elaborate below, is considered in its cognitive relation to the image. It excludes the sensory faculty of the body. In order to unravel the possibility of representing this other body, it will be more useful to turn to an alternative means of representation: the stereoscope.

The stereoscope – a device by which two photographs of the same object taken at slightly

<sup>3</sup> See Chapter 4. The Movement Image and Its Three Varieties: Second Commentary on Bergson. Gilles Deleuze, *Cinema 1: The Movement Image*, trans. H. Tomlinson, B. Habberjam (London: Continuum, 2005 [1983]).

different angles are viewed together, creating an impression of depth and solidity - integrates the physiological operation of the eyes into its technical construct. With the separate eyes focusing on two non-identical reflected images, the optical binocular functioning of the stereoscope simulates an illusion of three-dimensional depth. The duration of normal binocular convergence is prolonged in the stereoscope, and when its two separate images converge, the simulated image “floats”, and the viewer is made aware that the resulting synthesis is ready to disintegrate back into shifting planar projections. Merleau-Ponty articulates this fusion of the two images by claiming that

The unity of binocular vision and with it the depth without which it cannot come about is, therefore, there from the very moment at which the monocular images are presented as ‘disparate’. When I look into the stereoscope, a totality presents itself in which already the possible order takes shape and the situation is foreshadowed (Merleau-Ponty 2009, 305).

Whilst the two monocular images converge in binocular vision to create the impression of a single image, we are constantly aware that this convergence is composed of a synthetic duration. The stereoscope, invented in the 1830s, formulated a new relation between the observer and the image. According to art historian Jonathan Crary, the stereoscopic system reconstructs the relation between observer and image. He writes: ‘The Wheatstone model made clear the disjunction between experience and its cause... the stereoscope also required the corporeal adjacency and immobility of the observer’ (Crary 1990, 129). The means for re-creating three-dimensional depth through a virtual projection blurred the very boundary between the virtual and the actual. Crary quotes Sir David Brewster who writes that the stereoscopic image depends on ‘the subsequent play of the optical axes varying themselves *successively* upon, and unifying, the similar points in each picture that correspond to different distances from the observer’ (Crary 1990, 120, 122). This implies that ‘there must be enough points in the image that require significant changes in the angle of convergence, this is an object filled space’ (Crary 1990, 124). The pulsating rhythm of the image reproduces a

hallucinatory field of dissonance. This field alludes to a virtual implosion of the object into points that constantly diverge and converge. The stereoscope, in this respect, becomes the medium that most closely captures the state of Deleuzian duration<sup>4</sup>.

The *diplorasis* becomes an attempt to inhabit this indeterminate zone, not only through the visual experience, but also in the attempt to try to re-think how the body might breach the space implied by the stereoscopic device. There is an attempt to re-think the atopic nature of the stereoscope and the immobility of the observer that is assumed by the stereoscope. As such, the *diplorasis* does not take the illusion of three-dimensional depth as the primary scope of the device but rather tries to re-enact and extend the indeterminate zone which this type of space assumes.

The *diplorasis* is a multi-media installation/device of my own making (2014-2019). It takes the form of a mirrored corridor. When the participant enters the corridor he/she will observe the sandblasted translucent screen at the far end of the corridor that outlines a mechanical instrument. Within this glass panel is a cavity in the shape of a human head, with two peepholes. The participant who walks towards the screen at the far end of the corridor will position his/her head inside of this cavity. When the participant looks through the peepholes she/he will encounter a stereoscopic projection of themselves from previous instances inside the corridor space. The stereoscopic images will then be replaced with another view of the participant, as the images continuously change they become increasingly misaligned and manipulated. When viewing the projected images one becomes aware that their image was captured from the previous instances when they were walking along the corridor; that is literally the space behind the viewer’s back (at the very moment when they are seeing themselves). Behind the scenes various *Raspberry Pi* computers are connected to Arduino micro-

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<sup>4</sup> Crary writes: ‘The stereoscope could be said to constitute what Gilles Deleuze calls a “Riemann space,” after the German mathematician Georg Riemann (1826-1866). And then quotes Deleuze and Guattari: “Each vicinity in a Riemann space is like a shred of Euclidian space but the linkage between one vicinity and the next is not defined... Riemann space at its most general thus presents itself as an amorphous collection of pieces that are juxtaposed but not attached to each other.” See Crary, *Techniques of the Observer*, 126. For more on Deleuze’s writing on the stereoscope and Riemann space see: Gilles Deleuze, *Difference and Repetition* (London: Bloomsbury, 1994[1968]): 64, 240.

controllers, DSLR cameras, LCD screens. Essentially the participant triggers sensors that capture his image, split and manipulate it and then send it to LCD screens for stereoscopic projection. Before discussing the durational implications of the *diplorasis*, we must turn to how duration is defined by the body, according to the work of Bergson and Deleuze.

### **Convergence: formation of the dispersed body**

In one of his major philosophical works *Matter and Memory* (1896), Henri Bergson formulates a theory of duration that is based upon a definition of matter as resolving into 'numberless vibrations, all bound up with each other, and travelling in every direction like shivers through an immense body' (1991, 208). Our perception is thus a conductor to this flowing matter, storing and sorting memory images in a time that is continuously becoming – past and present are co-extensive. Bergson's work on duration is a criticism of the notion of scientific time, exemplified by Einstein's theory of relativity. As Deleuze states,

What he [Bergson] condemns from the start is the whole combination of space and time into a badly analyzed composite, where space is considered as ready-made, and time, in consequence as a fourth dimension of space. And this spatialization of time is undoubtedly inseparable from science (1988, 86).

This concept of duration is centered on the body being the primal image that structures and coordinates the synthesis of images that are both external, objects, and internal, memories, to it. According to Bergson, 'As my body moves in space, all the other images vary, while that image, my body, remains invariable. I must therefore make it a center to which I refer all the other images' (1991, 46). This invariability of the body is problematic because it creates a separation between the subject (body image) and the object (other images). The contradiction in Bergson's theory of duration lies in locating the body as the central image, thus spatially defining the body. While Deleuze uses Bergson's duration to develop his own philosophical work (*Bergsonism*, 1966; *Cinema 1*, 1983), he is aware of this contradiction and proposes a different analysis of the body. This becomes evident in Deleuze's theory of the Body without Organs –

BwO – developed with Felix Guattari in the double volume *Capitalism and Schizophrenia: Anti-Oedipus* (1972) and *A Thousand Plateaus* (1980), where the disintegrated body is considered as co-extensive with duration, and there is a significant shift from Bergson, in that the reference points (the body, the objects) become less defined and more interchangeable. According to Deleuze and Guattari, '[t]he BwO is opposed not to the organs but to that organization of the organs called organism ... The Judgment of God uproots it (BwO) from its immanence and makes it an organism, a signification, a subject' (2004, 158, 159). The body, in Deleuze, becomes reconceived as an aggregate, it is no longer the main reference point but rather any point whatsoever. Therefore, while the Bergsonian body correlates to a self that is changing yet endures; the Deleuzian body suggests a self that is continuously becoming. As such, the reference axis of the body dissolves in Deleuze's writing, to be replaced by definitions of the body as 'partial objects', 'couplings' and machinic metaphors that re-construct the body as a multiplicity. Deleuze's BwO results in a dispersal of the subject. Ignasi de Solà-Morales understands the overarching intention of BwO as 'the fragmented theory of the body and of the productive flows which the body gives rise to in order to explain the relationship that links the productive energies to late capitalism' (1997, 23).

Georges Teyssot elucidates how the BwO opposes the notion of 'organic organization of organs, called organism' in order to reverse the understanding of the organs (and their organization). Teyssot defines the BwO as a body 'purely in its exteriority, in relation to other bodies, perceived through relationships of surface, difference, affect, and desire' (2013, 221). The organism on the other hand is defined as, 'conceiving the body exclusively in terms of its interiority, its regime of internal distribution, in which autonomous organs fragment the whole into multiple parts, breaking up its integrity' (Teyssot 2013, 221). This articulation of the organism is reversed by Teyssot to suggest the formulation of organs-without a body, e.g. transplants, and grafts, that is, a hybrid that suggests another understanding of the body. The BwO becomes the polar opposite of 'internal lack, higher transcendence and apparent exteriority' (2004, 157). Deleuze and Guattari will claim that 'the organism is not at all the body, the BwO; it is a stratum on the BwO, in other

words a phenomenon of accumulation, coagulation, and sedimentation that, in order to extract useful labor from the BwO, imposes upon it forms, functions, organization' (2004, 159). This analysis of the BwO is comparable to this definition of the prosthetic body because this body is not codified, or stratified; it is in a state of becoming. The BwO is a means to destabilize the organization and subjection of the body by controlling bodies, and in order to do so BwO must mediate between the two poles. Here the political implications of the BwO are not directly relevant for this paper, the line of enquiry instead aims to seek how this BwO might re-define our understanding of the image.

The question I started off with cannot be properly framed by the subject-object relationship as defined by Bergson or indeed by Deleuze, because in the first case the subject-object distinction is maintained (Bergson), whilst in the second case the dispersed subject is (intentionally) not specific enough (Deleuze's BwO). The subject that I am considering here is in the process of becoming other to itself via its relation to an object, yet it remains a subject. Two examples will help to illuminate this understanding of the subject through the body: George Stratton's mirror experiments (Gregory 1997; Merleau-Ponty 2009) and Jacques Lacan's theorization of the *Mirror Stage* (Lacan, 2001). The account of the body by Teyssot serves as a starting point that both questions and develops the Deleuzian trajectory. The difference with what is suggested here is that in my own endeavour, the main object of inquiry is the cognitive body. In other words, my work explores how vision, mediated through devices, cognitively operates and formulates a new understanding of the image. Furthermore, the way we explain the organism needs to be scrutinized, beyond the epistemological explanation (as Deleuze suggests), by looking at the embodied perceptual experiments of Stratton.

The embodied subject advocated in the binocular visual experiment by psychologist George Stratton (Gregory 1997; Merleau-Ponty 2009) will serve as the initial analytical model to re-consider the body. Stratton's device, constructed by mirrors attached to a harness, forces the operator to see the reflection of his body rotated by ninety degrees; the reflected body thus appears to hover horizontally at eye level. The vertiginous perception of one's body is

countered by the brain's attempt to stabilize and restore the normalcy of perception, however the result is that the cognitive perception of the body, at the earlier stages of the experiment, dissociates from its spatiality. As Stratton claimed, 'I had the feeling that I was mentally outside my own body' (Gregory 1997, 205). As the body tries to adjust, the relationship between sight and touch manifests the proprioceptive associative learning between the two senses. Eventually, the body will adjust to its horizontal projection. For the purpose of this paper, I am interested in the stage of cognitive dissonance that occurs before the brain restores the image and the body adapts. According to Stratton's experiment the body was positioned in a continuous loop of re-coordination, as it perceived the interface with its own virtual projection and tried to readjust to this sensory input. In relation to the Bergsonian body, in Stratton's experiment whilst the primal image is referred to, what changes here is the relationship of the body to its peripherally perceived images. This experimental body does not simply create multiple and parallel feedback loops, but rather it disturbs the connection between exteroceptive and interoceptive cognitive associations. As the feedback of images dismantles the hierarchy of the body image over the image of the body's perceptive field, the very boundary between the body and its enveloping space becomes less clearly defined.

A similar state where the hierarchical relationship between the perception of body and its image is called into question can be found in Jacques Lacan's seminal paper on the *Mirror Stage* (1949). In Lacan's paper the infant's confrontation with its reflected mirrored image is contraposed to the motor incapacity of its body. The infant's body is situated between two poles, completeness (virtual image) and fragmentation (bodily motility), leading to the formulation of the "Ideal I" that the subject will perpetually strive towards; conforming to this image is what will constitute the ego.

In a somewhat reverse manner (developed bodily cognition becomes inhibited), the induced motor incapacity generated by Stratton alludes to a discrepancy between the image and the cognitive functioning of the body. Whilst in Stratton's case the ego is already formed, its cognitive function is evidently in a state of disarray because the body becomes suffused

with its peripheral images. As the feedback of images in Stratton's experiment dismantles the hierarchy of the body image over the image of external objects, the very boundary between space and body becomes less clearly defined; the body becomes rather immersed spatially. In order to develop this articulation of the body we can begin to define the technological interface in Stratton as a technological prosthetic. In these examples it is not the perceiving subject that is the reference point but rather this interface. The prosthetic here is defined as an active agent, as an object that affects the becoming of the subject, rather than assuming conventional definitions of prosthetic as supplement, extension or replacement. While the infant's body in the mirror stage is in a state of disarray, in Stratton's experiment the body is perpetually dismantling visual perception and the interface – the object – is not acting on the subject simply as a supplement, but rather it actively consumes the subjective state. In this sense the dispersed body escapes representation altogether, it is in a state of perpetual disarray or becoming.

### **Bergsonian Duration**

Returning to Bergson, there is one other important element in Bergsonian duration that we have not mentioned yet, namely memory. For Bergson the memory-image is made up of the pure past and active past that are ever creating the present moment. In Bergson's diagram of the inverted cone – 'which on the one hand could be said to figure the relation between the two memories ['habit' and 'true memory'] (and to this extent to figure a relation between body and mind) [and] can also be interpreted to figure the mind itself – *l'esprit ...*' (Guérlicq 2006, 152) – the pure past is the base of the cone, the apex is the very present, and the intermediary shaft is the active past. The active past defines the present – the apex – and at the same time always refers to the pure past. Memory as such is the element that provides a framework for Bergson's definition of duration. But Bergsonian memory is directly related to a late nineteenth century understanding of the body. Contemporary understandings of the bodily schema, and the rethinking of the limits of the body through its intertwinement with technology produce a reconsideration of the cognitive corporeal body thus affecting the articulation of memory, in this case Bergson's definition of memory.

The understanding of the dispersed body that has been sketched out in this paper would affect the temporal relationship between the pure past, the actual past and the present. In Stratton's experiment, for example, the apex of Bergson's cone is changed: the point where the past is being actualized into the present becomes compressed, displaced, multiplied, creating the feeling of an expansive or multi-present duration. Furthermore, the pure past, 'which never passes, remaining ever present but unrepresentable' (Widder 2011) is submerged, while the active past, as 'sensori-motor', is enhanced. To sum up, the prosthetic articulation of the body developed here offers another way to re-conceive Bergson's conic diagram, and the framework of the durational image.

As the subject is being redefined through a prosthetic interface, it is thus changing not only its corporeality but also the way in which the body perceives duration. The bodily existence as a multi-present entity provides new conceptions for its representation. One could start to imagine this prosthetic interface as being both within and outside of the body, interchanging amongst these states, and forming the dispersed body. The development of this dispersed body can be better grasped by the Greek term for 'dispersion'. *Diascorpisi* combines *dia* – through or during – connoting a temporal attribute, and *scorpisi* – shedding. The Diascorpic Body, emerging in time, configures new understandings between the spatial body and its representation.

### **The undefined image**

Working on this line of investigation, and in conversation with the theories it both embraces and questions, the *diplorasis* attempts to produce two superimposed durations. In order to further understand the meaning of duration assumed here we need to return for a moment to Deleuze's reading of Bergson. In *Bergsonism*, Deleuze asks, 'what is the framework common to recollection in the process of actualization (the recollection becoming image) and the perception image? This common framework – he argues – is movement' (1988, 67).

The sensorimotor functioning of the body here is thus extended beyond the perceptual image, and the perceptual image itself is derived from the recollection image. As Deleuze formulates the transition from recollection to perception to movement, he is explicit about the

starting point, as he notes: 'We do not move from perception to recollection but from *recollection to perception*.' The *diplorasis* aims to question this predefined trajectory. By altering the visual sensori-motor operations, the trajectory from the recollection image to the perceptual image becomes confused. This alteration of the visual sensori-motor operations produces an undefined image; the perception-recollection trajectory can therefore be linked to another type of image: the dream-image. While Deleuze effectively develops his interpretation of Bergson's concept of duration, he only briefly refers to the dream-image in a short paragraph. And when he does, he describes the dream-image by stating: 'it is as if the contraction were missing, as if the extremely expanded relationship of the recollection with the present reproduced the most expanded level of the past itself' (1988, 67).

In Deleuze's explanation, the Bergsonian model of duration is adapted to the dream-image. What Deleuze does not mention though, is how external and internal stimuli can also produce the dream-image; in other words, *how movement-affection could trigger the recollection image*.

The *diplorasis* appropriates and implements the Deleuzian reading of duration,

but it performs an attempt to reconfigure the relationship between its constituent elements, thus questioning the defined trajectory of recollection-perception-movement image. This occurs by interfering, in the first instance, with the eyes' physiological mechanism through the active prosthetic interface. The device simultaneously engages with both the binocular and monocular operations of the eyes. As the monocular functioning of the stereoscope is enacted, at intermittent intervals the actual perceptual depth forces the operator to switch back and forth between binocular and monocular operations. This vertiginous overlapping between the actual and the reflected image introduces an unexpected and undefined image, where one observes oneself from outside their body image. The device operates between the representable and the non-representable, the virtual and the actual, the corporeal and the mechanical. It eradicates the singular perspectival point of view and involves multiple potentialities. As an example of an active, prosthetic, technological device, the *diplorasis* changes the human body and the bodily and visual perception of its environments. As a critical, speculative, theoretical device, it poses the question of how to represent this body and its "recollections".

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### **Biographical note**

George Themistokleous ([www.para-sight.org](http://www.para-sight.org)) is an architect and lecturer in architectural design, history and theory. He has studied architectural design, theory and art history at undergraduate and postgraduate levels. The inter-disciplinary scope of his work operates between media, art and architecture. His research focuses on changing understandings between the visual body and space-time through emerging visual media practices, where conventional limits between self and self-image, interior and exterior shift out-of-focus and are re-thought with emerging mediated spatio-temporal constellations. These constellations it is argued in-form new understandings of body/image. The visual and written work has been presented, exhibited and published internationally in various platforms. More recently the latest media installation project has been presented at the Venice Architectural Biennale 2018: Cyprus Pavilion, Future Architecture Platform 2019, 'Urgency of Reality in a Hyper-connected Age' exhibition, and featured in *The Lost Diagrams of Walter Benjamin*, *Yearbook of Moving Image Studies*, *Visual Research Methods in Architecture* (Intellect, forthcoming), *Idea Journal*, *Site Magazine*, *Open Library of Humanities*, *Lo Squaderno*, amongst others. He is co-editor with T.Stoppani and G. Ponzio of the book *This Thing Called Theory* (Routledge).