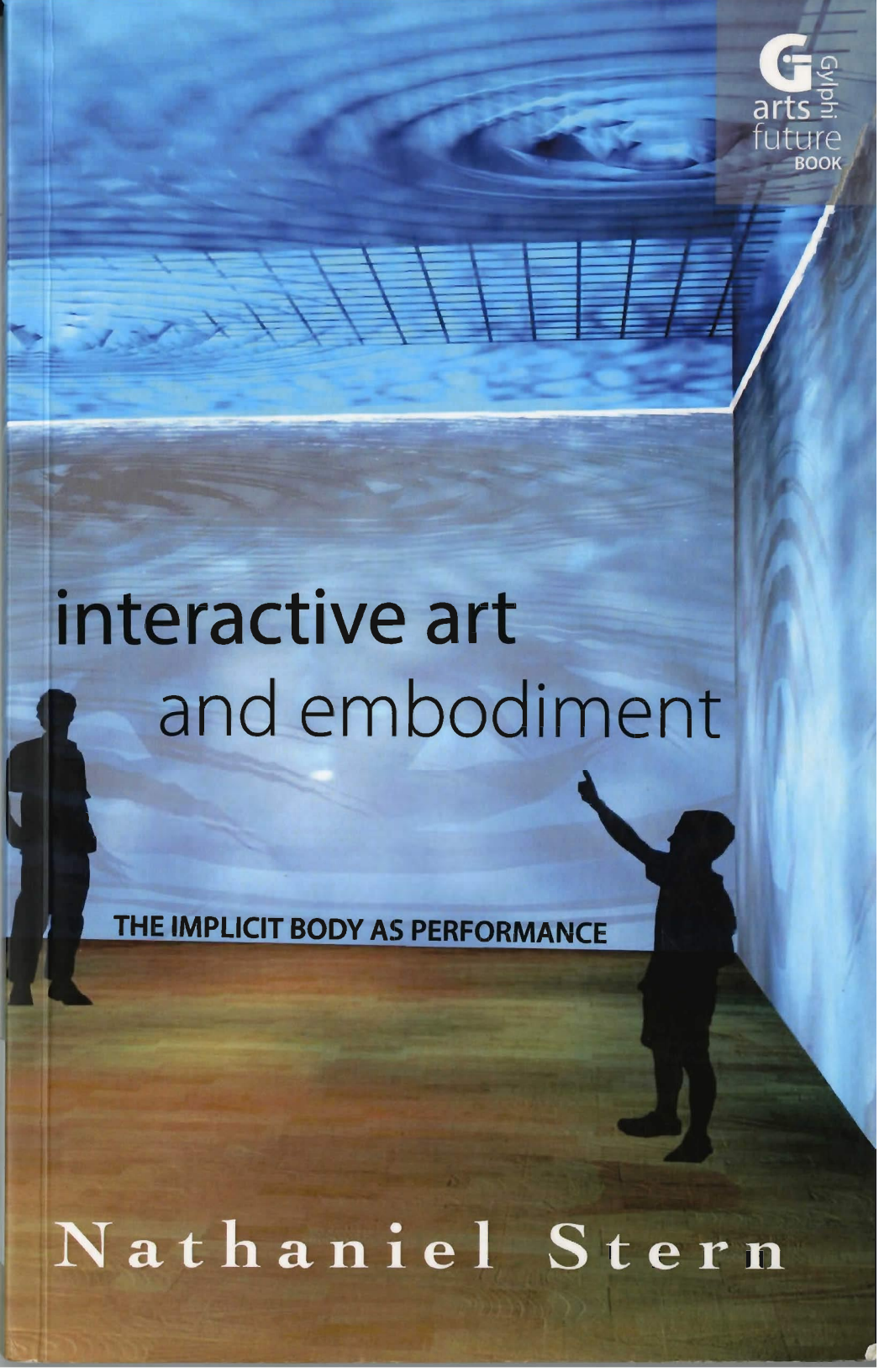
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Nathaniel Stern

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Gylphi Limited
PO Box 993
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# Chapter 4

## 'Body-Language'

### Embodiment as Meaning-Making

This chapter discusses – as process, sensible concept, and critical approach – the implicit body thematic of body-language, and applies it to the work of Simon Penny and Camille Utterback. These artists were chosen because of their conceptual and practical interests in the emergence of language, meaning, and discourse as they relate to our continuous embodiment. The internationally acclaimed Utterback, first of all, avowedly attempts to 'bridge the conceptual and the corporeal' with her work (Utterback, 2006). Her main interest lies in how 'we use our bodies to create abstract symbolic systems, and how these systems (language for example) have reverberations on our physical self' (Utterback, 2006).

Cutting-edge technology plays a central role in how Utterback understands her practice. She explains that interactive media provide exploratory possibilities of the connections between physical bodies and representational systems. Like Tmema, her interfaces often utilize 'computer vision' technologies, more commonly known as inter-

active video. Here the combined use of digital video cameras and custom computer software allows each artwork to 'see,' and respond to, bodies, colors, and / or motion in the space of the museum or gallery. Utterback believes it is important to get beyond the mouse, keyboard and screen. She hopes to 'refocus attention on the embodied self in an increasingly mediated culture' by creating a 'visceral connection between the real and the virtual' (Utterback, 2006). At their core, her artworks ask participants to encounter a performance of bodies and meaning.

*Text Rain* (1999, Figure 12), Utterback's well-known and award-winning collaboration with Romy Achituv, is an interactive installation that invites viewers in front of a large screen to catch individually falling characters of text with their bodies (and by extension, anything they are attached to or holding). Participants between a plain white wall and video screen use their arms, legs, heads, and chests in a mirrored black and white video projection overlaid with colored and animated letters. Each character 'lands' on the edges of bodies or objects darker than the white background, and 'falls' when they are removed. 'Like rain or snow, the text appears to land on participants' heads and arms.' It can be 'caught, lifted, and then let fall again' (Utterback, 2000).

As the letters accumulate along a ridge of collaborating bodies, or on an up-close, outstretched, and immobile arm, viewers may occasionally 'catch' a recognizable word or even an entire phrase. Evan Zimroth's 1993 poem *Talk, You* was selected for *Text Rain* because it resonates with artists' intention. Like the artwork it inhabits, it creates 'metaphorical bridges between the physical and the linguistic'; it is an investigation of 'how "meanings" come together and fall apart through transient "syntactical" spatial relationships' (Blake, 2006). When *Text Rain* is installed in international cities, the artists most often translate the poem into the language and alphabet of its host country, so as to insure the possibility of word recognition. But reading the poem, 'if participants can do so at all, becomes a physical as well as a cerebral endeavor' (Utterback, 2000), in how we must literally catch a phrase.



Figure 12. Camille Utterback and Romy Achituv | *Text Rain*, 1999 | photos by Kenneth Hayden and / or courtesy of the artists

Utterback writes that the tension between the 'abstract realm of ideas and the corporeality in which we live and interact with these ideas' (Utterback, 2006) is central to all of her work. It is not interactivity as a concept that garners her interest, but how embodiment and concepts relate and manifest. *Text Rain* is not about the body or language. Reading it in this way would (mis)understand these as static 'things.' It rather stages an experience and practice of their emergence together. An implicit body approach encourages a closer look at our and their inter-activities, and the relational performance Utterback's work intervenes in. I undertake an analysis of *Text Rain* as a situation, and the body-language thematic couples the shared arrival of, as Utterback says, 'the conceptual and the corporeal.'

As seen in the images provided (or in online videos), viewer–participants that encounter *Text Rain* most often attempt to gently catch words with their hands and arms, treating the language-drops as fragile treasures to be handled (and read) with care. They sway their upper bodies back and forth, catching and pushing the alpha-numerals with their heads and shoulders. Sometimes performers work together creatively, using, stretching, and waving picnic blankets to collect and read poetic phrases, or play out the metaphor further, with upturned umbrellas that both shield them from the onslaught of the Symbolic, and simultaneously elicit and make legible that which was initially unreadable. At a New York exhibition in 1999, I witnessed a crew of five participants wandering – apparently aimlessly, at first – and laughing, mouths open, in and around the interaction area, trying to catch the falling letters with their mouths, in their jaws, on and around their upturned faces. I like to think they were attempting to introduce an expression that was on the tips of their tongues.

While the interactive experience of *Text Rain* 'seems magical – to lift and play with falling letters that do not really exist' (Utterback, 2000) – so, one might argue, does the indoctrination into language itself. Whether a child is learning to communicate for the first time, a traveler is slowly beginning to understand a new, foreign language, or a graduate student finally manages to internalize a complex text – for the sake of this particular argument, let us say Lacan's 'Mirror Stage' (1949/2006) – each situation revolves around a self-referential, un-





deniably fragile, perpetually challenging, and extremely gratifying – and corporeal – relationship to abstraction. We test and play with words and meaning, see how they *form* in our mouths, *roll* off our tongues, *flow* on the page, in our ears, and in space, in order to find the right ones, and ourselves, within them. In *Text Rain*, 'it is our intuitive mental manipulation of language that is frustrated ... We manipulate the abstract symbolic space of language both physically – with our mouths and hands, and mentally – with our thoughts' (Utterback and Achituv, 2000). Body and language are mutually immanent.

Utterback and Achituv ask us to sensually and conceptually weave in and around our simultaneously incorporating and inscribing relations to language and text. We catch and toss continuously moving meanings that may contrapuntally be read as actually trying to capture us. Whether standing still, dodging the droplets, or actively collaborating with other reader–participants, *Text Rain* puts our incipient feedback loops between the conceptual and material in (absent) quotes: 'body-language.' It re-cites and re-situates how bodies and language/ meaning emerge together, from and as their ongoing relations.

Utterback's work is exemplary in its amplification of the relational 'being-with' of flesh and discourse. It invites us to experience and practice language as a sensible concept. I parallel the body-language thematic to Jean-Luc Nancy's idea of exscription: the relation between the performance of embodiment and the process of meaning-making. Body-language was chosen as a key implicit body thematic for this book exactly because of how it might at first seem to resemble explicit body art, given that both kinds of work address bodies and signs. While explicit body art interrogates inscription and its signifiers, however, implicit body art intervenes in an embodied exscription, the enfolding, unfolding, and with-matter processes of signification and constitution. Simon Penny and Utterback have been selected for study in this chapter both because of their stated interests in corporeality and semiotics, and because of their recognized status in the field of digital art. With Penny's work, I reference other published readings in order to show where the implicit body framework can provide different and deeper insight. And Utterback's installations will be exam-

ined further, as setting stages for rehearsing our ongoing and embodied relationships to art and art history more generally.

## Exscription

Like Jean-Luc Nancy's philosophical approach to being, exscription is a nuanced approach to understanding reciprocal emergence: this time of bodies and / with meaning. It is a purposefully tautological appreciation of how bodies and meaning make one another, through their making of one another. Like a topological figure, exscription is relational and self-referential, and can thus be best understood through the lens of exscription itself. I use exscription to ask for an engagement with how bodies and meaning are constituted through their continuous relations, in our experience and practice with interactive art. For Nancy, 'bodies make the world go round' (Perpich, 2005: 78–9), but like Marilyn Strathern, he does not presuppose *what* a body is, only *that* it is – and it *is*, only when it is in, and of, and making the world.

Nancy's body is 'not of essence or substance' (Ridgway, 2008: 335). It is

> neither fullness nor void, neither outside nor inside, neither part nor whole, neither function nor finality. It is... 'folded, refolded, unfolded, multiplied... evading, invading, stretched, relaxed, excited, shattered, linked, unlinked.'... it is 'a whole corpus of images stretched from body to body: colors, local shadows, fragments, grains, areolas, half-moons, fingernails, body hair, tendons, skulls, ribs, pelvis, stomachs, meatuses, froths, tears, teeth, foams, clefts, blocks, tongues, sweats, liquids, veins, pains, and joys, and me, and you'. (Nancy, 1992: 16, 104–5; Perpich, 2005: 85)

In other words, Nancy's understanding of body (le corps) is not in fact a body but bodies (corpus): folded, enfolded, and unfolded with other bodies, matter, images, and discourses.

As with the complex being-with of community and people, Nancy sets out to write an embodied discourse that is also *not* a discourse, in that it explores the interrelationship of body and discourse, body with





discourse, discourse with body. Nancy's 'corpus' is a constant reworking of the conditions of embodied thinking. It is, according to Jacques Derrida, an 'implacable deconstruction of modern philosophies of the body proper and the "flesh"' (Derrida, 2005: 63). Here, bodies emerge with matter and meaning, *as* matter and meaning. Key to Nancy's approach is an effort to 'eschew both the tendency to arrest the affect, plurality and difference of the body, as well as the tendency to reinstate the body as something un-representable' (Ridgway, 2008: 334–5). On the one hand, Nancy argues that 'discourse can represent or signify the body, that is, write *of* or *about* the body,' but it cannot '*write the body*' (Perpich, 2005: 84). On the other, he reminds us that one cannot write *without* a body, that the body *haunts* all writing, language, and signification, and must therefore be present in, and a condition for, every inscription. In other words, while we may not be able to produce any successful language or discourse that is 'embodied' as bodies are, we also fail to produce any discourse without the body already in it.[1] After all, we need bodies to write. Both language and bodies are implicit in every-thing, every constitution, every action, every communication, every meaning, and every text: corpus.

In her paper on Nancy and 'dis-integrating bodies,' Diane Perpich argues that in 'the Western philosophical tradition, the body has been construed in opposition to speech and language: it is ineffable, passive, impenetrable, unintelligent, and as such opposed to the intelligible articulations of discourse' (Perpich, 2005: 84). So, according to this tradition (or at least to a dominant movement within it) bodies and discourse are mutually exclusive.[2] How then, can we access the body through and with language? How can the putatively incorporeal (language, meaning, text) 'touch' the corporeal (bodies, matter, things)?

Nancy suggests that how bodies are accessed by language (and writing), that this touching of corporeal and incorporeal, is not *inscribed* in language (and writing), but rather *exscribed* outside of it. Bodies and meanings mutually emerge outside of, and with, each other; they touch implicitly, en- and unfolding as relational. Nancy asserts that the act of writing, for example, 'exscribes meaning every bit as much as it inscribes significations. It exscribes meaning or, in

other words, it shows that what matters ... is outside the text, takes place outside writing' (Nancy, 1994: 338). And here both matter and its matters matter.

In this thinking, outside and inside are not to be understood as oppositional. Rather, in the bodily and relational thinking that Nancy proffers, inscription and exscription, outside and inside, bodies and discourse / writing, happen together; they are not opposed, they *are-with*. This 'with' that is the pre-condition for all things (and non-things) is 'neither substance, nor phenomenon, nor flesh, nor signification. But *being-exscribed* [l'e tre-excrit]' (Perpich, 2005: 84). Signification is 'located meaning,' but exscription 'resides only in the coming of a possible signification' (Ridgway, 2008: 331). In being exscribed, the body both *makes* sense, and *comes* to sense, along *with* signification. When Nancy writes that bodies and meanings take place outside, he means that they take place neither in discourse nor matter alone. 'They take place at the limit, *as the limit*' (Nancy, 1992: 18, 20, emphasis added). Here, 'bodies *are* meaning ... they are the limit and expression of meaning' (Ridgway, 2008: 335). Every-thing is defined by being outside another outside another outside.[3]

Nancy thinks corpus and bodies (and discourse) as continuously incipient thresholds that allow us to appear as distinct from one another, but that also serve as points of connection, and contiguous existence. Bodies, and meanings, emerge through their relational margins of contact, the various borders and limits they engage with. Interactive art asks us to play at these limits, amplifies and intervenes in a processual embodiment *as* and *at* these limits. The implicit body thematic of body-language more specifically puts the relational activities of 'enfleshment with signification' in quotes, inviting us to experience and practice at their mutually emergent borders.

Bodies and language and meaning and signification and discourse – which I purposefully slip between throughout this chapter – and what comes to matter in and with them, work together reciprocally. The body-language thematic, then, is an approach to analyzing how bodies (and meaning) are continuously reconfigured, re-cited, and re-situated; they are per-formed, they are touched. 'Bodies are first masses, masses offered without anything to articulate, without anything to discourse about ... discharges of writing rather than surfaces to be covered in writings' (Nancy, 1992: 197). These are neither written bodies, nor bodies on which writing takes place, nor bodies that are signs of themselves. For as Nancy himself asserts, 'the body is not a locus of writing ... it is always what writing exscribes. In all writing a body is traced, is the tracing and the trace – is the letter, yet never the letter ... a body is what cannot be read in writing' (Nancy, 1992: 197). It is a body only in the touching of, in being touched by, the Other (whether Other refers to body, signification, world, matter, meaning, or writing). And this touching is always already interrupted, syncopated, exscribed.





In touching and being touched (in our active and incipient relations) we encounter the limit, we encounter bodies and meaning. If the claims made by Jacques Derrida and Zsuzsa Baross that the self 'comes into being only in and through the sensuous relation with the other, in and through exposure to the limit, to that which is not self (but is nevertheless internal to it)' (Sullivan, 2004: 7) are accepted we can see how touch, and by extension the body, is not simply an object of the self's perceiving consciousness (or an expression of its affective interiority), but is also a body in and through exscription. The body-language thematic invites examination of how interactive artworks magnify touch, that encounter with contact and limits, and, as such, are interventions in the movements between meaning and body as 'with.'

Bodies and language are staged and highlighted as *together*. We encounter their limits, play with them *as* limits, and rehearse how they *might be* in amplified limitation. Here meaning and bodies are of the relation. They are shared, conceptual-material formations, that come to be-with. With interactive art, we remember: being *is* being-with, it is partagé or shared, and here that being is shared with meaning; it is exscribed.

And therein also lies the fundamental difference between staging an explicit body *in* performance, and staging an implicit body *as* performance. The explicit body challenges the stasis of bodies and signs: the latter inscribes the former – with race or gender or class, for example – and an explicit artwork intervenes in these 'things' that are pre-

supposed. An implicit body approach – and, by extension, the body-language thematic – takes no-*thing* as its subject. Here we encounter processual matter and continuous bodies, relata and incipient actions and meanings. This work is part of a self-critical corpus, highlighting and exploring relations between the processes of materialization and signification.

The body-language thematic focuses on interventions in the continuous relationships between embodiment and meaning-making – the activities of *writing-with-the-body*. The artworks discussed in this chapter solicit such embodied writing as 'traced,' as 'the tracing and the trace,' inviting us to per-form and interrogate 'bodies with discourse.' Such work remembers that meaning is exscribed; it sets a stage for the practice and examination of 'embodiment and signification' as incipient, active, and mutually appearing.

## Symbolic Traces: Simon Penny

Artist, technologist, and academic Simon Penny has conducted research since the mid-1980s, which takes the form of arts production, writing, teaching, and engineering projects, that in early incarnations centered on the premise that technology has been the major force for change over the last century. In his edited collection of texts by artists and academics circa 1995, Penny argues that 'as we move out of the first technological era, that of industrial production, into the era of the digital, a profound warping and rifting occurs across the cultural surface' (Penny, 1995b: 1). He unequivocally asserts that computers mediate our relation to the world. Simon Penny's oeuvre invites us to explore relationality and meaning-making through technological mediation.

Penny's work in the 1980s consisted of anthropomorphized kinetic sculptures (*Stupid Robot* [1987]), robotic projection machines (*Great Arcs* [1987]), and other artworks that integrated gadgets such as radio receivers (*Lo Yo Yo* [1988]) and / or infrared sensors (*Pride of Our Young Nation* [1990–1]). He often invested his energies in creating illusions of sentience (*Petit Mal* [1989–95]), *Sympathetic*





*Sentience* [1995 and ongoing]) or in sociopolitical simulations of our 'organic' communication systems (such as the Internet, in *Big Father* [1990–1]), in order to intervene in our experience and understanding of each. Many of these pieces use the history and currency of media to ask us to engage with how we behave as human beings.

Penny's somewhat more recent work sees a range of projects that 'focus their attention on the experience of the user as an act of communication, on the social space of the interface, and on the dynamics of interaction' (Penny, 1995a: 58).[4] He explicitly calls for an enhanced critical inquiry into our embodied cultural practices in the new technological age. Like Jean-Luc Nancy, Penny couples body and language, embodiment and sign, inside and outside, and attests 'to the unacknowledged but pervasive power of physical behaviors in social and cultural formation' (Penny, 2005). For Penny, as for me, embodiment and interactivity play essential roles in the act of producing meaning, and thus need to be studied, challenged, and critiqued, together. He asserts that his art acts as 'an intervention into certain prevailing attitudes regarding embodiment and interaction' (Penny, 2004). To that end, as a label for what he does, Penny prefers the 'rather clunky "digital cultural practices" to either new media or media art, partly because' he now thinks 'the notion of "media" is an irrelevant focus' for investigation and interrogation (Scholz and Penny, 2006). This hints at how 'media' or a 'medium'-based work is thought of as a thing, an object to be seen or perceived rather than a stage for encountering performance. Penny is speaking back to the same discourses critiqued earlier in the book, and instead allying himself with the processual, potentialized 'practices' of meaning-making within a larger culture. His artworks, I argue, use digital technologies to intervene in the relational emergence of bodies and discourse.

Much that drives Penny's production comes out of his critical assessment of VR (Virtual Reality). It would be, he argues, 'an oversimplification to claim that the body is not present in VR,' but it would be a similar 'oversimplification to claim that the body is *in* VR. The body, we might say, is partially present. It functions as an "effector," but the sensorial feedback is almost exclusively visual (with the occasional addition of sound)' (Penny, 1995a: 61–2). Penny attempts to reclaim

the body in Virtual Reality from the hegemony of vision. Not that vision is ever only vision alone, but that intensive experience requires vision to be folded *in*. Penny says that the material body – and all that bodiliness *is* – is neither fully present in, nor fully absent from, VR and its immersive image. In the 1990s and early 2000s, he worked with collaborators to create a much more interactive rig for VR, one which distills, and intervenes in, the body as always and never both inside and outside of the image, discourse, signs, writing.[5] Penny et al., in other words, wanted to create a situation that would engage both the static and continuous body, both inscription and exscription, in Virtual Reality.

Penny first created a machine vision system that is an even more advanced and complicated version of the kind that Utterback utilizes in *Text Rain*. It similarly uses analysis and interpretation of live video images from the interaction area (in this case, infrared images) to 'see' and respond to the viewer–participant. But Penny's set-up employs the use of four cameras, along with customized hardware and software, in order to calculate every embodied movement in three-dimensional space, over time. In other words, this system, which later became known as the Penny/Bernhardt TVS or Traces Vision System, combines its multiple video inputs mathematically to create a semblance of the body's full, voluminous form in real time. This interface, which has been used in much of Penny's work,[6] invites a complete, moving, affective, and sensual sensorimotor body into the interactive and three-dimensional experience of Virtual Reality. Rather than only seeing the moving body through a singular camera eye, flat like a video screen, it recognizes the body as a moving and three-dimensional sculpture. I examine Penny's most well-known TVS piece, *Traces* (1999, Figure 13), with the body-language thematic.

Unlike the customary Head Mounted Display goggles commonly used for Virtual Reality explorations (such as with Char Davies' work), *Traces* is placed within a stereo-immersive CAVE (Cave Automatic Virtual Environment). Here participant–viewers wear specialized glasses that act like the stereopticon in William Kentridge's work to turn eight 2D / flat images into four 3D and sculptural forms.[7]





These 3D videos, which are rendered in real-time, are projected on the three walls, the ceiling, and floor of the CAVE, to create a virtual space that surrounds the entire body. It is important to note just how enveloping a CAVE, and the interaction in *Traces*, really is. While the still images presented in this book can only show the 2D projections on the flat surfaces surrounding the active performers, any given participant in *Traces* sees these floating 'images' as three-dimensional moving sculptures in the immediate space around them.

*Traces* takes the TVS's real-time model of the whole moving body and places it within the stereo-immersive CAVE. The software 'sees' the moving body as a collection of 'volumetric pixels' or 'voxels.' Each viewer is thus more than a disembodied eye looking at a screen; he or she is an actively embodied participant in a responsive 3D space. *Traces* aims to privilege bodily intervention and investigation over high-resolution visual elements. The artist did not endeavor to produce a '"world" which is "navigated"' – its 'graphical representations are minimal, texture mapping and other gratuitous eye-candy' are avoided – but rather a responsive and interactive environment that encourages physical exploration (Penny et al., 2001: 47–9). Penny did not want 'to present a panoptic spectacle for the user, but to turn the attention of the user back onto their own sense of embodiment' (Penny et al., 2001: 47–9). He asserts that all 'attention is focused on the ongoing bodily behavior of the user' (Penny, 1999), where participants' interactivities are integral to, indeed *are*, the work.

There are three modes of interaction in *Traces*, where each builds into the next. Dubbed an 'autopedagogic interface,' *Traces* introduces the 'complexities of the environment' and how it responds to movement 'gradually and transparently' (Penny et al., 2001: 49), so that participants can learn how to engage their encounters on the fly. This is not to say that *Traces* only responds to specific gestures or behaviors, but rather that styles of movement and stasis, acceleration and stimulation, can be experienced and practiced. It is not a language per se, but a kinesthetic mode of meaning-making that emerges, and is virtually felt, through the participant's interactions in space.

In the first, 'passive,' trace, every movement, small or sweeping, draws real-time lilac-colored voxels that slowly fade to nothingness,

like trails of ephemeral bricks behind each flickering action. These traces of our bodies look and feel like 'volumetric and spatial-acoustic residues of user movement that slowly decay' (Penny et al., 2001: 47–9). Penny describes this interaction as dancing a sculpture. When the software crosses into its 'active' trace mode, the small cubic voxels no longer fade at a standard rate. Instead, participants' movements seed 3D cellular automata characteristics: elements of relationality and randomization mean that each voxel may shift to any number of varying colors, for any amount of time, before disappearing. In the final, 'behaving' trace, performances in the CAVE initiate animal-like, flying statuettes that move in Reynolds flocking patterns in and around the viewer. These user-spawned 3D animations – playfully called Chinese dragons by the artists because of their segmented spherical appearance – follow complex, interactive and generative behaviors that make them swoop and flock and tease. These interactions, the mutually constitutive relationships between/of body and image, inside and outside, embodiment and signification, are intervened in, and their per-formance is productively interrupted. They are staged as in relation: separate but together, different but in common, inscribed and exscribed.

With the passive trace, the shape of a participant's volumetric avatar (the common noun for human representations in cyberspace and virtual worlds) is entirely dictated by their movements in the CAVE. Their activities leave trails of slowly fading blocks in their wake, and so audience members tend to spend time exploring their own motion and its fantasy-like remnants around them. They may drag their arms and legs in exaggerated gestures akin to Tai Chi, or swish their limbs through the air in order to try and tease more interesting patterns into existence. As *Traces* slowly progresses into its active trace mode, the movement of its interactor still generates voxels in real time, but rather than simply disappearing, these begin to follow a cellular automata algorithm, where a 'discrete dynamical [system] is completely specified in terms of a local relation' (Perron, 2004). Such equations are simplified mathematical models of spatial interaction, where the 'state' – in this case, color and fade – of each voxel is co-determined both by its own activities/data, and its neighbors'.[8] Here





'the number of neighbors a voxel possesses determines whether it will persist into the next time-step' in the fade, 'and also determines its colour and level of transparency' (Penny et al., 2001: 60). The generative programming in the active trace mode gives the person/avatar's embodied voxels their own life-like quality, compiling 'structures of varying stability in places where the user has been. It changes shape, sparkles and percolates in unexpected ways' (Penny et al., 2001: 60). Whereas the passive trace leads to an investigative and fantastical exploration of the body in relation, the more randomized elements of the active trace avatar forces compromise, negotiation, and suspension on the part of the participant–performer. They must watch and listen to and play with the expressions of the outside, with more care, in a way much more integral to the compilation and completion of their-and-its 3D forms.

With the active trace, performers relate their movements to a greater discussion. They engage more cautiously, with slow mime-like stutters or sometimes frustrated swipes, as they birth and transform the surrounding environment and its three-dimensional responses; and this environment, in turn, influences their own movements, again. Body and discourse *appear* and are *felt*, virtual and together, as a corpus that occupies the inherent coupling of an active embodiment with the outside, even in its use of representative forms. A performer's awkward inter-actions with *Traces* during the active trace magnify bodiliness itself as relational meaning and vice versa. Here we are a being-with the (virtual) world, and said world and meaning mutually emerge; they are inaugurated, rather than enacted as an a priori script. *Traces* offers direct but unpredictable contact and syncopation between embodiment and signification. The 'work' is an introduction to, and intervention into, bodies-with-images; it challenges their movements and readings and relations, amplifying how both are per-formed, together.

In the final stage of *Traces*, aptly called the behaving trace, the viewer–participant's motions spawn 'semi-autonomous agents' that fly around the space and interact with them and each other. As seen in the provided images, these are snake-like animals, 'thrown off' by interactor's movements 'as though the user is shaking off water drop-

lets' (Penny et al., 2001: 60). After they fly from the performer into the 3D environment in front of them, these self-governing creatures follow a relatively simple set of rules to create a complex 3D animation. The software might tell several dragons to flock and swoop together, while others meander at the edges or fly directly to the center of the action. Thus, the animations in the behaving trace may follow an interactor's movements, or 'break away as a flock following its own artificial life dynamics' (Hayles, 2002: 307). The dragons exhibit their own organic behaviors, together and apart from each other and the participant. Our experience with them is virtual and actual, virtualizing and actualizing, static and continuous. As a kind of reciprocal play, people lie on the floor, jump, dance, kick, and dance again. They 'emerge from the CAVE sweating, panting and red faced' (Penny et al., 2001: 48–9).

Performers build up their own active participation along with the increasing behavioral patterns of the semi-autonomous agents in *Traces'* space. What begins as embodied exploration becomes a physical investment in interactive and generative creation, through flicks and jabs, running and jumping, swiping and diving. *Traces* responds to our bodies, but over time, we must also be more responsive to it, attempt new styles of movement and perception, looking and doing. A body-language thematic reading suggests that there is a dialogue, a corpus, between these two things (which are not things), as they find embodiment and the per-formed and performative (body-) language that gives them meaning, together.

Mark Hansen and N. Katherine Hayles have also both written about *Traces*.[9] They in fact often turn to art in order to grow their technology-inflected philosophies of embodiment. In counterpoint, I am vying for an experience and practice of art *as* philosophy. The difference is in the articulation. My approach is to encounter *Traces* as a situation where we move–think–feel and rehearse how language and meaning and concepts and philosophies manifest *with* embodiment. The sensible concept /thematic of body-language was chosen for *Traces* in order to focus precisely on meaning-making (philosophy, language, discourse) and its emergent relation to 'body.' Here the framework, which is informed and supported by Hansen's and Hayles' theories, offers insight into how *Traces* suspends and potentializes – and helps us better understand, among other embodied performances – the relation of flesh and discourse.





One of Hansen's key arguments in his *Bodies in Code* is that humanity and technology evolve together. He says that human embodiment and experience – which are always technologically mediated – are the primary factors in our evolution, and goes on to argue that contemporary artists' 'varied use of digital media has pointed the way toward an introjection of technics into embodiment' (Hansen, 2006: x). In other words, digital art enables us to bring the surrounding world, the technologically-mediated world, into our body-schema.

Hansen asserts that *Traces* 'demonstrates that the disclosive power of the body schema is an essentially technical power' and that, 'in the end, it emerges only through the technology that makes it possible in the first place' (Hansen, 2006: 48). Our experience of our 'body proper' does not take the form of a representational image, but rather 'emerges through the *representative* function of the data of body movement' (Hansen, 2006: 49). Rather than seeing ourselves as the 'body' the cameras capture, we see traces of our *movements* in space. *Traces* allows us to encounter a 'body-in-code,' in that our body-image ('self-representation') is 'indiscernible from a technically generated body schema' ('enactive spatialization') (Hansen, 2006: 48–9). Hansen argues that the difference between the two '*has been entirely effaced*' (Hansen, 2006: 49). Hansen in fact goes as far as to say that in *Traces*, as in the world at large, 'the entire body schema – the coupling of body proper and environment – is generated by the technical system' (Hansen, 2006: 47). Despite his careful reasoning around the co-evolution of body and technology/ code, however, Hansen winds up privileging the latter. To him, the technical system, and our perception of it, are more essential than qualities of movement, and what they make.

In Hayles' treatise on relationality and the emergence of technology/signification with the body, she argues that interactive artworks are spaces that 'make vividly real the emergence of ideas of the body and experiences of embodiment' (Hayles, 2002: 304). Hayles puts forward three 'modes of relation' for interrogating such work: 'rela-

tion of mindbody to the immediate surroundings,' what she calls enactment; 'relation between mindbody and world,' perception; and 'relationality as cultural construction,' enculturation (Hayles, 2002: 304). Hayles parallels these to Don Ihde's work, where Human–Technology–World relations can also be broken into three categories: Human+Technology in relation to the World, or 'embodiment relations'; Human in relation to Technology+World, 'hermeneutic relations'; or Human in relation to a Technological World (such as Second Life or the Internet), 'alterity relations' (Ihde, 1990). Hayles states that these 'by no means exhaust the ways in which relationality brings the mindbody and the world into the realm of human experience,' but are 'capacious enough in their differences to convey a sense of what is at stake in shifting the focus from entity to relation' (Hayles, 2002: 304–5).

Hayles places *Traces* within her mode of enactment: the relation of mindbody to its immediate surroundings. She states that *Traces* 'occupies a middle ground between avatars that mirror the user's motions and autonomous agents that behave independently of their human interlocutors' (Hayles, 2002: 308). This 'performance,' she goes on, is 'registered by the user visually and also kinesthetically as she moves energetically within the space to generate the entities of the Active and Behaving Traces' (Hayles, 2002: 308). It 'makes vividly clear that the simulated entities she calls "her body" and the "trace" are emergent phenomena arising from their dynamic and creative interactions' (Hayles, 2002: 308). Hayles contends that *Traces* 'enacts a borderland where the boundaries of the self diffuse into the immediate environment and then differentiate into independent agents' (Hayles, 2002: 308).

To quote her summation in context:

> Far from the fantasy of disembodied information and transcendent immortality, *Traces* bespeaks the playful and creative possibilities of a body with fuzzy boundaries, experiences of embodiment that transform and evolve through time, connections to intelligent machines that enact the human-machine boundary as mutual emergence, and the joy that comes when we realize we are not isolated from the flux



Figure 13. Simon Penny | *Traces*, 1999

> but rather enact our mind-bodies through our deep and continuous communion with it. (Hayles, 2002: 309)

Hayles' body, world, and technology co-emerge, and like in Hansen's text, she asserts that *Traces* supports an understanding of embodiment as relational and emergent.

My approach to embodiment and interactivity is itself not dissimilar to the one proposed in Hayles' paper, and implicit body thematics are not completely unlike her 'modes of relation.' Her reading of *Traces* indeed adds insight and understanding, as is the goal of the implicit body framework, to both embodiment and interactive art. But like Nancy's critique of Heidegger – that the latter set up 'being' before refiguring 'being-with' – I maintain that Hayles (and Hansen) set up a separated artwork / technology and participant before refiguring their dynamics. I am not arguing for an extant body which can 'diffuse' with its environment and then 'differentiate' again, an embodied and artful 'communion' or 'connection' with, for example, the pre-formed (even if fuzzy) 'boundary' of technology – words which unfortunately suggest the two as a priori, despite Hayles' argument for 'mutual emergence.'

We must take the per-formance of body and meaning (or world or technology), together, as (inter-)given. Technology and the artwork are not acting as catalysts or glue that combine two things (which are not things); they act as a rig, a quotation, a suspension and intervention into, matter and matters that are always already in relation and in excess of their always-in-process individuation. These relations are necessary – are in fact the very pre-condition – for being(-with). Interactive art such as *Traces* creates potentialized contexts that underscore the fundamentally relational processes of embodiment, materialization, meaning-making, and so on. And implicit body thematics are in fact more than 'modes of relation'; they are sensible concepts which are *themselves* emergent and in relation; they are used to examine an embodied investigation of a continuous embodiment and x (and x, and x, and x, ad infinitum).

I also add to Hansen's and Hayles' readings a focus on the emergence of embodied reading (and writing). In *Traces*, we *virtually feel*





the body contributing to and distorting, while simultaneously being guided by, reciprocally immanent 3D images. We *practice* the formation of embodiment and meaning-making. Bodies move and are thus affected by the image-signs they concurrently create. Here is a semblance of a situation, where (a) body and (a) language are intensively felt as per-formed in relation.

In the passive trace, performers tend towards slow investigative gestures: swooping arms, a dip, or a wave-making slip of the leg, explorations of the magical fades of the voxels in their avatars. In the active trace, when images begin taking on characteristics of their own, viewers' styles become more erratic; they try to control the images around them by ineffectually waving them away, slowing their movements then unexpectedly lashing out, flailing and failing at their attempts to have exacting control over the environment/ embodiment /three-dimensional image (and its meaning). In the behaving trace, they tend to stop trying to control everything in the space, but instead flick and kick their arms and legs in short motions, generating Chinese dragons, and engaging in an ongoing play.

In this final trace, 'movements spawn' inter-active animations that have a kind of relational agency; they are 'cultural artifacts that exhibit' their own 'behavior' (Penny, 2004).[10] The behaviors feed off participants' position and movements in the space, as well as those of other agents, and in turn, their movements respond to these images: shorter and harsher, static then erratic, karate chops and kickball. Here the work is not simply, as Penny and others say, a 'point at which [a] computational system and the user make contact' (Penny et al., 2000: 5). The 'work' *is* the relationship that emerges, and the amplification of what such relationships produce.

Anna Munster recognizes two vectors in information aesthetics. One sees 'abstraction as a means for engaging intensive corporeal experience,' and the other looks 'toward an investigation of biology as a materialization of information' (Munster, 2006: 185). *Traces* highlights both. In body and in language, we are always guiding and making, tracing and transforming, feeding back between what we do, what we see, and what each means in and through and to and with the other.

We look at and read what we perform and produce, together. Bodies interacting in trace-space contribute to the construction and constitution of the image-world in the VR environment that they are interacting with. Since *Traces* does not re-present the body, but rather the body's movements, the images that participants make, read, and respond to are precisely processual and per-formed. These images, like the body, emerge from the (outside /inside) space of relationality, and together they produce meaning. The relationship that the work of *Traces* frames is thus between /with explicit and implicit, construction and constitution, inscription and exscription, body and sign. Its significations and symbols are inscribed, in real time, through our incorporating practices, and simultaneously take on a symbolic life of their own, informing how we perform before, during, and thereafter. Acting together, body and language emerge together. We come to sense, to mean, to be-with. A body-language reading of *Traces* does not support a philosophy of embodiment, but rather shows how the work exscribes both embodiment and (its /our) philosophy. At stake is how we rehearse their performance, and continue to perform them thereafter. Here art is the practice of philosophy. It brings the stakes of philosophy into the room, into our space, into our actions, into how we affect and are affected in our moving–thinking–feeling.

Interestingly, Penny and his collaborators have also proposed an as-yet-unimplemented version of *Traces*, one that is 'networked, so that users can interact with each other's mediated trace-avatars' and the semi-autonomous agents that are spawned off of their volumetric re-presentations across several CAVEs (Penny et al., 2000: 2). In this version of *Traces*, there are many performers, which do not see one another, but only the resulting images from their inter-actions. If there are three CAVES, each performer interacts with the traces and autonomous agents of the other interactors as well as their own.

This unrealized networked version of the piece ties the contact between several audience members to a collaboratively constructed VR image, a shared backdrop that then feeds back into how we inter-act. It maintains an unambiguous kinship to the body-language sensible concept: we relate with and through the movements of our bodies, creating and incorporating a language that lives through those very





same movements. But, through its multi-user efforts, it also opens up the possibility of an/other reading, one that engages with the collaboratively constituted social order, and looks towards reciprocity and exchange between several bodies (languages, and meanings). It leads the way toward the next thematic discussed in this book: social-anatomies. After a more in-depth discussion of Utterback's body of work between 1999 and 2010, the following chapter will introduce and describe social-anatomies as a sensible concept and thematic approach to understanding interactive art, and use it in two more intensive case studies.

## External Measures: Camille Utterback

Utterback writes that her work across traditional and digital media attempts to 'draw attention' to 'human bodies and the symbolic systems our bodies engage with' (Utterback, 2004d). She claims an interest in the digital medium as a site for exploring the relation between bodies and representational systems, whether the latter be language, painting, sculpture, or computer code. Utterback avers, 'Interfaces, by providing the connective tissue between our bodies and the codes represented in our machines, necessarily engage them both. How and to what extent new interfaces may engage the body, however, is up for grabs' (Utterback, 2004d). This is where the implicit body framework can be deployed to shed some light.

Utterback allies herself with an interventionist approach to movement and continuity by describing her goals of engaging and challenging the lived relations between flesh and sign. As opposed to interfaces for exclusively utilitarian software, she believes artists can explore more poetic practices for text or spoken language. Here images and texts are readable as marks and signs, but also move with their own behaviors or even misbehaviors. What she calls her 'unusual interfaces' stage our conceptual–material relations to symbolic meaning as always moving. Utterback asserts that our interactions with machines are never neutral. What is at stake is everything from the format of the 'new media through which we will read and imagine,

to how we will explore the limits and reaches of our physical bodies, to how our information about our bodies will be captured and represented given new technologies' (Utterback, 2004a). While the artist admits that these stakes are not new, they do need to be understood in the uniqueness of this technological moment. Utterback's artistic practice seeks to focus 'attention on the embodied self in an increasingly mediated culture' and to 'create social spaces focusing on human interactions' in which 'unusual' performances (arising from unusual movement and affect in the interactive arena) (Utterback, 2006) draw us *to* the limit of body and language, and *as* the limit of body and language. Here signification and embodiment are framed as exscribed, body and/with language are staged as per-formed, in relation.

Following *Text Rain*, Utterback embarked on several series that intervene in not only the relational emergence of embodiment and meaning-making, but also in those of body and time, body and vision, body and history, and many other sensible concept couplings. I use the body-language thematic alone to analyze her interactive environments as rigs which suspend and magnify the per-formance of embodiment with the process of signification. I discuss her *Liquid Time Series* (2001 and ongoing), which engages viewer interaction to reveal pre-recorded segments of video images (re-presenting time), and pieces from her *External Measures* series (2001 and ongoing), which create generative and painterly impressions along with participants' movements in a gallery or public space.

Utterback writes that the *Liquid Time Series* (Figure 14) asks us to explore 'how the concept of "point of view" is predicated' on an embodied experience and existence (Utterback, 2004c). Here the 'imagery of time, as well as space, is disrupted by users' motions' (Utterback, 2004c). Participant action temporally and spatially fragments a pre-recorded video clip. Utilizing a coded technique visually similar to slit scan,[11] the video is broken into very thin slices, and each video strip is on its own timeline. In other words, if the video for her first *Liquid Time* piece is in standard NTSC format (the actual format is unpublished), then rather than playing a large singular video clip of 720 x 480 resolution, she has broken her moving image down into





as many as 720 individual videos that are each as thin as 1 pixel wide and 480 pixels high; and rather than playing these forward at the rate of 29.97 frames per second, each 'clip' is controlled individually, by the interactions in her situation. An overhead camera and computer vision software track participants' real-time movements in the interactive area of Utterback's projection screen. The slices that are directly in front of them – the 1 pixel wide video strips they face and which take up the same width of their bodies at any given moment – will move forward and backward in time as they move towards or away from the screen. States the artist, 'Beautiful and startling disruptions are created as people move through the installation space. As viewers move away, the fragmented image heals in their wake – like a pond returning to stillness' (Utterback, 2004c). Utterback literally unfurls and enfolds time and space through our embodied relationship to the signs and media she presents – to the language of video and the screen.

The sequenced images shown in my book admittedly do not do justice to what we see, experience, and practice with *Liquid Time*; the fluid unraveling and reconstitution, the viscous un- and enfolding of time in-and-around-and-as space rippling through the installation area, must be performed in person and in body. Since every video slice explores its own space and time as the viewer–participant crosses through its thresholded section and moves or leans forward or back, the projection itself shimmers and flows from his or her interactivities. It then freezes its space-time slices with rough edges and jagged pixilation as one falls static or backs away from a given section of the screen. It is stunning. For those readers with Internet access, I highly encourage viewing Utterback's video documentation on her website, to at least get a sense of the visual aesthetic the three *Liquid Time* pieces accomplish.

In all three pieces in the series – *Liquid Time Series-Tokyo* (2001), *Liquid Time Series-New York* (2002) and *Liquid Time Tenderloin* (2009) – participants interact with images 'from sites in these cities where humans, data, or other physical matter are transferred or in transit' (Utterback, 2004c). In other words, the original 'source' videos that Utterback has cut up contain scenes that might be of a busy

street in Tokyo, full of foot traffic under umbrellas trying to escape the rain; it may show crowds waiting for a slowly stopping subway train, underground in New York City; or it could reveal cars driving past a BART station in downtown San Francisco. Our movements back and forth with the installation remember, re-act, and activate the movements of the people and matter on screen. The images of pedestrians walk with the viewers in the gallery space or on the street (her 2009 installation is in a storefront window), umbrellas twirl, trains and cars come to life – but each only in fragmented slices, one sliver at a time. The chaos and fragmentation in each section is anchored by 'static elements' such as 'street signs, trash cans, a person standing oddly still' in the original video (Utterback, 2004c). Her 2010 piece, *Shifting Time – San Jose*, continues this research as a panoramic installation in an airport. Here Utterback additionally folds archival footage into the mix – enabling an encounter with decades, rather than minutes, and with film as well as video media (Utterback, 2012). Each is a play between passage and position, motion and stasis, suspension and acceleration.

As the included images suggest, viewer–performers encounter an actively embodied exploration of *Liquid Time*, but one that is tentative and anticipatory. Participants first '"test" the correspondence by moving parts of their body – tilting their head, waving their arms, etc,' and once they understand how the given interaction works, they '"play" with manipulating their transformed symbolic "self" using their physical body' (Utterback, 2004d). *Liquid Time* audience members often mimic the screen's water-like spurts of sliced and rippling movement, pushing and pulling the moments and slits of time, leaning their heads and torsos and bodies toward the screen or camera to slow an instant, or using fluid but frenetically reaching arms to grow an uncannily familiar street scene. Our moving bodies in front of Utterback's responsive screens perform what might look like novice moon-walking or break-dancing techniques, stringing together a series of ludic gestures that feel, literally and virtually *feel*, like trying to find and make sense in the relations between sign (albeit signifying representations of time, through video media) and flesh.



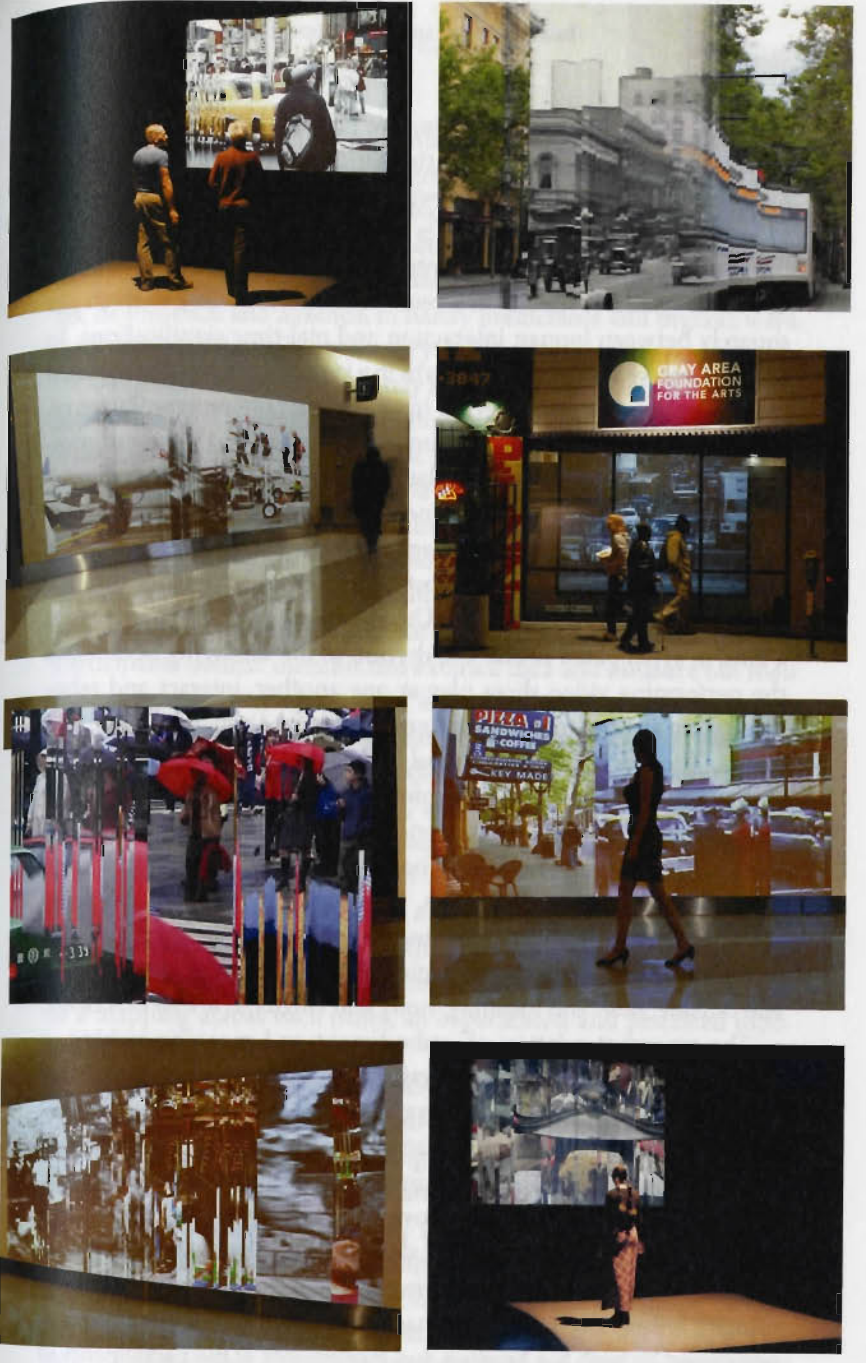


Figure 14. Camille Utterback | *Liquid Time Series – Tokyo, Liquid Time Series – New York, | Liquid Time Series – Tenderloin, and Shifting Time – San Jose*, 2001 – 2010 | Screen details and installations views | photos by Thomas Eugene Green and / or courtesy of the artist

While many emergent relations are framed, and could be examined, with Utterback's work, the thematic of body-language invites a focus on the symbol(s) of / in / with embodiment which we attune to in their space. This thematic fits well with the artist's performative intrigue – legible in her stated interests, as well as in her consistent use of recognizable media on screen (text or otherwise) – which sits squarely between human interaction and real-time significations. In *Liquid Time* we scrub back and forth in a symbolic, three-dimensional space-timeline that is immersed in, and physically representative of, the language of video and digital images. Utterback makes use of computer abstraction and human relations to invite 'boundary negotiations' at the 'limits' of body and meaning.

*Liquid Time*'s interactive instantiation puts in quotes how body and discourse, materiality and abstraction, emerge together through their performance and relation. Utterback's interactive experience is a kind of syncopated touch: the rhythm of our emerging bodies and the performing video slices play at one another, interact and relate through an at-once touching and emerging of the conceptual and corporeal. The piece invites us to feel bodies and meaning, together, as always already implicated and enfolded with one another. In *Liquid Time*, we explore and operate a video image, find meaning through the touching of an (inside) embodied exploration with/in a fragmented (and outside) semiotics. Utterback's participants 'come to sense,' feel the mattering of meaning and image and language, through a performative and interactive exploration of what is on screen. Inside and outside, flesh and meaning, body and language, are all exscribed.

The emergent relation of embodiment and meaning-making as exscribed is also worthy of analysis in Utterback's ongoing *External Measures Series*. In these interactive installations, she uses body-tracking software to trigger painterly and animated marks on screen that collectively create 'kinetic sculptures' or 'living paintings' (Utterback, 2002b). The marks look and move like actively reconfiguring geometric patterns, smudging pencil sketches, dripping paint, or seeping molding clay depending on the piece in the series. Their position and velocity within the projected image are initiated and continuously performed by both the location and movements of the participants in





space, as well as the marks' own internal logic. Although the overhead computer vision system that Utterback employs in this series is similar to that of *Liquid Time*, her 'dynamic drawings' (Utterback, 2002b) have a completely different aesthetic feel; her canvases are generated as they move, affect, and are affected by participants' gestures and stasis, or presence and absence, in barely predictable and organic ways. And each installation invites a very different style of inter-action.

Utterback's marks immediately appear in response to participants' attendance and movement, and they are animated – leaving trails of what looks like graphite or acrylic or earth – based on the flow, stillness, and number or lack of people in the installation area. An overall composition emerges and continues to transform over time as layers of persistent marks and bodies feed back between interaction, performance, and image. Each piece 'measures' how we move or stand still, and creates an 'external' visualization of that movement and stasis. Participants in turn 'monitor this external data and measure out their actions in response,' creating an 'intricate dance between computer algorithm' and affective involvement (Utterback, 2002b). 'Measure' in Utterback's sense of the word does not refer to measurement, but rather to an active 'measuring up,' a diagram of body-language. It is a play on the moving–thinking–feeling and making of the screen-image – and its ongoing signification – with our inter-active bodies. Her use of the word 'external' is also an ironic pun on interior / exterior between each and the other. Neither body nor matter nor sign are a declared subject (or object). She rather highlights bodies and images as a mapping across each other, an experienced and practiced topological formation.

The first piece in Utterback's series, *External Measures (Rectangle)* (2001, Figure 15), follows our movements, and our relation to each other, to create a collection of angular shapes that fold in on themselves. It was produced, released, and exhibited along with her second work, *External Measures (Round)* (2001, Figure 15), a circular projection where 'lines curve and snap between people like crazy elastic bands, creating a dynamic tension' in the image and space (Utterback, 2002b). Utterback's third *External Measures, 2003* (Figure 15), saw a slightly more organic relationship, where constant procedural

Figure 15. Camille Utterback | *External Measures: Round, Rectangle* and *2003*, 2001–3 | photos by Tom Bamberger and / or courtesy of the artist

animations of slowly moving gray lines are pushed aside by viewers' movements, making way for more sparse but saturated color-lines left in their wake. 'Subtle brown and black swaths are etched between any people in the space' and 'scratchy white lines connect' each of us to our point of entry into the interactive area (Utterback, 2004b). A given participant's appearance alters the traces on the screen by erasing marks in the projection – ones automatically drawn, as well as those left behind by others – and as time goes on and the software continues to draw over the composition, eventually overwrites all traces left behind. *External Measures, 2003* thus creates a 'hypnotic tension between presence and absence, mark-making and erasing, human gesture and algorithmic drawing' (Utterback, 2004b). Here, we literally write with our bodies, are implicitly the 'tracing and the trace' in a staged drawing and meaning-making, inscription and exscription.

In Utterback's *Untitled 5* (2004, Figure 16), visual feedback between multiple bodies and the projection influence one another immediately and over long stretches of time. The artist's goal was to 'create an aesthetic system which responds fluidly and intriguingly to physical movement in the exhibit space' (Utterback, 2005). Utterback uses the same overhead body-tracking system from her previous works, but introduces more generative complexities in her pixel painting that are not only affected by moving bodies, but still bodies, multiple bodies, and absent bodies, and these cumulatively collected marks interact with each other as well. The result is a continuous, hauntingly, and haltingly poetic moving image, which invites participants to make and find meaning in, with, and as an embodied and relational corpus.





Upon entering the space, the real-time shape of our bodies from the bird's eye view of the camera produces beautifully sketched renderings on screen, like body-shaped, black and white pencil-sketched, criss-crossing, mountain ranges on an egg shell background. As we move across the interaction area, the sketched patterns move along with us, while a colored line maps our trajectory as a red-lined path drawn out from our center. When we leave the installation, our trajectory line is overlaid with tiny organic marks. The longer we are still and in the space, the larger these marks are. These tiny spots, which act like splotches of ink or paint, can be pushed from their location by other people's movement in the space. As they are pushed, streaks and smears of color are left behind in their wake, like sponges full of wet pigment and dragged across the surface of a canvas. 'Displaced trajectory marks' also 'attempt to return to their original location,' making yet more 'swaths of color occur.' The 'intersections between current and previous motion' and stillness (Utterback, 2005), between movement paths and who does or does not follow them, connect different moments of time, different bodies in space, the continuous compositions and how we might read them, and the relation of all three.

The behaviors behind *Untitled 5* are never explicitly revealed to its participants; it instead invites us to practice styles of 'kinesthetic exploration' (Utterback, 2005). The embodied sense of 'more,' of a relation to the world's larger goings-on, is always prevalent. For Utterback, a 'visceral sense of unfolding or revelation,' of both 'immediacy and loss' is integral to the work itself. Like the 'experience of embodied existence itself – a continual flow of unique and fleeting moments', *Untitled 5* is both sensual and contemplative in its interactivity (Utterback, 2005). The tensions she discusses result from the suspension and thus intensity of our relations, a kind of attunement to how we inter-act, sense, and make sense.

With *Untitled 6* (2005, Figure 16), a work very similar to its predecessor, Utterback carries on with this interactive methodology, but aesthetically shifts to bold graphics that are less like abstract painting and much closer to Minimalist, sculptural forms – like clay mush dropped from above. And with *Abundance* (2007, Figure 17), she highlights public space and social relationships – topics often ex-

plored in installation art of the 1960s through today – by moving her visuals onto the facade of a three-story building in San Jose, and viewer interactions onto the adjacent public square.

Each *External Measures* work – indeed, every time any individual interacts with the variable traces of other/past participants on screen, in any given piece in the series – creates slightly different conceptual–material encounters. They accent multiple relationships with her artwork, and with art- and mark-making more generally. Where one *Untitled 5* viewer, for example, may utilize stillness in order to leave large splotches that later agents may or may not erode over time, another can run and drag illustrative trajectories across an empty field or slowly concentrate their gestures, treading lightly across the stage, so as to smudge a crowded canvas. The interactive experience can be care-ful or care-free, and any performance might produce subjectively stunning images or visual garbage – similar to a professional artist's practice in the studio.

The live relationships and generative algorithms in Utterback's *External Measures Series* become more and more complex as she works with her media over time. They also begin to collectively en- and unfold our relationships to art history and practice more generally. She began with simple shapes and immediate on-screen responses that might allude to early cave paintings or mathematical drawings (*Rectangle* and *Round*); she then moved on to the use of negative space and real-time animated images, reminiscent of both landscape painting and early motion graphics (*2003*); in *Untitled 5* she again pushes forward on this historical arts trajectory, referencing the affective and performative – and in this case, collaborative – possibilities of Abstract Expressionism a la Jackson Pollock; *Untitled 6* turns to the embodied encounters of Minimalism, and *Abundance* remembers happenings, the Situationists, and Fluxus games. Viewers' operational movements in the *External Measures Series* are a playful reminder of, allusion to, and interaction with, the literal, historical 'art movements' of the past; the 'language' of this work could be said to be art itself. Participants are invited to physically relate to the images and trajectories of preceding artists/interactors, creating a lived and enfleshed collage of intertextual and intersubjective expressions and ex-



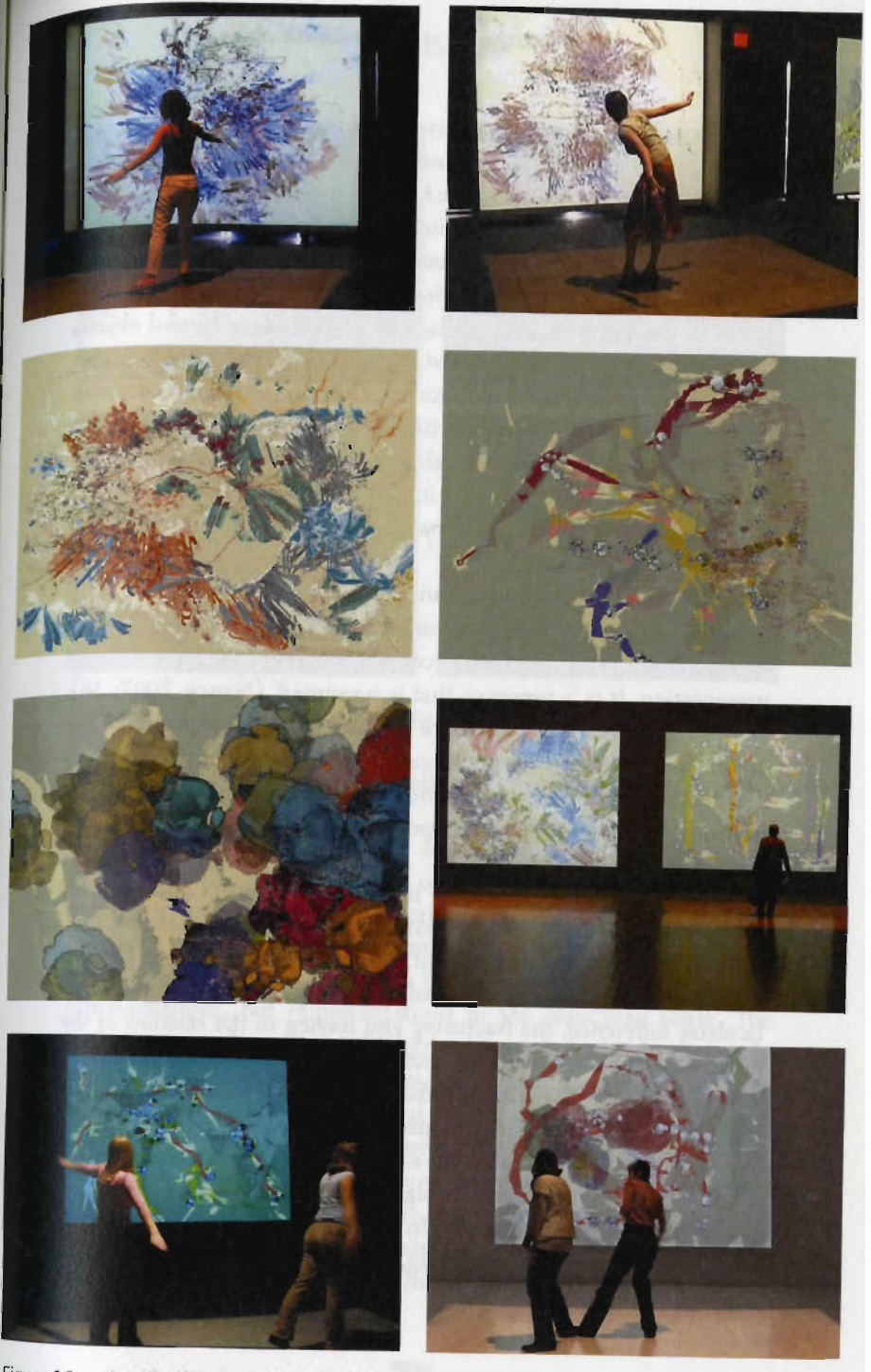

Figure 16. Camille Utterback | *Untitled 5* and *Untitled 6*, 2004–5 | Screen details and installations views | photos by Tom Bamberger and / or courtesy of the artist

plorations. They construct and assemble four-dimensional re-presentations of 'embodiment and art' on a potentialized, two-dimensional plane, and continuously feed back into that image and process. The variable aesthetics and interactions that emerge conjure up memories and re-member-ings of not just Abstract Expressionism's embodied splashes of paint or, in *Untitled 6*, Minimalism's solid forms, but Art Nouveau's graphic arts, Collage and Assemblage's found objects and pasted fragments in formalist composition, the technologically-inspired Constructivists and Futurists, Cubism's goals of incorporating several perspectives and/or times, the absurdity of Dada, or the unconscious revealings of Surrealism, to name just a few. These situational semblances suspend and intervene in the movement styles of creation, the non-representational representations they create, and the relation between the two.

In *The Ground of the Image*, Nancy suggests that the 're- of the word representation is not repetitive but intensive ... mental or intellectual representation is not foremost a copy of the thing,' but an intensified presentation. It is 'a presence that is presented' (Nancy, 2007: 36). Nancy's 'presentation' with its 're-,' Nicole Ridgway explains, is 'the coming into presence of a presence – a presence which is neither representable nor un-representable, but presentation/sense before signification' (Ridgway, 2008). To re-present, in other words, is to present emergent sensation.

Sensation was defined earlier in this book as affect and proprioception. It is before meaning, but that which makes meaning possible. We must *make sense* of, and with, senses, and this can happen nowhere other than in its articulation. Sense, writes Ridgway, 'articulates difference, the fracturing and fraying of the relation of the present to its presence, of the immediate to the mediate' (Ridgway, 2008). By interacting with Utterback's *External Measures*, I am arguing, we make sense in our embodied and intensified re-presentations of her immediately mediated, on-screen imagery. By extension, we are asked to relate to the history of signification and meaning-making in the work of art more generally. In this relationship, in the sensation of making sense of, and mediating, the language of art and / with the





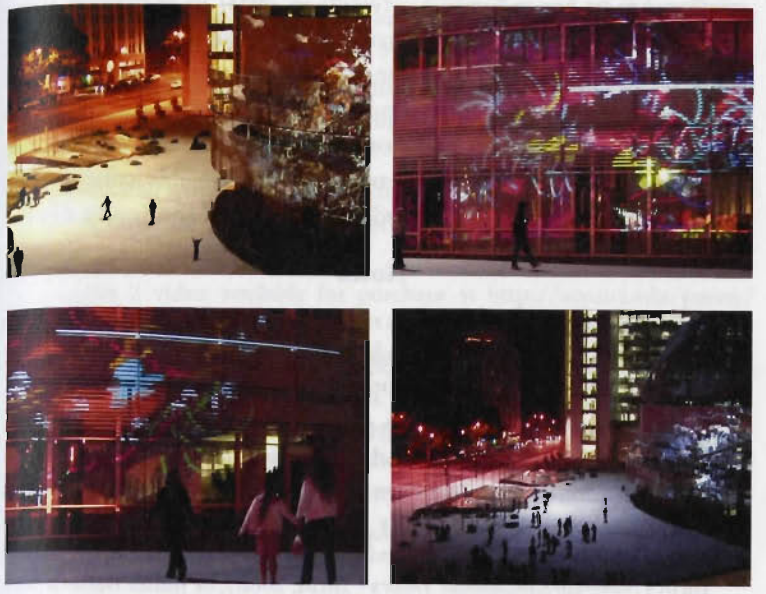

Figure 17. Camille Utterback | *Abundance*, 2007 | images courtesy of the artist

embodiment of images, we virtually feel ourselves, and the work of art, becoming present.

In *External Measures*, staging an implicit body as performance amplifies the inscribing practices of writing, drawing, painting, and making art as simultaneously exscribing, per-formed, and embodied practices. We are invited to re-member, experience, and practice how signs, images, and the discourses that surround them are not mere representations, but re-presentations in the Nancyean sense. The body-language thematic, and Utterback's work, highlight that making meaning always requires bodies, and embodiment always requires meaning be made. This is art about art and artists, images and image production, signs and bodies; it invites us to feel and rehearse how we express and re-present, and how we relate to each of these embodied processes, both historically, and in the moment. We perform new-but-not-new images into existence, and these (now preformed) images feed back in to how we perform, again. Utterback invokes our

relationship to her individual artworks in order to evoke our affective encounters with the work that is art more generally. In question are how expressions of meaning and bodies and matter are articulated and presented through inter- and intra-acting agencies: conscious and unconscious, human and nonhuman, present and nonpresent, living and otherwise. Here we encounter the sensible concept, the emergent language, the preformed and performed continuity, of art.

## Notes

1 This is paraphrased from Nancy's reminder that we are always faced with a double failure: 'a failure to produce a discourse on the body, also the failure not to produce discourse on it' (Nancy, 1993: 180).

2 Perpich refers to specific Western philosophical traditions going back to Descartes. Other strains might include Merleau-Ponty's phenomenology in *The Phenomenology of Perception* (Merleau-Ponty, 1962), Tom Cohen's 'non-representational' materiality in *Ideology and Inscription: Cultural Studies after Benjamin, de Man and Bakhtin* (Cohen, 1998: 8, 41), Nigel Thrift's *Non-representational Theory* (Thrift, 2008), or Judith Butler's *Bodies that Matter* (Butler, 1993).

3 This sentence is paraphrased from an uncredited Nancy citation in Derrida's book on Nancy. He elaborates: 'the being outside another outside forms the fold of the becoming-inside of the first outside, and so forth.... Hence, by reason of this folding, here are the interiority-effects of a structure made up of nothing but surfaces and outsides without insides' (Derrida, 2005: 14).

4 Adopted from the fields of computer science and design, 'user' was a common term digital artists such as Penny employed up until very recently. Viewer, performer, or participant, are now more popular terms, in that they differentiate art-based digital experiences from commercial ones. Sometimes practitioners apply all three (and others), with slashes between them, to further problematize what media art situations can do.

5 Penny's collaborators include Andre Bernhardt, Jamieson Schulte, Phoebe Sengers, and Jeffrey Smith.

6 TVS has been used in *Fugitive* (1997), *Body Electric* (2003), *Fugitive 2* (2004), and *Spectre* (2006).

7 In a CAVE, the two images are either polarized at opposite angles and overlaid, so each only appears in one eye through polarized lenses, or else





the images flash quickly between one and the other, while glasses simultaneously and rapidly 'wink' from eye to eye.

8 Such algorithms are sometimes used to show or portray emergent and organic behaviors, most famously in Conway's Life and Wolfram's 1D CA set.

9 Oliver Grau writes about *Traces*, too, but the text contains many factual errors about the piece – how its interaction works and what the artists' intentions were.

10 *Fugitive 2* video available for purchase at http://ace.uci.edu/penny/stuff/index.html

11 Says Golan Levin, 'Slit-Scan imaging techniques are used to create static images of time-based phenomena. In traditional film photography, slit scan images are created by exposing film as it slides past a slit-shaped aperture. In the digital realm, thin slices are extracted from a sequence of video frames, and concatenated into a new image' (Levin, 2008).

12 See also *Metaphors We Live By* (Lakoff and Johnson, 2003).