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Performance and Technology

Practices of Virtual Embodiment and Interactivity

Edited by

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Contents

Brown, Carol. (2005). *See, Unsee*. Concept Carol Brown and Mette Ramsgard Thomsen. Choreography: Carol Brown. Architecture and Interactive Media: Mette Ramsgard Thomsen. Sound: Alastair MacDonald. Performed by Carol Brown and Katsura Isobe. Digital Cultures Lab, Sandford Theater, Nottingham, England. 3 December.

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7
Learning to Dance with Angelfish: Choreographic Encounters Between Virtuality and Reality

Carol Brown

In searching for the something else beyond self and other, what or who are the we that haunts us? Who are the strangers at the heart of the self who disrupt our sanctuary with disquieting moments? Mothers, dogs, sea urchins, whores, mystics, muggers, diseased spores, derelictions and secretions. I spawned multitudinous becomings within a constantly deformable body, a malleable container of anarchic desires. I became so lucid that I, in becoming not-I could disappear beyond a thousand species of diverse others. My fantasy was to be everywhere and no-one. To cast off this sluggish flesh and become hyperreal. To glide with sea creatures in a rock pool phantasmagoria.

Through digitally extended performances bone memories mix with machine memories fusing the gravitational flows of the dancer in space-time with the place-unboundedness of digital forms. In learning to dance with data, spaces unfold, striating the present moment through multiple dimensions. In these matrixial spaces the stage metamorphoses from a physical location – grounded, fixed, actual – to a relational space – incorporating the ungrounded, the fluid and the virtual. Performance identities which were previously place-bound become mobilised and de-territorialised. The privileged state of performance as a 'being here' in the elusive present is no longer embodied in the taken-for-granted 'thereness' of the stage of soil and flesh, it becomes a superabundance of becomings experienced as hyper-realities and distributed presence. In this context, the 'being in the body' of embodiment is radically reconfigured.

Learning to dance with Angelfish is a metaphor for the experience of re-learning embodiment through live interaction with a virtual dance

List of Illustrations

partner, a creature of code who slips from my grasp and swims at the edges of my vision. In this writing, I am reflecting on recent experience in the field of interactive performance through a critical prism which addresses the shifting 'nature' of dance and the (dis)embodied subjectivities of dancers dancing in the digital realm. The page becomes an interface for intersections of thought and practice, exposing the 'second nature' of the dancer whose body thinks itself by probing the space of the present.

We start from where we are and we build on what we know. Dancing, as the articulation of movement in space and through time, has historically taken place within three dimensions but the space of the present is both actual and virtual *in nature*. As Paul Virilio explains, there are today two inter-related spaces: 'next to actual space, which has been the space of history, there is now virtual space, and the two are interdependent' (2002: 67–68). Through dancing space unfolds. In the refolded space of data dance we discover a haunting virtuality and a new biodiversity of material-informational figures.

Brian Massumi citing Giordano Bruno describes the virtual as the ' "real but abstract" incorporeality of the body' (2002: 21). Given that the virtual is a force which acts in another dimension, as 'a continuous unfolding on the road to becoming other', the primary challenge for choreography in mixed reality environments is to create 'new movements toward the virtual by tripping up repetition, purging habit and reason, and encouraging difference' (Beckman, 1998: 16). Choreography, as a *writing* of spaces through the moving body, embraces this challenge through merging layers, intercutting between dimensions, dancing thresholds and streaming visceral thinking with 'travels in virtuality' (Thomas, 2004).

Spawning identities

So, shall I tell you how we made it? How my cellular and its data hatched a different kind of being and how this being met us with its machine eyes, but only in outline, it missed all the inner lines – the creases of our gestures, the movement of our eyes, the tone of our touch – it made a photofit of our nerve endings and grafted this onto its own skin like virtual tattoo. We trained it to track us like a distant geography, never getting too close, never getting the scent of this skin at close range. It followed our contours until it learnt to predict our futures, where we would move to next. It did not imitate, it created, growing children in its body like fish roe. It changed. We

made fine calibrations inserting new memories in the iliac crest of the pelvis, in the mastoid bone of the skull, in the cervical vertebrae. We communicated through the outerspheres of each other. We made insertions and we learnt to touch that which we could never hold.[1]

I am learning how to move within a technological habitat with a digital infrastructure. Through the creation of an embodied interface – *Spawn* – in collaboration with architect, Mette Ramsgard Thomsen, we are conceiving embodied interfaces as tools for the creation of performance spaces which integrate fragments of reality, virtuality and fantasy.

Spawn is an interactive 'stage' informed by a camera-based interface. Dancers negotiate a jointed space, moving between tracked and non-tracked zones of the stage and calibrating their experiences of these differentiated spaces. In the tracked zone, a machine vision system, using a single side-mounted camera, identifies the shifting outlines of the dancers' bodies. Rather than identifying body parts and tracking their movement in two- or three-dimensional space, the *Spawn* interface generates a set of statistical characteristics of the dancer's silhouette size and shape. This data becomes input for a *virtual other*, a digital morphology shaped by the presence and movement of the performers.[2] The *virtual other* is a complex geometry comprising four circles stretching a spline-based membrane between them. As the performers move, they affect the *virtual other* deforming and reforming, contracting and expanding, folding and unfolding its digital skin. The visualisation of this kinetically modelled avatar is projected back into the physical space of the performance in real time, generating new forms of interaction and creating a blended environment of real and virtual spaces for a mobile audience.

Unlike other computer interfaces used in dance, such as Hypervision MoCap, the *Spawn* interface does not seek to identify the dancers' body parts and map them onto a corresponding digital anatomy, mimeticising the morphologic of the dancer. Instead, a set of statistical characteristics of the dancer's silhouette size and shape are generated and updated in real time. The digital is conceived as a separate dimension, informed by the embodied presence of the performer, yet retaining an independent morphology and motility.

They set out, like two explorers with borderline personalities in a hallucinatory room. They ascended without abandoning the earth; they awakened energy without capturing it. The contours of their movements were tracked in another dimension, but the inner lines of

their postures and intricate complexions of their gestures escaped the seen/scene. From their outlines statistical data refashioned them in dialogue with a 'sphery thing', a shivering architecture which would never stand up. Their place became the crisscrossing of spaces, a threshold between the actual and the virtual requiring a simultaneity of perception. Because we make a home for ourselves wherever we happen to be, in this virtual and actual habitat they experience a life together.

Given its radical difference from our own bodies and spatial histories, the rehearsal process for *Spawn* involved a reconfiguring of movement
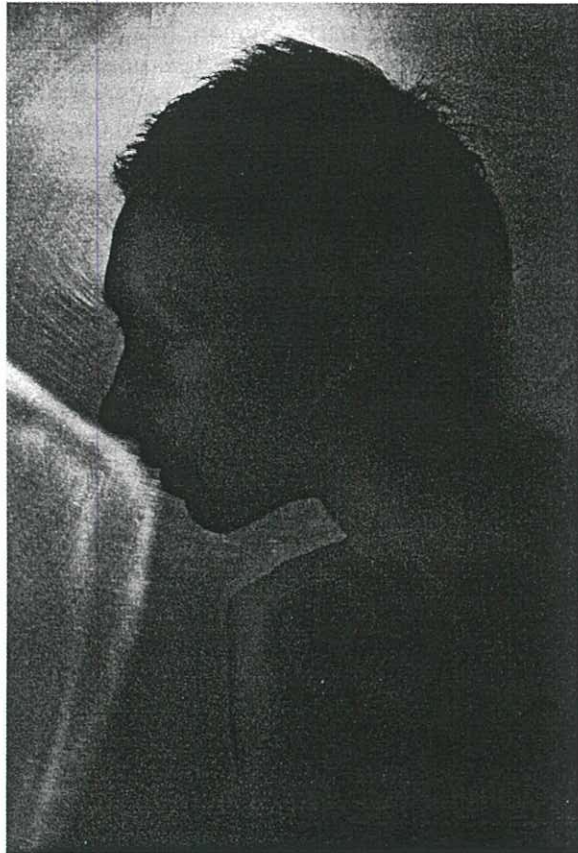
Figure 12 Catherine Bennett in *The Changing Room* (Photo by Mattias Ek)

to enable effective communication with and through the *virtual other*. In this process we came to know and relate to it, attributing anthropomorphic characteristics to its multiple appearances, and allowing energies to emerge through interaction between the different states it inspired. As we grew to know our virtual dance partner, our naming of it shifted from the 'sphery thing' to 'It'. This 'It' inspired a diversity of images as molecular, planetary, celestial and aquatic forms. It became an Angelfish, a Mollusc, our Virtual Puppet, an Infinite Cage, an Irish Sun, Iris and BloodMusic. Through our postural morphing, form enfolded form; contour wrapped and invaginated contour, space swallowed space. We hinged and flexed around and through each other creating a recombinant morphology.

> Extreme Width Curdling
> Extruding Warped Rotations
> Invading Walking Deformations
> With Rippling Splines
> Head Threading and Knees Spanning
> Diaphragm Oscillating and Vibrating
> Volumetric Hollowing
> Moving Underside Undermind
> Lines Inside and Outside
> Folding Back Into
> Grafting Impossible Anatomies
> Nurbs With Nervous Architectures.

Morphology is understood in this context, not as a purely anatomical image or model but as that which shapes understanding between forms, and between body, language and subjectivity. In *Spawn*, a morphological mediation occurs between the actual bodies of the three women dancers and the fleshless figure of the virtual object. Identity figures virtually in this 'through-otherness'.[3] Through an open relationship between corporeality and virtuality, two distinct spatial narratives, the one, somatically informed embodiment, and the other, spline-based geometry of a digital architecture, overlap and their surface areas are brought into contact through remote touch. Rather than harness the *virtual other* with its impossible geometries into our existing systems and making it speak as 'other of the same', we negotiated the identity of our performance through improvisational processes that incorporated its geometries and spatial logics.[4] This involved moving between a geometric or bilateral body symmetry based on the cross

draw much of their power from their ability to override the mind–matter distinction and provide new ways of telling the self. The feminist Deleuzian Rosi Braidotti describes how the 'morphological hybridity' of metamorphic processes transgresses and erases bodily boundaries (2002: 128). Animals, and in this context fish, thus become images for orienting oneself in a strange territory through a processual metamorphoses creatively combining figures of thought from technology, zoology and biology.

Spawn is intended as a digital scenographic invention – an interactive stage – designed to challenge the duality of figure/ground relations and provoke a different kind of agency from the conventions of twentieth-century performance. Through a set of metamorphosing relations that allow a state of flux to exist between the real and the virtual, the uncontainable and the contained, we leave behind the territory we know and we enter a through-place. This place is in process and fluid, it is a place of passage where relations are fleeting and formed through contingent crossings of thresholds which resist fixed identities.

The performance system *Spawn* evolved into the event, *The Changing Room*. *The Room* was a nine-metre square performance area divided by long curtains which were manipulated by the dancers. The audience was guided through the performance to encounter each stage of the work from a different point of view, a different side of the room. They looked into the room with its furnishings and its embedded screens and they experienced not just that which is going on in front of them but also behind and around them as they negotiated their encounter of the work as a physical journey.

Part dance partner and part extended architecture, the three women performers experienced their changing room through a series of transformations: A mirror became a screen for their mutations; a curtain a technological frontier; and their table a platform for the puppetry of the virtual. In replaying traces of otherness embedded in their own memories, they explore the unfamiliar and the strange. Moving at the threshold between different dimensions of space, their gestures are tracked in the virtual environment. Embedded within the furniture of their room are a series of screens through which their virtual dance partner is rendered mirroring, extending and distorting their behaviour.

The everyday transformations of appearance which we experience in changing our clothes became a metaphor for the mutating forms inherent in the choreography. Through the mutable qualities of the room, the status of the everyday is extended, altered and augmented.

Familiar cultural objects become transformative moments, enabling the transgression of presence into the extended environment of the digital.

The choreography enabled a series of contingent and oscillating relationships between the performers and the virtual object to emerge. The detachment of gesture through the tracking system invokes an extended presence that is communicated to the audience through kinaesthetic perceptions, sound and vision. This extended presence shifts the centre of gravity beyond the primacy of the performer as the focus within the staged event, redistributing it between surface projections, malleable furniture and virtual object. Similarly for the dancers, their attention shifts and alternates between live and virtual presences as they respond and project the sensations within the room and communicate these to the audience creating a triangulated circuit of interactions. This effect is further amplified by mobilising the audience. Performing the role of 'host' and interlocutor, I invited the audience to 'evolve' with the performance by changing their point of view moving around the stage to experience the work from three different facings. Shifts in the audience's spatial relationship to the performance opened up its potential readings, allowing meanings to be uncovered in the interconnections between media, spaces and bodies.

In working with embodied interfaces we have a potentially powerful tool to dismantle the stabilities of the unitary body-subject, revealing the fissured and multiply stranded alignments of the dancer whose 'being here' is an unfolding of many differences. In this context, identity is reconfigured through choreographies that create new belongings. If, as Brian Massumi explains, 'I' am a being in becoming, then through the unfolding of experience, identity is not concrete or fully formed but emerging. In the situation of dancing the virtual, I am a being-in-process prior to that which can be named, marked and branded. There is a liveliness here because we do not know what we are in the process of becoming, we are only making discoveries and producing spaces, not in our likeness but through a metamorphosing of relations between different ways of being and in response to the bio- and techno-diversity of the world in which we live.

Choreographically, working with this conception of virtuality ruptures classical conceptions of space and time because it does not assimilate the virtual into our own self-image, rather it acknowledges difference through the co-presence of different kinds of inhabitation. This is not easy. With the embodied interface *Spawn* movements in the tracked space are co-opted, mediating relations between the *virtual*

other and the overall choreography. This required the dancers to relate as strongly to the visual image as much as to the soundscape and to each other as dancers. Vision is our most objectifying and distancing sense, in relating to her virtual dance partner through screen projections the dancer takes her bearings from an external reference point. Moving in this way can be experienced as alienating and, at times, disembodying because it refuses the customary focused attention of the dancer, diffusing her agency through multiple layers of performance. The dancer needs to simultaneously incorporate the alternative morphology of the virtual and excorporate the multi-focused vectors of its performance through a redistributed agency. Re-learning embodiment through the experience of interactive dance in this way may be experienced as fragmenting, unsettling and destabilising. Perhaps because of this the development of the work from its research phase, towards its production phase, required the generating of 'stories' which narrativised and gave meaning and thickness to the stage space and the metamorphosing relations between dancer and *virtual other.*

Stories emerged through the research process as the dancers came to develop a *feeling for the avatar.*[11] Stories are one way through which we find our orientation in the world; they provide locative maps for navigating the unfamiliar and for making connections between fragments of reality, virtuality and fantasy. In *The Changing Room* we overlaid a virtual reality onto an everyday reality. In leaving behind the territory in which we were, we found ourselves in another place, beyond what we already knew. We slipped in and out of clothes which would morph our presence, extending and extruding lines between us, elasticising spaces, giving a sense of time and space beyond the scale of our own lives. We touched, hacked, mimicked, enveloped and became enveloped by the *virtual other*, shifting states and making up stories which bound us into a shared sense of presence, a shared sense of play.[12]

The internal contradictions and deep crevices of identity are not resolved by work in digital environments but rather made manifest. The incorporation of the *virtual other* through the inhabiting of unfamiliar dimensions, the redistribution of power in live performance through the mapping of the physical into the digital, and the sense of touching and enfolding the immaterial inform how and why we move, spawning new identities. As Miwon Kwon (2000) explains, an intensification of spatial departicularisation might exacerbate the effects of alienation and fragmentation through a loss of identity, but it might also provide a space for the retrieval of lost differences for, as Henri Lefebvre states, 'a new space cannot be born (produced) unless it accentuates differences' (1991: 52). This might become more than a performance experiment as it is also a potential life strategy towards a more pluralistic understanding of the self.

Outmoded constructs of identity continue to wound with a territorialism which at its worst fosters a nationalism which claims exclusive possession of places to the exclusion of the Other, the Stranger, the Alien. In learning to love the alien, the stranger and the avatar, we are dancing differently.

To be sure, we will perhaps discover in foreign lands traces of gods that we are lacking. But, without a journey in ourselves, to celebrate with them will not really be possible. Approaching gods is not limited to discovering that they exist. It is in the intimate of ourselves that a dwelling place must be safeguarded for them, a dwelling place where we unite in us sky and earth, divinities and morals. A place where we do not simply invite to come visit us those who dwell far away, but where we discover as proper to us the near that lives in us and that remains foreign to us (Irigaray, 2002: 51).

Matrices of becoming

Life, as an ongoing project, involves carrying a constantly changing figure of the world within us. Were I to make a map from the cardinal points of my identities, it would resemble a chart of criss-crossing movements within continents and between hemispheres as well as dimensions. These are fast and strange times and we are moving in more dimensions than previously. Our habitat is technological and geographical; we live in a digital infrastructure as much as a physical one. Living in the culture of the contemporary technological habitat concepts of identity are no longer tethered to the earth but are in freefall as a multiplicity of becomings, hyper-realities and mixed-states.

One of the important aspects of going to see live performance is to be brought into proximity with embodied histories and to be inspired by the invention of new movement memories. In this way choreography is one way to incorporate and experiment with emergent realities. Within the technological theatre, the imaginary has a space to play and create that has not as yet always already been written upon by the globalising tendencies of mainstream art practices and the imperialising gestures of the past, including the dominance of the mainstream, including the malestream of a phallic imaginary. Performance events are generative in that they create spaces as action unfolds action, extending trajectories from layer to layer, point to point, contour to contour. As

a woman dancing, I can operate a micro-politics of the self here by playing against and beyond phallomorphic constructions. As alternative body-forms and impossible anatomies emerge through my interactions with virtual spaces, we begin to inscribe a different history, a different morphology. The idea of matrixial becomings gains currency in this context.

Artist and Psychoanalyst Bracha L. Ettinger describes how the concept of the matrix shifts the womb from nature to culture, making it the basis for another kind of sense. In the matrixial borderspace, subjectivity is experienced as encounter, a place where *I* and *non-I* co-emerge and form a composite partial subjectivity. She sees this space as a place of passage, a 'Metramorphosis', a 'joint awakening of unthoughtful-knowledge on the borderline, as well as an inscription of the encounter in traces that open a space in and along the borderline itself' (2004: 77).

Through their experience of the womb, women can be said to have privileged access to understanding the matrixial borderspace as an event-encounter, as this corporeal dimension of their bodies provides an awareness of how 'outside meets inside'. Ettinger describes that although this privileged access to matrixial time and matrixial space could be a source of pleasure, in social and cultural terms, it is more often regarded as a source of fragility. It is important, however, to consider how a feminine construction of creative technology might access this 'archaic site of virtuality and potentiality' (2004: 77).

Screen technologies disseminate and proliferate images of the biological body to the extent that there is no longer a distinction between the inside and the outside of the body. The body's interior unfolded and exposed through machine vision, surveillance and medical technologies inform the image repertoire of the creative artist as she seeks to re-materialise the image. For what has been technologised is not the body itself but its image. Wresting the female body from its overde-termination as commodity, pornography and biology means becoming a 'midwife' for what Giorgio Agamben (2005) describes as 'this new body of humanity'.

The invention of a matrixial system that tells stories and creates different kinds of bodies might constitute a way to create an alternative identity that resists the violence of an imposed one. Working with emergent technologies which enable a play between the real and the virtual through an integrated circuit of bodies and technologies potentially fosters a negotiation and an encounter between dimensions. As a matrixial space, a place where something originates and develops, this space can allow for cosmographies of different kinds to co-exist and to

operate in fertile interactions generating new forms and cartographies of the self. We can leave the ground without returning and this groundlessness is not necessarily a flight from who or what we are but a movement towards a different horizon and a home that 'lies ahead, in the unfolding of the story in the future, not behind waiting to be regained' (Warner, 1994: 88).

As a dancer, I perceive that embodied interfaces can potentially provide opportunities to experience a continuity of presences between the actual and the virtual, the real and the remote, the inside and the outside, the distant and the near, blending and rejoining spaces in a fertile, if at times untidy and confused, mix of 'through-otherness'. Such work can also potentially provide a platform through which to play through some of the contradictions of living cultural hybridity by creating the conditions for the simultaneous presence of different spaces, species and perceptions. But this is not without its risks for, as Jeanette Winterston states, 'when a fissure opens up in the self, half-known beasts climb out of it' (1997: 43).

Conclusion

We are and we are not our bodies. In dancing with creatures of code it is tempting to suggest that we are no longer confined by our bodies volume, weight, gravity and matter, that we are free to choose the extension of ourselves, to dance amongst the starfish of different skies, to play the puppetry of the virtual and to touch without also annihilating our rockpool phantasmagoria. But every moment of movement contains its own sightlines, just as every story I tell moves across another story. Dancing with our *virtual other* pushed the boundaries of our kinespheres, extending our movement in previously unthought of ways. The boundary of our bodies, their skin-sense and contour were mapped into the core of the virtual object as a black absence, in this way our outer limits became its inner limits, its animating core. Where does agency reside within this performance? The dancers were required to see and move from both the actual and the virtual point of view and to keep these positions in tension kinaesthetically and proprioceptively through feedback loops of interaction. Within these dynamic thresholds, the dancer is and is not present, just as the *virtual other* is and is not present. Embodied experience is reconfigured through interactions with virtual dimensions of space. From a feminist perspective, such experiences open up the potential for reimagining signification beyond the domination of an iconic femininity. So that rather than being 'cannibalised' by new

technologies as Donna Harraway (1990) has stated, women can become agents of interaction inhabiting a plenitude of (dis)embodiments in which the palpably real and the ephemerally virtual co-emerge.[13] So that we give up taxonomies of difference and celebrate in patterns, rhythms, multiplicities, vibrations, pivots, joints, points of contact, crossings and energies of this new way of bodying forth.

Notes

1. Carol Brown, performance text, *The Changing Room.* Carol Brown Dances. Premiered 5 June 2004, Ludwig Forum: Aachen, Germany.
2. *Spawn* analyses the statistical characteristics of the silhouette's size and shape using the active shape models developed by Cootes and Taylor (Cootes *et al.*, 1995).
3. Seamus Heaney (2002: 366) writes that 'through-other' echoes the Irish-language expression, *tri na cheile*, meaning things mixed up among themselves. He uses this to describe the post-colonial condition of Irish poets in relation to Britain.
4. 'Other of the same' is a term used by Luce Irigaray to describe the logic and power of the phallologocentric mastercode which subsumes the minoritarian, the marginal and the other in its embrace. Braidotti (2002), with Irigaray, describes the differences proliferating in late postmodern or advanced capitalism as 'others' of the same in that the centre merely becomes fragmented. She suggests that rather than look at differences between cultures we explore differences *within* the same culture. Such a level of complexity would move beyond dualistic, oppositional thinking towards a new complexity which is transcultural and potentially transdimensional.
5. For a fuller description of these models and a guide to their use in experiential anatomy, see Olsen (1991).
6. This follows Luce Irigaray's intervention in phallocentric discourse. She defies the logic of normative definitions of identity which are unitary and which privilege the masculine. Her alternative figurations insist on a morphology which is not given but is made meaningful through practices of the self. See Irigaray (1985).
7. The *Changing Room* (2004) involved a collaborative team of Choreographer Carol Brown, Architect Mette Ramsgard Thomsem, programmers Chris Parker and Jesper Mortensen, Sound Design Jerome Soudan (mimetic), Lighting Design Michael Mannion, Production Management Gwen van Spijk, and the dancers were Catherine Bennett, Delphine Gaborit and Carol Brown. It premiered at the Ludwig Forum (Aachen, Germany) 5 June 2004 and was presented at Greenwich Dance Agency as part of Dance Umbrella, London, on 4–6 November 2004.
8. *Shelf Life* (1998), a collaboration with visual artist, Esther Rolinson, premiered at the De La Warr Pavilion, Bexhill-on-Sea, England, 3 December 1998.
9. See Wertheim, 1999: 171.
10. Deleuze and Guattari analyse the concept of *'becoming'* in *A Thousand Plateaus*, 1987: 232–309.

11. See Kathleen Woodward (2004) for a discussion of the history of emotional connections between 'lively machines' and bodies and the attributing of feeling to artificial lifeworlds.
12. Agamben, 2005: 49.
13. Ibid.

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