The Weird Giggle: Attending to Affect in Virtual Reality

AUTHOR BIO

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ABSTRACT

Within the poetic digital space of Virtual Reality philosophical and cultural narratives collide. Do artistic experiments in VR provide the ultimate freedom for our development as a species or plunge it into passive reception of pure violence ? This article aims to chart a path through a small slice of thought and affective experiences of VR on the basis of a practical application of phenomenological reflection and the somatic movement practice Skinner Releasing Technique (SRT). The practical experiences of VR to be discussed are based on one particular VR artwork: MAN A VR by Gibson / Martelli. Affect, by way of phenomenology, bridges virtual reality and embodied lived experience. The result is an expansion of the somatic register of VR.

KEYWORDS

Virtual Reality, Affect, Somatic, Phenomenology, Skinner Releasing Technique

Within the poetic digital space of Virtual Reality (VR) philosophical and cultural narratives collide. Do artistic experiments with VR demonstrate the ultimate freedom for our development as a species or plunge it into passive reception of pure violence? Offer a high-fidelity real virtuality or a chance to experience paradoxes, such as the capture of stillness or the quality of falling upwards? [1]

[1] These diverse assertions come from the promotional material for Bombina Bombast and Makropol's VR cinematic work "The Shared individual," Isaac Kaplan's review of Jordan Wolfson's VR piece "Real Violence," views from the tech industry on real virtuality exemplified by Meet Parmar, and Ruth Gibson and Bruno Martelli's "Capturing Stillness" project.

The technocultural domain of the virtual does not necessarily need more voices – it is already a very noisy place – but further attention to the manifestation and manipulation of affect in VR worlds can act to ground critical perspectives. Such attention may also provoke opinions that go beyond calling the upsurge of interest in VR a problem (Laurel); heralding it as the future of human civilisation (Sweeney cited in Suellentrop); saying it will teach us empathy (Milk); warning of the risks of surveillance (Hackford), deep behavioural manipulation (Madary and Metzinger) or the imminent danger of tripping over the wires in your own home (Stein). Despite the cacophony and seeming polarisation of opinions ("it's great!", "it's terrible!"), the rhetoric coming from the tech sector still tends towards an abstraction from materiality in favour of visual-idealist paradigms. This article aims to chart a path through affect theory and practical affective experiences of VR on the basis of phenomenological reflection on being in a particular VR artwork: *MAN A VR* by Gibson / Martelli. The goal is not to reveal overlooked truths or to shout louder than the rest but to intervene, from a fundamentally embodied, or minoritarian, perspective, in the colliding opinions and assertions that make up the swirl of rhetoric (Goulimari 98). The result is an expansion of the somatic register of VR at the same time as a grounding of some concepts from affect theory in a part of contemporary digital culture.

The writing style of this article intends to reflect the exploratory process of performing a phenomenology within a VR world. Passages directly describing moments of experience in *MAN A VR* act as affective counterpoints to the theoretical discussion; they are lightly edited versions of words written in research journals associated with a studio-based artistic research process. These passages convey the pre-reflective grounding of affect, where the perspective of the "I," the "she," or the "we" may be one or a combination of the authors. The voice is "idiosyncratic, striated, on the brink," writing from a spirit of "bothness," which speaks both to a reader of academic prose and to someone who has embodied – perhaps troubling, perhaps ecstatic – experiences of technologies (Tuck and Rees 643). When these juxtapositions work, they may feel a little like the "jumps" or "pressure points" that Kathleen Stewart uses so effectively in her exploration of affect, when they don't work they may be disorientating – also in some way faithful to the experience of VR (4-5). These passages are written in the spirit of the weird giggle, a mix of strangeness and delight that arises when expectations do not quite map directly onto perceptual flow and create a small rupture like a "shimmer" (Barthes 101). The shimmer can reflect a basic delight similar to what Jaron Lanier expresses when he, after decades of experience with all things virtual, can still be captivated. "Most people" he writes, "lose touch with the thrill of VR after the initial novelty if they can't interact and have an impact on the virtual world. Even the baby step of simply holding out your

hand and seeing an avatar's hand that is still you, still responsive, still agile – this is a joy in itself. I never get tired of it" (Lanier 129). The shimmer can also take the somewhat more unnerving form of a flinch, when bumping into a wall that is not really there; or an unexpected reaction to an object or sensation in the real world, post VR immersion, when a hitch or disjunctive moment in the physical world is perceptually mapped onto the VR world glitch.

[Spatial glitches]

In MAN A VR wearing the HTC VIVE she walks through the dancers, witnessing their playful whimsy and is taken wholly by surprise by the dynamics and certain shifts of movement and configurations and abstract forms for her (Fig.1). She runs straight into the wall on her first experience as the (in)visible boundary of the VR space. Was she taken by the not-so-limitless void to ride the energy of the dance? Or did she just want to ignore the blue mesh wall which creates the volume, mapping out the edge of the VR Volume? This was echoed afterwards when the glass door of the restaurant had a little hitch, a give, a force on opening, it was unpredicted as if a ghost had pulled it from the other side. We both noticed it and we giggled.

Fig. 1 MAN A VR in-world screen grab of dancing figures (2015), Gibson / Martelli.

Attention and Embodiment Revisited

Current work in VR takes the embodiment of affect further than the earlier generation of VR, the wave from the 1990s that caught the imaginations of so many. The cyberpunk influenced rhetoric of that time celebrated leaving the meat of the body behind and escaping into the fluidity of seamless 3D digital cyberspace. The resurgence of interest in VR in recent years can be attributed, at least in part, to a combination of market forces and technological development (Slater and Sanches-Vives). The versatility and relative affordability of the new generation of head mounted displays (such as

the HTC VIVE and the Oculus Rift) means that VR can be part of home entertainment and VR artwork can be toured and distributed rather than locked away in labs or other well-funded institutions (Laurel). Working with simple hand controllers for navigation and reasonably light headsets, these platforms permit a range of freedom of movement of between 3-5 square meters in physical space. Running with the higher end of consumer grade computers they can give access to fairly high resolution, fully 360 degree environments. Not yet wireless, but wearable backpack computers for VR have been released already. The games industry, art world, and GLAM sector (Galleries, Libraries, Archives and Museums) all have interest in expanding VR applications and platforms. Such applications are located in the attention economy, a term referring to the "intrinsically scarce resource of human attention" (Goldhaber) with relevance to media, the entertainment industries, advertising and, increasingly, politics. Virtual Reality, Augmented Reality, Mixed Reality and Transmedia fall into this sector, but each has distinct experiential qualities and technological affordances. Mel Slater captures this when he says, "VR must be used as a medium in its own right, with its own conventions, allowing people to realise experiences that can only be done in VR. VR is not just a display in 3D" (Slater).

As bodies become more deeply implicated in VR environments terms such as attention and embodiment need to be questioned and upgraded along with the hardware and software. Within the attention economy, designing attention is distinct from designing *for* attention (Light 2017). The calm embrace of the former harks to the premise of ubiquitous computing as a "calm technology" (Weiser and Brown 1995) where systems attend to, and anticipate, our needs so we can direct our focus and attention elsewhere. Designing for attention, however, implies attending to attention with implications for how we reflect and what merits questioning. Current artistic works in VR (such as those by Gibson / Martelli, Jordan Wolfson, Matt Collishaw, Gilles Jobin) have such shifts in attention designed into the fabric of the experience, actualised through a play with modes of participation, performance or witnessing. Along with a revitalisation of attention, the simple definition of the term embodiment is no longer sufficient to unfold the corporeal and cultural complexity of these various experiences. Francisco Varela's concise definition of embodiment is a solid basis: "Embodiment entails the following: (i) cognition dependent upon the kinds of experience that come from having a body with various sensorimotor capacities; and (2) individual sensorimotor capacities that are themselves embedded in a more encompassing biological and cultural context" (Varela 11-12), but it lacks the nuance and material complexity that an affective approach can provide.

> [*The call to touch*]
> *I stood and the figures danced around me, black and white, jagged with their dazzle skin, all elbows and knees bending and darting. I pivoted slowly, surrounded by 10 or so of these little figures, lifelike, with trajectories all of their own. One approached my right side, closer to me than expected. I leaned gently towards it, or towards "him," as I thought this particular figure was male. Gently, anthromorphising to the extent that I felt I had to give my weight carefully at first to see how he would*

react. As he approached my position in VR space he became larger, slightly larger than me, I let the side of my shoulder and face touch the surface of his body. I leaned in, perceiving a sort of density… and then he danced through me eliciting a little shock that this was possible, that for a moment I thought I was penetrating the surface of his black and white body when he continued to move and he passed through my body. This play of density when none existed was more than a perceptual phenomenon, but it was not exactly haptic either (in the sense of haptic or tangible computing). It was of intensity. An exchange of affective intensity can yield a dense quality, a sort of palpable charge that may at times register as an electric shock but might also be a thickening followed by a release. He danced off, impervious to the strangely intimate turn his path took when he passed through my body. Like a particularly insensitive ghost.

The Materialisation of Affect with Skinner Releasing Technique (SRT)

A premise of this article is that the somewhat abstracted philosophical formulations of affect can be grounded, or materialised, by somatic practices and the reflective skills that accompany them. The theorising of affect is fascinating and rich, with many writers opening scope for concrete reflections on the materiality of corporeal exchanges in VR. Lauren Berlant's compelling way of providing "a historical sense of the present affectively as immanence, emanation, atmosphere or emergence" is grounded in a politics of constructing "alternative ordinaries" (Berlant 6). Akin to this, the *Ordinary Affects* of Kathleen Stewart appear as an array of everyday observations integrating ethnographic detail of life in Texas through jumps from banality to strangeness, exhilaration to deflation; a writing that charts pressure points and intensities, performing affect while describing it (55-56). In Stewart's writing, the academic voice is wonderfully expanded and expanded by wonder. Then there is sociologist Eva Illouz, who demonstrates an ability to apply methodological and conceptual rigour to the real world complexity of internet architectures for romantic choice, and in turn provides a trenchant commentary on a segment of digital culture. Her study of contractual negotiations of affect has a poignant affective motivation: "If there is a non-academic ambition to this book, it is to 'ease the aching' of love through an understanding of its social underpinnings" (Illouz 238).

Eve Kosofsky Sedgwick's influential and passionate work on affect plants the writing of Silvan Tomkins squarely in contemporary posthuman and political discourses, at the same time as foregrounding the queerness, poetry or pain it permits: "Affects can be, and are, attached to things, people, ideas, sensations, relations, activities, ambitions, institutions, and any number of other things, including other affects. Thus, one can be excited by anger, disgusted by shame or surprised by joy" (Sedgwick 19). Her way of accepting rather than flattening contradictions opens space for some of the seemingly paradoxical somatic experiences in Gibson / Martelli's VR work, such as falling upwards, the restless floor or the ripple in perception that provoked the weird giggle – the title of this article. Further encounters with political

materialities are found in Brian Massumi's affective politics. He provides scope to undo what is normally thought of as the political from an affective point of view. Framing the concept of an "emotional register," he suggests "maybe if we can take little, practical, experimental, strategic measures to expand our emotional register, or limber up our thinking, we can access more of our potential at each step, have more of it actually available" (Massumi, *Politics of Affect* 5-6). This points to a repetition of acts that resonates strongly with physical or somatic practices which, little by little, shift affective patterns and expand a somatic register according to which it is possible for bodies to act and re-act.

> *[Eyes in the back of my head]*
> *Once I experimented with wearing a stereo camera on the back of my head attached to an Oculus with a laptop as a battery. I moved inside a room and outside on grass. I could walk backwards and forwards easily and preferred to walk backwards indoors, but outside I crept forwards not backwards at all, trying to hone into my stalking mode my "watchful state" of Skinner Releasing Technique (SRT) where I could. Expanding in my back and through my tissues feeling the presences in front and behind. Outside on the grass I felt vulnerable. My hearing immediately became augmented.*

In attending to somatic states, affective qualities are revealed. Skinner Releasing is an improvisational dance technique where the intent is not to create or to manipulate affect, but through detailed releasing of excess tension in the body bodily somatic states are shifted and affective qualities may arise. Or not. Improvised movement drawn from Skinner Releasing Technique (SRT) imagery forms the basis of the character animation in *MAN A VR*, with the movement data not coming from algorithms or game physics but from actual motion captured sequence from 6 dancers. [2] Artist Ruth Gibson has practiced SRT for many years and together with Bruno Martelli has applied the practice to the choreography of movement in VR and AR artwork. SRT is a dance technique developed by Joan Skinner in the mid twentieth century; it is an approach to dancing based on the simple principle that when we are letting go of habitual holding patterns we can move more freely, articulately and powerfully. It has the same objectives as other professional dance techniques (alignment, flexibility, strength, speed, dynamic range, musicality and control of nuance) but differs by being a system of kinaesthetic training that refines the perception of movement at the same time as the performance of movement. It encourages rather than instructs. Images are given to the dancers to hold in their minds and bodies as metaphors for translating technical principles into kinaesthetic experience. The poetic imagery kindles the imagination, thereby integrating technique with creative processes. The experience of SRT can feel "incredible and exuberant" but also "awkward and utterly disappointing," revealing "an ambiguity that is typical of how we as humans may come to the technique differently from one day to another" (Gibson "When Carol stepped into").

SRT has unexpected relevance to the motion and orientation that is possible in VR because it does not rely on one stationary centre of balance; further, it

allows for risk and unease to take place in a safe environment, like the VR spaces created by Gibson / Martelli. Skinner wrote in 1969, "Balancing on two feet becomes a multi-directional, multi-dimensional experience in space. There is not, as found in traditional methods, a singular reference point for balancing, such as a set of muscles, a particular center of the body, or a concept of upness and downness. (In a space age, there is no up or down)" (Skinner et al. 3). The practice trains movers to accept the full range of motion and associated affective states. The teacher of SRT facilitates this by cradling the space and the bodies within it so that they may fully experiment with altered states of consciousness, agency and non-linearity; or they might be jolted out of comfort zones and habitual ways of moving (Gibson "When Carol stepped into"). This process may awaken dormant tissues and ignite the imagination, producing different qualities of immanent and pre-reflective perception. The experiences of perception and affect potentially opened by the practice of SRT are analogous with potential corporeal experience in VR worlds, where borders soften between skin and world, self and space. Sometimes comforting, sometimes a jolt into new ways of moving. While other VR artists, such as Jordan Wolfson, refer to their work as "a distillation of pure intensity" and directly manipulate emotional responses of participants, the material qualities of *MAN A VR* are ideally suited to lend flesh to concepts in affect theory that might otherwise remain simply metaphorical or abstract and that are not simply reduced to the manipulation of emotional reactions (Wolfson). Such concepts include restlessness.

[The restless floor]
We are allowed to walk onto the stage in MAN A VR, yet the stage falls away beneath us. Scale shifts, vantage points differ, vocabularies change, frameworks and experiences of corporeal experience unhinged. Creating our own energy around the space we are immersed. We are transposed into the physical action of the mover's kinaesthetic identification, a vehicle for perception and intention. Transaction between space and avatar help illuminate our own bodily makeup as we assemble and disassemble ourselves in the game space. The terrain is transparent yet felt. We carve our way through an invisible volume across a restless floor.

Bodies Affect and are Affected

The concept of affect, as experienced in the artistic VR work considered in this article, relies on Gilles Deleuze's reading of the body from Spinoza's *Ethics*. This rematerialisation of corporeality takes on increased significance in digital cultures for its disintegration of distinctions between the digital and the organic. It is a dynamic and plural reworking of the construction of "body," whereby all bodies exist in and through the exchange of intensities, rather than being defined by static material essence: bodies exist in states of potential; they affect and are affected; they are composed of particles in complex relations of speeds and slowness (Deleuze 124-125).

In his *Ethics* Spinoza wrote "By emotion I understand the affections of the body by which the body's power of acting is increased or diminished, helped or hindered, and at the same time the idea of these affections" (164). Deleuze interprets "affections" to be fundamentally dynamic. They are transitions, modifications, passages, transformations consistent with the rhetoric around VR on what happens to bodies once they enter VR worlds. Strengthening the resonance with VR discourse further, Robert Hurley in his Preface claims that Deleuze "maximizes Spinoza," emphasising an ecological reading by which "the elements of the different individuals we compose may be nonhuman *within* us" (Hurley in Deleuze ii-iii). Thus, the application of an affective "voyage in immanence" to our engagement with digital bodies in VR systems may not be as much of a stretch as one might think, but neither is a phenomenology (Deleuze 29). The desire to ground an argument on practical descriptions of the design and somatic experience of affect in VR is consistent with Deleuze's framing of Spinoza as offering a practical philosophy, opening a phenomenological perspective on bodily experience. Genevieve Lloyd's reading of the self-knowledge and physics of bodies in Spinoza reinforces this view, arguing that "Spinoza is perhaps best seen as articulating here what we now regard as phenomenological aspects of bodily awareness – describing what our bodies are like as grasped from our own bodily perspective. From this first-person perspective, the limits of my body just *are* the limits of my bodily awareness, rather than the superficies of my body as an externally perceived spatial object" (Lloyd 23). Once the composition of bodies according to affect is accepted as an ontological premise, any hard or isolated singularity associated with the pronoun "I" or the "my" of experience is dissolved. There is no incongruity or tension between mapping one person's experience outward if that experience is already dynamic and in a state of exchange of intensities. It can still be my experience, in that I don't claim that it is a generalised truth, but is distributed and in flux with resonance within one being and across beings.

This reconfiguration of the body into affective exchanges can begin to make sense of the corporeal transformations and emotional reactions experienced when a VR world is entered, whether these are odd, subtle or extreme. All bodies in VR artwork, the animations and the Oculus wearers, are virtual when read through Massumi's writing on affect and virtuality. His thought takes on additional relevance for bodies suddenly immersed in the wash of intensity of VR worlds, discovering a distributed corporeality that is

> as immediately virtual as it is actual. The virtual, the pressing crowd of incipiencies and tendencies, is a realm of *potential*. In potential is where futurity combines, unmediated, with pastness, where outsides are infolded and sadness is happy (happy because the press to action and expression is life). The virtual is a lived paradox where what are normally opposites coexist, coalesce, and connect; where what cannot be experienced cannot but be felt – albeit reduced and contained. (Massumi, *Parables* 30)

Wolfson's controversial piece "Real Violence*"* is worth examining in greater depth, with attention to the affective tone of promotional and critical

rhetoric as well as descriptions of being in his virtual world. Described by critic Isaac Kaplan, it is "a pure distillation of violence delivered through one of the most powerful uses of virtual reality to ever grace a museum's halls. Without a narrative to hold onto, what you're left with after witnessing the work is an overwhelming feeling of brutality, the sound of a bat striking against a skull, and incredibly graphic imagery seared into memory." Wolfson's artistic process involved closely researching similar videos online to determine why, for him, they were so disturbing. He cited a combination of repetition and passivity as his reason. The character in the violent scene he creates in VR does not fight back. The blows are repeated. The person wearing the Oculus Rift watches, passive: "a passive bystander watching a passive victim" – this is Wolfson's reaction to much VR work being "too interactive" (Kaplan).

When seen through the lens of affect and the lived paradox of the virtual, what is described in this VR environment is not passive. An approach to affect that is based on the exchange of intensities reveals a continuous circulation of forces, where passivity is just a version of activity that exists in a different temporality with different sorts of actions (Barthes 77; Kozel, "Somatic Materialism" 165). The concept of somatic register is useful here, for it accounts for somatic states with a wide range of intensities rather than privileging a particular dynamic section of this spectrum: such as the extreme, accelerated or violent. An affective exchange of intensities can vibrate around stillness. Stillness can be as vibrant in small gradients or shimmers of perception as the perceptual flips or swoops in VR that take the ground out from under our feet.

> *[Simplicity honesty vulnerability]*
> *In MAN A I pick up on the dancers' rhythms and dynamics I literally join in. I am familiar with the work so my gaze is embodied like the eyes in the language of Skinner Releasing: picture something with the eyes of a female deer – a doe. Open. Focus way off. Enormous eyes, focussing on the horizon. In SRT this focus is a soft gaze, yet clear and direct and it reverberates through the spine. Open and aligned. So rather than looking all around in VR I tend to adjust my body according to somatic layers, my somatic plane, my skull in tune with rest of my body. So sometimes in the headset I feel blind. Simplicity honesty vulnerability which is very precious.*

Technological mediations of cultural phenomena (social media, games, news reporting, Twitter, even art) tend to push us into a fairly narrow range of actions, gestures, emotional reactions and temporalities. Wolfson's piece invites, not passivity as such, but reactions that may be more liminal. When I went into his VR world I looked at the sky, I attended to the sound (a highly affective soundscape of Hebrew prayers). I was immersed, but not immersed to the point that I lost my point of view: I was aware of being emotionally manipulated in VR space, as I would be watching a movie. I felt, however, more constrained than sitting in a cinema in that I was less able to walk away. This feeling of constraint related to being strapped into the Oculus headset (with eyes and ears covered) and being made to hold onto a metal railing with

10 other people for 2 minutes and 25 seconds; but it was fostered, too, by the framing of the Whitney Museum's modernist gallery rooms, the queue of people behind me waiting for their turn and the density of cultural rhetoric that wrapped the piece in layers of hyperbole, anticipation and recapitulation. The affective exchange of intensities does not begin and end with the artwork – Wolfson is well aware of this. It reveals the states of potentiality inherent to affect, existing as much in a state of potential as reality. Once experienced, the prior potential of affect is reconfigured as memory and inscribed anew with every additional distributed reflection, including this article. Affect circulates in eddies and swirls, with tangible manifestations beyond words and visuals, such as the scent of disinfectant and the repeated ritual of the gallery attendant squirting and wiping the headset between bodies being inserted into the experience.

[The chaperone watches and waits]
When we wait in line to try on the VR headset we share our anticipation with members of the queue behind us, we share mannerisms, observations and behaviours of those who are "in" and the strange wonderful absurdity of our blind explorer. On entering and waiting patiently still in line it is customary in MAN A VR installations to aid the wearer by holding cables. This we call chaperoning our experiencer. It is interesting in that the "chaperone" and "guardian" are the names chosen by VIVE and Oculus respectively to denote the limits of the volume, the space, the limits of the trackers. The protector, to care, to manage. The border accompanies and looks after us becomes our supervisor and is responsible for our safety. The next in line circles the wearer satellites and duets – compass. This is reminiscent of early motion capture systems for example holding the cables aloft whilst spinning in a flock of birds' ascension motion wireless system to avoid getting tangled in wires.

A phenomenological approach

The affective and physical assertions that sustain cultural critical rhetoric around VR can be taken as provocations or dismissed as promotional hype, but because VR's mystique extends far beyond the circle of the population who have actually donned a headset there is a tendency for the assumptions to be taken as authoritative descriptions from those technically sophisticated enough to know best. Instead of simply condemning or celebrating VR, a phenomenological approach can begin to chart what actually happens when we are in such a space. Opening a minoritarian perspective can act to ground critical perspectives, such as materialist, feminist or decolonial accounts of the politics both within and outside VR environments (Ahmed, *Living a Feminist Life* 29-31; Goulimari 111).

The combination of phenomenology and affect is particularly valuable for being able to do two things simultaneously: find a way to articulate one's own lived experience of something unprecedented or disorienting, and expand the

language of critique. The philosophical tradition of phenomenology is increasingly called upon to ground qualitative, applied or speculative methods, ways to account in theory and practice for subjects, objects, plants, things and orientations (Ingold 12; Bogost 34; Ahmed, *Queer Phenomenology* 67). The work of the lineage of existential phenomenologists is conducive to cultivating practical methods for interrogating lived experience by attending to sensory, emotional, imaginative and other qualities that arise in the flow of the movement. Maurice Merleau-Ponty's emphasis on the embeddedness of the body in the world, where bodies are reciprocally entwined with other people and beings in general (including landscapes), in a relationship of seeing and being seen, touching and being touched, is particularly useful for being receptive to peculiar environments or experiences: such as seeing "a space where there is none" (Merleau-Ponty 172). Jean Luc-Nancy's co-ontological reflections on the body being plural and singular at the same time, and his sensitivity to resonance in his work on music, can also preserve an ability to be vulnerable and uncertain while in the process of ascertaining what is actually happening while it is happening (*Being Singular Plural* 42; *Listening* 9). Even if it means attending to that which is unusual, unpleasant or unwelcome (Kozel, "Process Phenomenologies" 64).

> *[Undulations]*
> *The undulations move like a wave from my gut to my head and down again. "Get this thing off my face" as I pull the headset off and breathe a sigh of relief. Closing my eyes, I recall the research (urban legend or actual research, I cannot recall) saying women react worse to VR space than men, are more prone to nausea. Not everyone feels this way, I watch others wearing the headset, drawing, flying, exploring, seeming impervious to the sick lurching that sometimes assails me. I was told it related to the way I moved while in MAN A VR, the figures making me move with them without being fully aware of how I was moving. The nausea lessens over time. Across the course of my Monday to Friday VR studio week my sickness curve reduces. By Friday, it seems that the combination of my inner ear, eye and overall proprioceptive system taking in my brain and my limbs, had realigned, or at least come to see the moving figures and scene changes as less of a threat.*

When these fluid, hyper-reflective qualities of listening offered by the performance of phenomenology are combined with the richness provided by approaches to affect, the scope for attending to both detail and complexity, the liminal and the excessive, the known and the not-yet known is expanded considerably. The onto-technological grounding of contemporary critique of digital cultures can be expanded by micro-observations of slivers of experience. Creating a bridge between Barthes and Bogost, it is possible to say that by attending to the "shimmering field of nuances" in VR we can produce "tiny ontologies," thereby contributing to minoritarian discourses (Barthes 190; Bogost 21).

MAN A VR

The virtual reality artwork *MAN A VR* is a place you go into, it is not an attempt to replicate the real world. Inhabited by swirling black and white figures, whose movement is animated by motion capture data from live dancers performing Skinner Releasing Technique, it provokes a visceral and sensual experience. Yet it is not an assault on the senses; there is a lightness of touch and a fleetness of foot where the familiar is made strange and the strange familiar. The dancing figures act as kinaesthetic prompts, phantoms that nudge and provoke curiosity, enlivening a domain of infinite perspectives. Gibson / Martelli view the overarching *MAN A* project with its variety of outcomes as a virtual laboratory for experimenting with motion capture, large format printing, AR and VR. [3] While the virtual refers mainly to the digital immersive technologies in their work, it retains connotations of the philosophical sense of the virtual as saturated by potential. The potential for different reactions and affective exchanges within new spaces for performance.

MAN A was originally created for the Google Cardboard, a low cost headset made of stiff paper with mobile phones slotted into it (Fig. 2 and 3). The phone's sensors captured head rotation, while the screen displayed a split stereo view for the headset lenses.

[3] The AR and VR variations of *MAN A* can be found here: http://gibsonmartelli.com/works/.

Fig. 2 MAN A for Google Cardboard, photo from Collusion talk (2017), credit Claire Haigh.

Fig. 3 *MAN A* for Google Cardboard, photo from 'Everything is Data' ADM Gallery (2015), credit Gibson / Martelli.
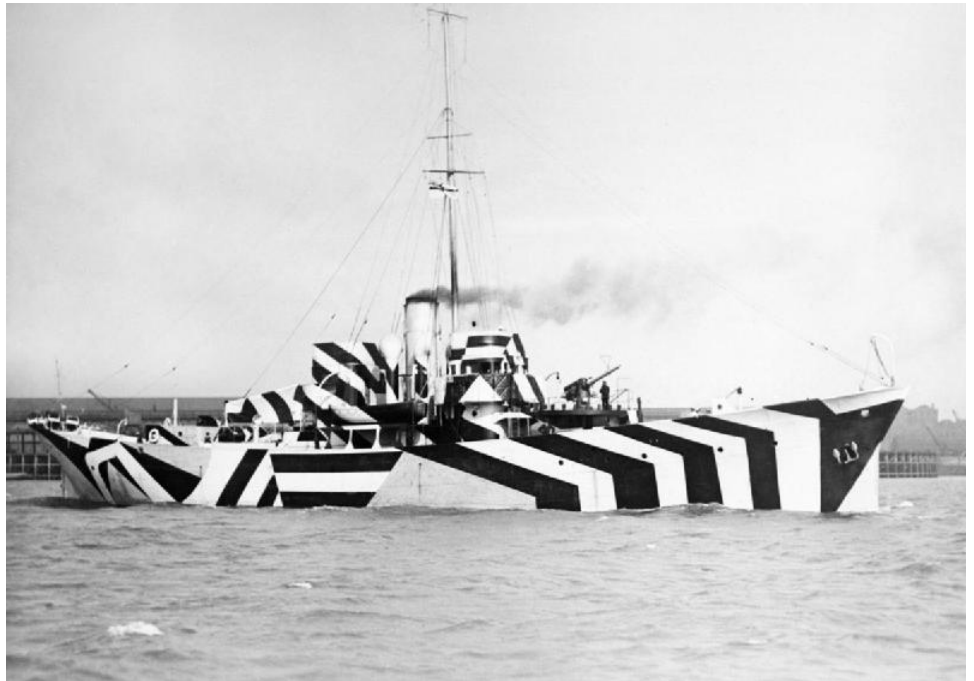
From this first version, a form of AR, the project developed into a room scale VR experience for the HTC VIVE and later for the Oculus Rift (Fig. 4). The *MAN A VR* experience is composed of seven scenes, all strikingly black and white, with a visual debt to camouflage painting techniques such as Dazzle, or "Razzle Dazzle," used on battleships in World War I (Dazzle Ships, Fig. 5). The shift from the Cardboard AR version of the headset with devices inserted into it, where the user was unable to move with the figures, to the VIVE version, where the user has freedom of movement in a space of 5 square metres, is profound. What started as an immersive but basically static viewing experience was transformed into one where, even though there is no interaction per se, the user can move amongst the performers and insert themselves into the virtual space, an infinite space where the laws of gravity don't exist.

Fig. 4 *MAN A VR* in-world screen grab of dancing figures (2015), Gibson / Martelli.

The person wearing the Oculus moves *in* the world, the world does not move *around* the static point of the headset (Fig. 6). This dynamic quality distinguishes *MAN A VR* from many VR works and reveals its roots in dance and somatic movement practices. The corporeal gestures of the animations exhibit traces of the organic metaphors and images that make up Skinner Releasing Technique. Following Skinner's teaching, these kinaesthetic images fall into two categories: specific and total.

> Specific imagery is concerned with segmented movement patterns, while totality imagery cultivates an overall state in which an integration of multidimensional awarenesses is realized. An example of a specific is the image of marionette stings at the knees. This image is designed to allow greater freedom in the hip socket.
>
> An example of a totality is the image of floating in a pool. Then the whole self merges with the pool – the outer edges of the self becoming the outer edges of the pool. At times the specific string image is integrated within the pool totality. (Skinner et al. 2)

There are disjunctions when SRT is integrated into a VR world, but also uncanny convergences and even enhancements. Unlike the SRT work, in *MAN A VR* the foot of the person wearing the Oculus Rift never touches the ground. However, since the animated figures are created from motion captured movement of dancers doing SRT-inspired sequences, they have a stronger connection between their feet and the ground, kinaesthetically, than the user wearing the VR headset around whom, and through whom, they dance. Abstraction and loss of orientation are frequently cited as drawbacks of VR, but with SRT these are powerful indicators of releasing old habits and opening scope for new ones. With reference to the totality imagery, such as

the body merging with the pool from the quotation above, "a certain loss of orientation is often experienced. This loss of orientation gives the opportunity of a fresh, unconditional response which allows new kinesthetic patterns of muscle use to emerge" (Skinner et al. 3).

[I am here and there at once]

Wearing the Oculus she wants to dance with the wireframe figures (Fig. 7), she never copies or mirrors their movements, but makes quick actions and swift changes of energy then observes, dodges, plays, probes, undulates, creeps with tentative swirls. When dancing with the characters/avatars she stretches and arches with nimble footwork. Hands tuck inward and her limbs form sharp angles. When it came to the room of rotating sticks she leans, curves, stays fixed to the spot arms aloft over her head, full body curves, reaching to the floor, peering with inner suspension to find out "see" over the invisible precipice into the depths and what depths. She finds something, is shocked by it, then surprised, she swoops, ducks and dives and scoops into the floor. She spends the most of her time with the sticks and on the ground. The sticks are motion captures of me, rolling dueting with her. I am here and there at once.

Fig. 6 *MAN A VR* in-world screen grab of dancing figures (2015), Gibson / Martelli.

Fig. 7 *MAN A VR* in-world screen grab of dancing figures (2015), Gibson / Martelli.

The idea is not to be fixed to the spot when exploring *MAN A VR*. Many VR experiences are designed to induce extreme emotion, with the visuals more or less thrust upon the viewer who is forced to remain in a fixed position. *MAN A VR* is playful. Visitors don't grip and hold on; for holding on is the antithesis of the philosophy of releasing behind SRT. The practice is about letting go and taking risks; darkness or anxiety might be experienced, producing reactions of flinching, twitching or resisting, but generally movers will come out of the other side of the experience with new freedom of expression and suppleness. A fluid state of readiness for whatever impulse comes next is produced, aligning strongly with the state of potential of the virtual.

The technological affordances of VR are used to shape the affective and dramaturgical qualities of *MAN A VR,* and here it is useful to examine the distinction between immersive 360 degree cinema that might use the Oculus Rift or the HTC Vive, and VR. For while *MAN A VR* is undeniably immersive, and a performance-in-the-round, it is not 360 degree cinema. VR has some key affordances not provided by other immersive visual formats, like panorama, 3D, stereoscopic or 360 degree video. These are clearly outlined by Brenda Laurel. In her characteristically outspoken fashion she expresses annoyance that 360 degree cinema and VR are conflated. "Virtual Reality is everywhere again" she writes, "and that's a problem. Almost immediately after the new trend began, people started shopping 360° immersive video as VR. It is not" (Laurel). She outlines some key affordances of VR:

1. Complete surround environment (up, down, all around).
2. Affordances for depth perception and motion parallax.
3. Spatialized audio, not just stereo.
4. Affordances for tracking the participant's direction of motion distinct from the direction of gaze.
5. The participant's sensorium as the camera (first person medium).
6. Natural gesture and movement (not game controllers).
7. Affordances for narrative construction.
8. The principle of action (affording kinaesthesia and proprioception).

These affordances are not just significant for the technophile. A deeper understanding of the mechanics of what is happening in VR worlds can help to refine phenomenological accounts of the experience of VR; such detailed sensory and affective descriptions can provide insight and support for ethical, medical and psychological considerations of the impact of prolonged VR on bodily experience (Mandaray and Metzinger 4). Derealisation, depersonalisation, alienation, and general "post VR sadness" are common reactions (Coupland and Birnbaum 194).

> *[Thwarting the chaperone]*
> *The mesh wall that appears in VR space when the person wearing the headset moves too far in physical space and risks stepping outside of the parameters of the sensing area. It is called "the chaperone" in the HTC VIVE system and "the guardian" in the Oculus Rift. Appearing as a turquoise grid in*

MAN A VR it has a powerful presence because it is clearly not part of the visual design of the environment. Moving a hand outside is represented by a rippling blob, like a single pebble dropped into a pond, where the limb penetrates the barrier. Liquid, but offering enough resistance so that a clear sense of reaching through something was created. The material quality seemed more viscous that simply visual, like it was a membrane distinct from the rest of the VR space. Head tilted sideways, hand holding the controller followed head and shoulders, triggering the visual blob, and suddenly the perspective felt entirely different. Stepping fully outside this barrier and looking back through the mesh guardian provides a powerful sense of looking at the space where one was, but as an outsider. Outside from a non-permissible zone, or from the position of observer rather than actor. This ripple is a distortion, a shimmer, a visual boundary transgressed, provoking the obvious question: what or whom was the guardian guarding? The integrity of perspective for the optimal functioning of the system, or for the person in it?

Plans for continuing the development of *MAN A VR* build on proposed expansions for the Oculus Rift platform, such as affording the possibility for the artists to design low polygonal dazzle-like hands for the Oculus Touch controllers. This could change the role of the user from a spectator to one that shares some sort of agency with the figures, opening scope to take on the role of choreographer of the dancing figures. If the spectator becomes a participant because she can somehow manipulate the performers – for example, in a new scene where the performers appear as pint-sized figurines which can be picked up by the Oculus hands – then the choreographer's role extends beyond the movement of the figures to the potential movement of the person wearing the Oculus. The original version of *MAN A VR* employs palindromic loops of movement and programming to randomly choose a starting frame in the sequence; the sequences also have variation built into the playback speed. These simple rules give complexity to each of the seven scenes in the piece, but the potential for manipulating the avatars by using Oculus Touch will transform the experience, possibly adding or detracting from its current state. When deciding whether to add an extra layer of interactive control to VR worlds it is worth reflecting on Laurel's observation regarding older not-quite-VR but immersive work like Char Davies's *Osmose* from the 1990s: it is true, she writes, that "the world was not changed by the immersant's journey through it, but the participants were changed by the journey" (Laurel).

The post medium medium

Douglas Coupland and Daniel Birnbaum had a conversation about VR in which they called it a "post medium medium," with somatic implications that have yet to be comprehended (194-195).

DC: Our days are largely spent behind screens – with greatly reduced somatic experience – and our memories of the day come from those screens that are fire-hosing data into our brains. We now calibrate our sense of time passing by how much information we absorbed that day. Data is the new time and, by extension, the cloud is the new infinity. And VR is a kind of temporal accelerator. I think VR is as much data as the human brain can handle; we finally know the limit. VR is your brain flying straight up the y asymptote … VR is really harsh on the vestibular system and the reptile cortex. Many people puke during or after VR. So it has intrinsic somatic properties just waiting to be overcome – but also fleshed out and exploited. (194-195)

DB: The question of intrinsic properties is an interesting one – VR might seem like the ultimate post-medium medium, yet the effects you're referring to are unique, insofar as they act directly on kinesthesis and equilibrium in a way that no other medium does. And VR is immersive, whereas all the medium specific definitions of media associate one medium with one sense – music with hearing, painting with vision. (195)

Sound is an important ingredient in the somatic register of VR experiences, and is frequently overlooked by the seduction of the visuals. Adam Nash's sound for *MAN A VR* vibrates, adding a kinaesthetic layer to the experience. He has a "post-medium" approach to sound – one that is not constrained to the aural or the sonic. He describes how the sound in *MAN A VR* draws attention to itself in the same way the visuals do, being a constitutive element of the user experience. This is naturally true of any digital environment, since the sensual output, whether audible, visible, haptic or temporal, emerges from the same place, that being a bunch of numbers, but Gibson / Martelli consciously deal with the sound as an active element on equal footing with the other elements. Nash composed the sound in response to movement of the dancers, calling it "music, really, though not soundtrack, rather dance music composed post-dance for the benefit of the user." The sounds themselves, a mixture of digitally generated and real-world recordings, were made and arranged to reflect and interact with the scale, scope, shape and space of the motion capture, its avatars and their virtual environment. The intent was for the sound to interact with the user's eyes, ears and body as an affective system that reassembles these relationships in real time. The interaction of the sounds with the visuals and haptics helps generate an affective immersion rather than the old cliché of sounds invisibly supporting the heroic visuals, as per movie soundtracks and many videogames. The sounds, presented as intrinsic, help enact affective feedback cycles, where immersion is understood as a multi-sited, multisensory, memory-creating affective assemblage. Music, sound art and dance have arguably always operated in this way, inviting the "audient" to participate in an affect cycle, distinct from visual forms which tended to privilege a transmissive, rather than interactive, model of passive affect. Therefore, it makes sense for these principles of immersive, interactive affect cycles to be well translated into VR (Nash).

[Affective overspill or "kinaesthetic bleed-through"]

Not just what you notice when you are in the VR environment, but what you notice once you come out of it. On one occasion, I noticed splashes of red after exiting the monochrome world of MAN A: a girl pulled a red scarf over her head, a man had a bit of red on his rucksack, a red car drove slowly through the grey misty world. Other moments of intense sensory attention to somatic states produced a spike in awareness of colour, such as when attending to subtle state changes while in the midst of other somatic practices. A shift in colour sensitivity is part of the somatic register,

The kinaesthetic bleed-through yesterday lasted a few hours, as did the marks on my face from the Oculus. A slow undulating in my perception of the physical world as I cycled through the city, a strong appreciation for the balance provided by the moisture in the air and the wind on my face. I do not breathe enough in there. Attending to the bleed through into the real world after time spent in VR emphasizes the continuity rather than a hard binary between virtual and real. It also provided an experiential ground to the philosophical assertion that both affect and the virtual share the quality of existing in part through potential – that which is never fully contained or actualized. The transitioning, shifting quality of one state into another is an example of potential being fed-forward as we move from space to space, experience crystalized into memory, memories arising unbidden at an unspecified moment in the future. If the virtual to the real is a sort of continuum, the continuum is not something we inhabit by sitting on a fixed point, it undulates beneath our feet.

Conclusion

This article contributes to a growing chorus of voices addressing VR by offering detailed accounts of embodiment in one particular VR art work. We speak from experience so we can speak otherwise. Speak strangely.

The construct of the somatic register was introduced to account for differing intensities of affective corporeal experience in VR. Phenomenological descriptions of what it is like to spend time in *MAN A VR* provide materiality for affective concepts, while these concepts help to respect, and even to expand the understanding of, intense VR experiences. Some qualities evoke familiar affective designations, such as vulnerability, surprise, restlessness, unease, but others merge affect with kinaesthetic or perceptual qualities like undulations, calling to touch, thwarting, bleed-through, hitch, and eyes in the back of the head. They are dynamic and liminal. In this respect, they resonate with Barthes's and Deleuze's opening up of affect to account for shifts in intensities that constitute ontological shimmers.

Barthes's "neutral" is not grey and passive, it "can refer to intense, strong, unprecedented states. 'To outplay the paradigm' is an ardent, burning activity" (Barthes 7). If the paradigm is that which constructs meaning, then "the exemption from meaning" or the neutralization of existing power structures is the motivation sustaining his reflections. Such an exemption enacts a play of power by offering a different paradigm: not an opposition, not a pull to an originary meaning, but a transgression or a displacement of the dominant paradigm. In this case of this article, dominant paradigms of rhetoric concerning the body in VR are displaced.
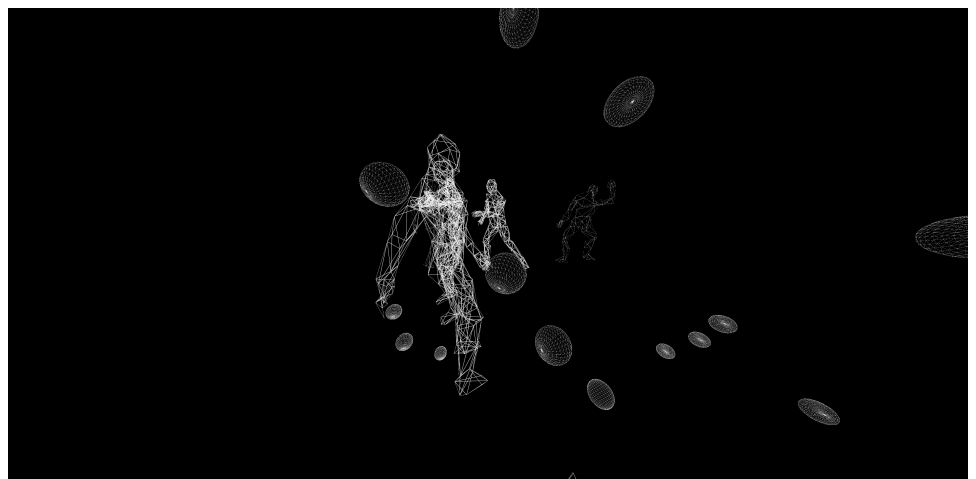
The weird giggle as a guiding thread of this work reflects the movement of the shimmer, the strange ripple of reality that is pre-reflectively sensed and escapes from the body in a shudder or a jolt. Disorientation and delight converge, together they reflect the appeal and controversy of VR. For some a longing to return to VR, for some a longing to return to the outside world.

[*"I long to go back in there"*]
These duets in and out of VR are a philosophy of support and create a deeper understanding of a particular system from a phenomenological point of view; this in turn enables us to understand motion capture and value of motion capture within VR as opposed to video capture. They occur on different somatic registers.

The periphery is of great importance to me, the volume I carve and press against wearing positional markers and stereo glasses. Somehow infinite the world in which I move caresses me, gives me permission to float in a void of buoyancy. My physicality, my whole body feels expansive and this has something to do with the landscapes I dance in. Or is it silly that this excites me and I long 'to go back in there'? (Fig. 8)

Fig. 8 *MAN A VR* in-world screen grab of dancing figures (2015), Gibson / Martelli.

Acknowledgements

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