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RESEARCH

Visceral Dramaturgies: Curating Sensation in Immersive Art

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This article examines audience engagement in immersive, headphone and headset enabled performances looking specifically at the audience member's experience of their own interoceptive processing. Interoception, the appraisal of one's internal systems, is a key modality through which such artworks perform. Interoception includes two forms of perception: proprioception (involving signals from the skin and musculoskeletal system) and visceroception (involving signals from the internal organs such as heart rate, breath and digestion) (Pollatos et al. 2016), and interoception has been identified as critical in one's sense of embodiment and wellbeing (Farb and Daubenmier 2015). Through the use of binaural recording, headphones, and three-dimensional film, as well as a visceral dramaturgy of sound, text, image and narration techniques, artists are able to target an audience member's awareness of interoceptive sensation.

The article addresses three key examples: headphone theatre production *Séance* (2017) by Glen Neith and David Rosenberg; *Whist* (2017), an AR/VR and dance work by company AΦE; and *Daphne in Three Movements* (2017), an ongoing practice-as-research project combining videography, sound design and physical theatre. Following the consideration of how these productions stimulate interoceptive awareness, conclusions will be drawn about the reliance of these works on a visceral dramaturgy that targets the audience's somatosensory system. Giving consideration to the cultural context of 'hyperaesthesia' and offering comparisons between headphone theatre and practices such as ASMR, the article will examine how the director/designer of such performances functions as a curator of sensation, building a performance text that triggers sensory effects as a means of developing texture, theme and affect.

Keywords: headphone theatre; immersion; interoception; physical theatre; spectatorship

A monster enters my ear, moves through the tissue of my brain, ricochets around my cranial cavity, and bounces between my bones. This is my experience of Darkfield's Séance (2017), a work of headphone theatre that uses binaural recording to create a sonically-rendered immersive environment in total darkness inside a shipping container. For some, their experience of Séance 'is a ride' or 'like a ghost train' (Tripney 2017), but it is no haunted house; this production can trigger awareness and wariness of one's own perceptual processing. Séance relies on a visceral dramaturgy that targets the audience's somatosensory system. Such works engage the audience member in a virtual environment created using three-dimensional audio, visual, or both audio and visual material. This engagement implicates the listener's body in various ways and draws attention to the means by which one encounters, experiences and processes the world. This article will explore audience engagement in immersive, headphone and headset-based performances such as Séance (2017), and Whist (2017) by dance company A Φ E, looking specifically at the audience member's experience of their own interoceptive processing. Through use of binaural sound, headphones, VR technologies, and narration techniques, artists are able to specifically trigger an audience member's awareness of interoceptive sensation. A more thorough exploration and analysis will then be provided of audience engagement with Daphne in Three Movements (2018), an ongoing practice-as-research project combining videography, sound design and physical theatre.

Interoception, the appraisal of one's internal systems, is a key modality through which such artworks perform. Definitions of interoception are not fixed; as Ceunen, Vlaeyen and Van Diest explain in their 2016 article 'On the Origin of Interoception', the exact definition of interoception can range from the original restrictive meaning, which holds that interoception involves only sensations stemming from viscera, to the now more commonly deployed inclusive understanding which positions interoception as 'an umbrella term for the phenomenological experience of the body state, an experience which is ultimately a product of the central nervous system (CNS)'. A more inclusive definition understands interoception as embracing two forms of perception: proprioception (involving signals from the skin and musculoskeletal system) and visceroception (involving signals from the internal organs such as heart rate, breath and digestions) (Pollatos et al. 2016), and interoception has been identified as critical in one's sense of embodiment and wellbeing (see for example Farb and Daubenmier 2015), which will be explored later in this article. While separating proprioception from visceroception might be useful in the analysis of manifestations of interoception, these systems inevitably interact and interconnect. Drew Leder in his discussion of the phenomenology of interoception explains:

'Proceeding phenomenologically we find that the lived body operates as an integrated whole, often undermining any clear and fast distinction between the fields of visceral interoception, proprioception, body-surface sensation, even exteroception...Sharp distinctions between what would count as visceral or non-visceral, even between the interoception and exteroceptive realms, blur' (308).

While the following discussion of audience experience may refer to proprioception and visceroception separately, there is recognition that these systems of perception are not always distinct.

The performances discussed here draw on the capacity for binaural recording and 3D video to appeal to, perform via, and play with the audience's proprioception. These works also draw attention to the audience's own visceroception, emphasizing internal bodily functions, signals, and sensations. Using audio-visual mediation, which can be integrated or counterpointed, these works also explore intersensoriality and body-ownership, which are derived from a wholistic and integrated interoceptive experience. The following discussion offers a phenomenological exploration of audience interoception in *Whist* and *Séance*. This experience is subjective, and will attempt to avoid speculation or generalization; as Drew Leder (2018) explains, 'We cannot assume that the same processes will elicit similar inner experiences for different individuals, or even for the same individuals at different times' (309). Interviews with audience members as part of the practice-as-research project *Daphne in Three Movements* will then be analysed to assess and interpret individual experiences and to identify points of commonality.

Séance is the third in a series of headphone-based collaborations between writer Glen Neath and theatremaker David Rosenberg (as the company Darkfield) presented in the dark using headphones and binaural sound. Séance, performed at Summerhall in the Edinburgh Festival in 2017, is 20 minutes long and takes place inside a specially adapted white shipping crate. The audience of twenty are seated on either side of a long table on plush red chairs that suggest the aesthetic of a Victorian fortune-telling ceremony. Above the table hang brass bells rigged with string and the container is lit by two single hanging lightbulbs. Each audience member dons their headphones, the curtain disguising the container wall rustles, and the container is plunged into complete darkness. Séance, as the name suggests, presents a sonically-rendered séance led by a 'medium' who seems to walk amongst the participants, sounding very much like a live actor. The use of binaural recording means that the sounds heard via the headphones are clearly positioned within the immediate physical environment of the listener. The show explores the infectious nature of superstition, the capacity for the listener to believe in events that defy common sense, and the listener's physiological response to sound, the supernatural, and fear itself.

The medium whispers in our ears, walks the length of the table and speaks to the spirits beyond. The audience are told to keep their hands flat on the table before them, though at times this is hard to do, for as the table inexplicably moves beneath my hands, I inevitably flinch. The liveness and communal aspect of the performance is key; we hear breathing and murmuring coming from where we know other audience members are sitting, and the fearful whispers of the other séance participants are infectious. Writer Glen Neath explains, 'In a séance room, people are more suggestible than at other times, and we wanted to explore the psychology of a group who have been bombarded with suggestible material' (in McEachran 2016). The production plays with one's openness to perception of the paranormal and while it certainly has an element of 'horror', it does not just rely on special effects or on making the audience jump, but evokes an uneasiness, a wariness: I am unnerved by my own physiological responses and my willingness to psychologically accept what my senses perceive. Neath asserts, 'I think when presenting material in the dark, if we are clever, we can introduce false information that is hard to ignore once it is put into the audience member's mind' (in McEachran 2016). The most astoundingly visceral moment comes towards the end when an entity (or for narrative purposes, a monster or paranormal spirit) inhabits the listener and resonates throughout one's internal matter before being exorcised from the body.

In Séance, when the bell hanging above the table that was seen on entering the container is heard to ring, there is correlation between what I know my physical space to be and what I hear, so when I also hear through my headphones the sounds of footsteps across the table in-front of me, and feel the reverberation of these steps through my palms, my belief in the reality of the sonically rendered is further enhanced. In such headphone theatre, sonic information populates the material environment; the listener's immersion does not involve the imagined projection of themselves into a fictional elsewhere, but a heightened experience of an altered here-and-now as defined by sound. As Lynne Kendrick (2017) explains, 'Sound is fundamental to our understanding of spaces as it reverberates between surfaces, echoes dimensions and resonates atmospheres; sound allows us to sense spaces in ways that cannot be seen. In the hands of theatre makers, these spaces become fiction: here sound knows no boundaries other than those made for us' (114). In the hands of Darkfield, the physical space inside the container, as apprehended by the listener's senses, is configured by the soundtrack and the listener is immersed in a sonically-produced environment that remains without contradiction or counterpoint; a fictional space experienced as entirely real, as materially tangible and credible in the perception of the audience.

In *Séance*, the positioning of the audience member at the centre of a fictional world is achieved through sound, whereas in works such as AΦE's *Whist*, the audience are presented with both audio and visual recordings via head-mounted displays and headphones. *Whist* presents sound, moving image, virtual reality (VR), physical theatre, augmented reality (AR) and a sculptural installation around which the audience member is invited to navigate. An hour-long exploration of the work of Sigmund Freud and Shuji Terayama, *Whist* was first presented at the Gulbenkian Theatre in Canterbury and is the first major work by AΦE, an Ashford-based company

formed by Aoi Nakamura and Esteban Fourmi. The audience enter a large, woodenfloored auditorium populated by surreal sculptures with marble and mirrored surfaces including a shoulder-height cube half-submerged in the floor, puddles of seemingly melted plastic, an inverted pyramid, part of a sinking table, an oversized birdcage. While the production makes smooth use of sophisticated technologies, the encounter of the audience with the work is initially that of a traditional gallery experience of bodies in proximity to three-dimensional aesthetic objects. Audience members are helped by attendants to correctly put on a VR headset and a set of headphones and, once the VR system has calibrated and an introduction provided, the audience are invited to navigate through the black and white, geometric sculptures of their own accord. Triggered by augmented reality codes in the surface of the sculptures, the audience experience a series of 360 degree videos that present physical theatre vignettes performed by five dancers in highly scenographic environments that range from a dining room, a library, an entirely white bedroom, and various dilapidated domestic spaces.

In between each vignette, the audience are brought back to the reality of the auditorium, able to watch other audience members as they move their bodies in strange ways, experimenting with their presence in virtual spaces untethered to the demands of gravity, scale and proportion. These moments in which the audience member moves between the installations in order to access the next video episode keep the audience in the room, drawing them out of their immersion in a fictional 'there' and insisting on their acknowledgement of the material 'here'; the episodic structure functions to alienate the viewer. The longer one spends in virtual reality, the more realistic it becomes. Psychologists Van Dam and Stephens (2018) have demonstrated that the detrimental effects of the time-delay between action and the manifestation of that action in VR become diminished the longer the user spends in the VR environment. By having the audience member switch their attention between the 3D video and the real-world art installation, and only allowing a series of short, episodic immersions, Whist keeps the audience member unfamiliar and unattuned to the VR environment. Co-director Esteban Fourmi asserts, 'We didn't want it to immerse the audience. We didn't want the audience to forget reality' (interview with the author, 2018). Each video presents a different setting so that the audience member, whilst perceptually 'immersed', is required to appraise, re-orient and acquaint themselves with the rules of each new environment and their role within it.

The scenes within which one is placed vary depending on each individual's movements and focus of attention (there are 76 different potential pathways through the videos) but all include highly stylised, abstracted physical theatre depicting, surreal, dreamlike characters, sequences and scenarios. Some scenes are overseen by a character sitting in a corner; I feel watched, though I know he can't 'see' me. A female performer slowly crawls along the floor of the rustic, run-down living room and up towards me. Then suddenly I look down and see the same performer emerging from underneath my chair between 'my' legs. In another video I am floating above a large dinner table; I seem to be standing in a serving bowl filled with hearts whilst other characters dine beneath me, reaching to serve themselves from the bowl at my ankles. This playfulness with the audience member's perspective on their environment is a running trope through the work; in their engagement with the sculptures and the videos, the audience are asked to question ways of looking, means of seeing, and angles of perspective.

The concept of perspective informs both the form and content of the work. Esteban Fourmi explains, 'The key word for us in this work is perspective. We have 76 possible ways to explore one narrative, and the way they are going to see the story is going to change according on the viewer's point of interest; depending on how you see something, and from which point of view you are looking at something, your judgement will change' (interview with the author 2018). Fourmi clarifies that this emphasis on perspective applies both to the ways in which the audience engage with the three-dimensional videos as well as the real-world art installation. He says, 'The work is all about perception, both in the virtual world and in the real world' (interview with the author 2018). He elaborates that the focus on perception informs the way in which the camera angles in the videos position the audience within a scene in a specific relation to the action. The emphasis on the importance of perspective as informing perception is clearly felt by the viewer immersed in the three-dimensional films. As I float above the dining table, a perspective I am otherwise unacquainted

with, my sense of body schema, of my weight and size all seem altered. In another scene, I am extremely small, looking up to much taller characters and as they loom large, I feel like I am shrinking.

Immersion in sonic and visual VR can create acute self-awareness of one's body schema; headphone and head-set productions such as Whist and Seance force the proprioceptive system, the system that provides our sense of equilibrium and being in space, to respond to sound and image as spatial and proximate. In Whist as I somewhat voyeuristically watch a character emerge slowly from a wooden chest and move around a dilapidated room drawing with chalk on the floor, I feel her presence in the space and my presence in relation to hers; she takes up space and I experience a tension in my body as it responds to the proxemics of the space. When a character 'looks' directly at me, my insides squirm in fight or flight response, involuntarily responding to her gaze as if it were a challenge. In a memorable scene toward the end of the video sequences, the floor of the virtual room breaks away and I find myself floating in a starry outer space, which has a most immediate and intense effect on my proprioception. At first I felt my innards drop as if I was falling, but once I regained equilibrium, I felt like I was floating; though I knew technically that my feet were still firmly planted on the floor, I felt lighter and was made to consider the effects of gravity on my usual body awareness.

In both *Whist* and *Séance*, characters whisper into the ears of the participants, and the effects of the binaural recordings create a sensation of physical proximity. A voice speaks to my right and I 'feel' the speaker standing beside me, moving behind me, and as she speaks intimately in my ear, I believe I feel her breath on the back of my neck and imagine the hair on the top of my head moving. The dialogue through the headphones clearly locates the speaker in relation to the body of the audience member so that the listener is surrounded by spatially located sound sources. These productions provide a profound sense of physical presence within virtualised space, and the authenticity of the auditory rendering of an augmented environment triggers the haptic system's response to virtual bodies and objects. In *Séance*, I not only experience proximity to the sonically-rendered 'medium' who moves around me

and whispers in my ears, but also to an imagined monstrous being that rationally I know cannot exist, yet still my nervous system readies to fight or flee.

These works also directly target and trigger the audience's visceroceptive systems, emphasising the impact that binaural sound and VR presence can have on one's perception of their physical interior and by doing so, highlighting the involuntary everyday processes that play a crucial role in how one encounters and interprets the world. In Whist, when my vision tells me that I am seated (though I am actually standing) and I look down to see my legs replaced with those of a virtual other, I am acutely aware of the muscular sensations inside my lower half confirming the existence, functionality and the ownership of my legs. I experience an uncanny sense of legs that are both mine and not mine. This 'body transfer illusion' as enabled by VR is explored by Liam Jarvis in his article 'The Ethics of Mislocalized Selfhood' (2017), which addresses a sub-set of immersive VR practices that he calls 'theatres of referred sensation' (32). Jarvis looks specifically at the application of body-swapping VR techniques in arts practice that aims to simulate embodiment of neurological disorders and, using Levinasian ethics, questions 'are these kinds of virtual proprioceptive transactions across different kinds of social and political boundaries symptomatic of radical empathic acts, or a capitalistic desire for the acquisition of another's experiences by virtual means?' (Jarvis, 2017a). Jarvis addresses the 'proprioceptive drift' that takes place as the user 'incorporates the body image of the "other"' and experiences it as part of their own body schema (34). Jarvis emphasises that the version of the self that is most pertinent to the VR-enabled body-transfer illusion is what Manos Tsakiris has labelled the 'exteroceptive body', which relates to the body's interface with external stimuli (35). As I look down in Whist and see the legs of the virtual body where my own should be, my sense of body-ownership is distorted and extended to include the legs of the virtual avatar; as Jarvis suggests, I experience proprioceptive drift and incorporate the body image of the avatar within my own body schema. However in facing this test of body-ownership, as my reliance on body image in determining my sense of self is challenged, I find that I also turn to my internal senses to affirm my physical instantiation; the existence of my legs, my sense of ownership over my legs, is affirmed via the signals of my musculoskeletal system as I wiggle my feet in contradiction to the image.

Experience of body-ownership is also made prominent in *Séance*, as the listener hears a heartbeat that seems to originate from the approximate location of the listener's own heart; on hearing this heartbeat I immediately assess whether I can also feel it, and consider its relation to my own pulse. As well as its contribution to my sense of body-ownership, this consideration of my heartbeat also leads me to reflect on the functioning of the circulatory system and the pace of its beat as an indicator of emotional state; as I become nervous, my heartbeat quickens. Breathing too is of course a vital element of interoceptive processing; breath transcends and challenges the boundaries of inside and outside. Early in proceedings in *Séance*, the medium instructs the audience member to breathe slowly so as to become calm and the room is filled with the sounds of purposeful respiration. The audience members are asked to focus their attention on their breathing, and as I breathe deeply and slowly, and feel myself relax, I am moved to consider the role of breath in influencing other physiological elements (for example, slowing the heartbeat) and its bearing on perception.

These productions draw on the specific capacity of binaural sound technologies to position sound both inside and outside the body, exploiting the psychoacoustics of headphones, which produce a vivid imaging of one's own 'headspace'. In his analysis of human audition, James Gibson (1983) explains how telephones, earphones and loudspeakers impinge on the auditory system's natural orienting tendency towards sound sources. He explains, 'A person who wears a pair of earphones...is strongly inclined to hear a mysterious invisible speaker inside his head, and it takes some practice to overcome the illusion' (86). Headphones produce an effect that acoustic engineers call 'in-head acoustic imaging', which involves the perception of a space inside one's own head (Stankievech 2007: 55).

Séance draws on the effectiveness of the in-head acoustic imaging of binaural sound to facilitate the listener's experience of a sonic entity (or for narrative purposes a paranormal spirit) entering one ear, moving through the tissue of the brain, bouncing around the cranial cavity, and eventually exiting the body. The binaural soundtrack includes atmospheric rumblings and the deep pulsating of blood circulating which

sound as if they are located inside my body; I am forced to ask if these are indeed my own bodily sounds or, as rationality dictates, pre-recorded sounds that seem, as a result of the spatialisation properties of the binaural recording, to be sourced within my body. Either way, the audience is pushed to focus not just on the surface sensations of the body but on its interior spaces and processes.

For the practice-as-research project Daphne in Three Movements, a focus on interoception informed the overall dramaturgical approach, driving the creation of both content and form. Phenomena such as in-head acoustic imaging, the capacity for binaural sound to trigger proprioception, and developing awareness of the importance of one's interoception in processing the world were key starting points for this project. Daphne in Three Movements is an ongoing project that to date has involved a series of workshops with young women and teenagers and, following a period of research and development, the production of three ten minute 'audio-visual installations' using video and binaural soundtrack (for trailer see Video 1), and work-in-progress showings of a live performance. With myself as director/producer, the live performances are a collaboration with movement director Judita Vivas and physical theatre company Foxtale Ensemble, and the audio-visual installations were filmed, recorded and edited by videographer Stacie Lee Bennet-Worth and sound designer Eoin Furbank. A recipient of Arts Council England funding, the project explores the notion of 'visceral dramatugy', using interoception as a dramaturgical drive and utilising performance techniques and audio-visual technologies to explore self-awareness of one's visceral interior. In this work, the designers, directors, and performers functioned as curators of audience sensation, deploying techniques and strategies designed to stimulate visceral response as part of the dramaturgy of the performance.

In *Daphne in Three Movements*, experimentation into the possibility for visceral dramaturgy is focused around an exploration of the Greek character Daphne. In Ovid's *Metamorphoses*, Cupid, having been insulted by Apollo, fires two arrows; one that inspires love and one that repels it. Apollo, hit by Cupid's first arrow, is infatuated with the nymph Daphne, forced to love her without reason. Daphne is a maiden who has turned down all suitors, preferring to remain as the unmarried goddess Diana. She fearfully flees Apollo's relentless chase, but to him she is even

more beautiful in flight. To escape, she begs her father the river-god Peneus to help her by destroying her beauty. He complies, changing her into a laurel tree:

'Scarce had she made her prayer when through her limbs/A dragging languor spread, her tender bosom/Was wrapped in thin smooth bark, her slender arms/Were changed to branches and her hair to leaves; Her feet but now so swift were anchored fast/In numb stiff roots, her face and head became/The crown of a green tree; all that remained/Of Daphne was her shining loveliness' (Ovid 1998).

The content of the videos and performances follows Daphne's journey as one who is chased, who transitions into a tree, and then as a tree is connected to the life of the forest with a different sense of time, history, and community. In the audio-visual installations, the first (called 'The Chaste') focuses on Daphne's experience before she transitions into a tree, the second ('The Change') focuses on her experience of the change itself, and the third ('The Tree') focuses on her experience after she has escaped the human world and lives as a tree amongst many others as part of a vibrant, interconnected natural world.



Video 1: Promo for *Daphne in Three Movements* (2018). Trailer filmed and edited by Stacie Lee Bennett-Worth with sound by Eoin Furbank.

The project marries physical theatre with an immersive sound score; the video soundtracks should be accessed via headphones and make use of layered, stereo and binaural recording. In the live show, immersive sound is created through the use of numerous sensitive microphones onstage into which performers speak, breathe, and use their bodies to make both atmospheric and representational sounds. In generating the physical language and movement ideas, movement director Judita Vivas led the actors through a series of workshops focusing on honing awareness of the interiority of the body, beginning with the musculoskeletal system and moving into breath, circulation, tissue and internal organs. The direction insisted on one's internal processing of environmental and emotional stimuli informing the action and becoming the basis for generating material. The character of Daphne was approached through her interoceptive response to and processing of her changing environments, circumstances and relationships. Her transition into a tree, and her experience of being a tree, were understood and rehearsed by the performers physically 'from the inside-out'; rather than working in terms of emotional response to given material or situations, the performers tried to work in terms of their interoceptive responses to a situation, both actual and anticipated, with emotion as a secondary condition (ie. 'I am physically threatened therefore my muscles tense and breathing becomes shallow', rather than 'I am physically threatened therefore I feel fearful').

The three ten-minute audio-visual installations aim to integrate film imagery of physical theatre, atmospheric music, and binaural sound to explore Daphne's physical transformation in such a way that the audience would develop awareness of, empathy with, and perhaps even a small taste of Daphne's experience of change. The dramaturgical strategies also aim to provoke the audience member's own reflection on their individual interoceptive processes that form a crucial yet often unrecognised part of their engagement with the world. To play with the audience's capacity to correlate sensory information and facilitate a form of immersion that is sensory and perceptual rather than psychological, the soundtrack and the visuals are often counterpointing, rather than integrated. For film theorist Michael Chion (1994), the extent to which sound and image activate each other, depends on how points of synchronization are introduced. 'Synch points', as Chion calls them, make prominent what he has labels 'synchresis', an acronym used to refer to 'The spontaneous and irresistible weld produced between a particular auditory phenomenon and visual phenomenon when they occur at the same time'(1994: 63). In facilitating psychological audience immersion, the mediation of sound and image needs to be transparent and the relationship between the audio and visual material remain unnoticed. However, as Chion explains, a loose synch gives a less naturalistic effect (1994: 65). *Daphne in Three Movements* makes deliberate use of audio-visual counterpoint, even dissonance, so as to sever the bind between sound and image and force the audience to perceive audio-visual material from a more critical standpoint. In subsequent interviews, some audience members mentioned experiencing a 'tension' or contrast between the presented audio-visual elements, while another spoke of their 'oscillation' between feeling sensorily immersed in the work and critically reflecting on their own immersion.

Both through the audio and visual content, the work deploys a visceral dramaturgy that appeals directly to the listener's interoceptive awareness, using sound and images that explicitly depict visceroceptive experience. Binaural sound is used to trigger proprioception and to place sound as if located from inside the listener's body. In the first of the three videos, The Chaste, breath, pulse, and digestion are used as part of the soundtrack and as principles informing the movement, rhythm, pace and shape. These elements are also mentioned within the spoken text that punctuates the audio content in both first and second person (so the impression could be of the words being Daphne's but also of dialogue being spoken directly to the audience, for example 'the skin at the end of your big toe splits open as the sharp point of your bone pierces through'). In the second video, The Change (see Video 2), in which the performers are mostly physically still standing in water and much of the activity takes place in the soundtrack, there is a large section where a quiet heartbeat plays beneath the other sounds and gradually becomes louder, about which one audience member commented, 'When I could hear the heartbeat, it sounded like it was in my head, like it was the sound of the blood pumping in my ears, like when I've done intense exercise. I wasn't sure if that's what I was hearing, my own blood pumping in my ears; I could actually feel it in my ear canals'. A number of audience members commented on perceiving the sounds through the headphones as originating inside their own body: 'some of the sounds, that sounded like outer space sounds, sounded like they were in my skull, like it was a cave'; 'There was one person whispering in one of my ears and another person whispering in my other and then Daphne's voice speaks in the middle, like it is right in the middle of my head, in my brain. It was freaky'; 'There were these scratchy, static-y sounds (in The Tree) that made my ear canals feel itchy down deep inside my head'. In answer to the question, what sounds do you remember, one respondent replied, 'The sound of ants crawling up my backbone.'



Photo: Nina Carrington, Daphne in Three Movements (2018).

As well as sound affecting sensory awareness, audience members also reported experiencing physiological responses to the presented imagery. In two of the videos there are moments when performers stare directly into the camera, and one audience member explained the effect of this moment: 'When I felt like I was being looked at, it made me feel like I was being examined. My heart rate was beating faster than it should have been, as I felt on edge.' Another audience member similarly reported, 'When the girls were staring at me, my stomach felt a bit knotted, like they were accusing me and I could feel it in my gut'.

A third audience member responded, 'I could see the girls' hair brushing across the skin on their necks, on their backs, and I thought about how that feels, like softness.' This experience of physiological empathy on behalf of the audience towards the performers' bodies was not unusual, with other audience members reporting, 'Listening to her breathing as she's running and running, and there's like this little sound in the back of her throat; I know what that feels like. I felt a bit dry-mouthed.' Another explained, 'I imagined I was standing in the river too and I could feel the cold water, the cold rocks and the moss under my feet.' Interestingly, audience members relating to the sensory experience of the performer/character transcended gender; one audience member even explained, 'At first it is very obvious and unavoidable that you're looking at five female bodies, but at some point down the line you cease to think of the bodies as female, and instead start to experience the bodies through their interactions with the material world around them, particularly the natural elements.' The audience's sense of physiological empathy with the bodies they see and hear, and the resulting awareness of their own interoception is dramaturgically significant; one audience member articulates, 'The soundtrack told me that my breath was being squeezed and I was thinking of Daphne's skin getting tight as her skin turned into the bark of the tree.'

This interaction of the body with the natural world is heavily emphasized in both the sonic and visual material, and is acknowledged by audience feedback as a crucial element in their somatosensory experience of the work. One audience member commented, 'when I saw the girls going slowly into the water I thought about how it feels to slowly go into cold water and how your breath catches as your body tenses, and I think I actually shivered.' Another reported, 'There was something about the soles of the feet; it was mentioned in the language but also I could see feet, and I could feel the imprint of the bark in the nerve-endings on the sole of the foot.' There were also other more generalized responses such as 'the breathing made me feel thirsty', or 'it made me feel cold'. Another audience member found resonance with his recognizable experience of interoceptive awareness stemming from anxiety; 'The rumbling music made me feel that the tree was under threat, and I felt like I was under threat too. It was like the rumbling was in my tummy, and that's where I feel anxiety'.



Video 2: 'Daphne: The Change' from *Daphne in Three Movements* (2018). To be viewed with headphones.

An established criticism of work that looks to directly target the listener's body and engulf the audience in sound and image is that it promotes a self-indulgent or 'narcissistic' audience engagement. The audience literally engage in a form of navel gazing. Elaborating on this criticism, it could be suggested that such highly stimulatory works are representative of an 'experience economy' or a hyperaesthetic culture. David Howes (2004) writes about the 'hyperaestheticisation of everyday products' (288), explaining, "Consumer capitalism has, in fact, increasingly made it its business to engage as many senses as possible in the drive for product differentiation and the distraction/seduction of the consumer....Everything seems designed to create a state of hyperesthesia in the shopper" (288). In medical terms, hyperaesthesia is an unusually increased sensitivity to sensory stimuli such as touch, pain, sound etc. However, Howes uses the term to suggest the multi-sensoriality or the 'hypersensuality' (2004: 290) of products and experiences; the capacity for something to seduce and distract the consumer by appealing to all the senses simultaneously. Whilst the works discussed here undoubtedly facilitate an intersensorial, immersive experience, works such as *Whist* and *Daphne in Three Movements* also encourage audience criticality, and all three works offer a productive exploration of perception that is more than simply gratuitous or hedonistic.

Headphone-based works such as Séance, even more so Daphne in Three Movements, which audience members have described as 'mesmeric' or 'meditative'. invite a comparison to be made with the phenomenon of ASMR videos, which deploy a visceral performance text and a carefully composed soundtrack so as to trigger sought-for sensations. Listening to an online video in order to experience an enhanced sense of embodiment is the domain of an ever-growing sub-culture based around the phenomenon of the Autonomous Sensory Meridian Response (ASMR). ASMR is the involuntary experience of tingling sensations on the scalp or spine as a response to audio-visual 'triggers' such as whispering, clicking, scratching, brushing and tapping. An expanding online community has developed around the making, sharing and experiencing of sensory stimulation videos on sites such as Youtube (for example, the Youtube channel Gentle Whispering ASMR has over 1.5 million subscribers). Many ASMR videos use binaural microphones, involve whispering, and offer the listener a sense of personal attention. While for some, the sounds of someone eating an apple or crushing a crisp packet are unpleasant intrusions, for others these sounds may induce a feeling of pleasant relaxation. Poerio, Blakey, Hostler and Veltri (2018) explain that ASMR is ostensibly similar to emotional experiences such as 'aeshetic chills' from listening to music or encountering aweinspiring scenarios, however a key difference is that, whereas 'chills' are associated with excitement, ASMR is typically considered to be relaxing. In their 2015 study of 475 ASMR experiencers, Barratt and Davis explain, 'participants largely sought out ASMR as an opportunity for relaxation, with 98% of individuals agreeing, or agreeing strongly with this statement. In a similar vein, 82% agreed that they used ASMR to help them sleep, and 70% used ASMR to deal with stress'. While there may have been an assumption about the ASMR subculture that videos were used to stimulate sexual arousal, Barratt and Davis dispel this myth.

ASMR may have benefits for physical and mental health, and some ASMR experiencers report using trigger videos as a treatment for conditions such as anxiety and depression (Barratt and Davis). Poerio, Blakey, Hostler and Veltri (2018) employ studies to test the emotional and physiological correlates of ASMR experience, and conclude that ASMR is associated with pleasant affect, reduced heartrate and increased skin conductance levels. They also suggest that ASMR may have therapeutic benefits for mental and physical health: 'Our results are consistent with the idea that ASMR videos regulate emotion and may have therapeutic benefit for those that experience ASMR by, for example, reducing heart rate and promoting feelings of positive affect and interpersonal connection (Poerio et al. 2018).' In another recent study, Fredborg, Clark and Smith (2018) examine the relationship between ASMR and mindfulness; using the Toronto Mindfulness Scale (TMS) and the Mindful Attention and Awareness Scale (MAAS), the authors surveyed 284 participants who reported experiencing ASMR and determined that their study 'strongly supports the hypothesis that ASMR is related to mindlfulness'. Whilst further research is needed, Fredborg et al. speculate that mindfulness training may potentially enhance the subjective effects of ASMR, and that this training might enhance the potential benefits of ASMR for subjective well-being.

While previously ASMR videos may have been viewed by many as an indulgence, there is growing research that the heightened sense of embodiment provided by ASMR may contribute to well-being. There is also growing research that there is a link between well-being and the heightened sense of embodiment cultivated through interoceptive awareness, suggesting that a high level of interoceptive appraisal may be correlated with an improved sense of wellness. As Farb and Logie (2018) assert, 'Interoception has long been held to be a central component in our subjective appraisals of well-being. Interoceptive knowledge has been argued to serve as the building block of emotional experience (James, 1884, 1890; Lange, 1885), and interoception is thought to be a critical faculty for the ongoing sense of well-being or illness in the body' (238). While interoceptive awareness may be the cornerstone of various Eastern practices aimed at enhancing embodiment, in a contemporary Western context the importance of interoceptive appraisal is often overlooked. Drew Leder explains, 'many of us not only *overlook* but actively *over-ride* interoceptive messages... we "lose touch" with the inner body, and whatever wisdom could be derived from its messages' (318.) As such, Leder argues for the importance of developing, or recovering, what he labels 'inside insight':

'There are interoceptive cues that suggest what will support or deplete our energy and spirit, what assists or impairs digestion, the effects of different types of breathing, with their potential to increase or relive stress, and on and on. ...

If we develop in-sight – learn to look within—the inner body offers up a wealth of information and requests valuable for our health and welfare. Yes this body itself has insights, often "knowing" more than our preoccupied driven mind' (318–319).

With regards to accessing these 'inside insights', Leder suggests that coaching and validation make it easier to pick up on and understand interoceptive signals (318). We may not have the initial capability to help us recognize what is happening within and understand the messages being offered, but this lack may be remediable through training.

This article is not so bold as to insist that immersive headphone and headset productions such as those discussed here function to directly improve an audience member's interoception or offer the same therapeutic effects as ASMR. However it is suggested here that such immersive productions offer more than mere indulgent selfexploration or hedonistic pleasure; by employing a visceral dramaturgy these works can facilitate a heightened awareness of one's own proprioception, visceroception, and sense of active being and functioning in the world, as well as the relation between interior space and external environment. These productions work through the often-unrecognised performance of our interoceptive mechanisms as we sense, process and interpret our environment, and suggest that this facilitation of sensory awareness may offer rewarding and potentially beneficial reflection on both one's own interoception and the experience of others via interoceptive consideration. This article also suggests that, as demonstrated through the experimentation in the making of, and in the audience feedback to, *Daphne in Three Movements*, dramaturgy designed around the interoception of the character, and the careful curating of audience interoceptive experience, have potentially not only theatrical but also somatic possibilities and impact.

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Competing Interests

The author has no competing interests to declare.

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