Sounding New Media

*Immersion and Embodiment
in the Arts and Culture*

Frances Dyson

Contents

Immersion

Always what was important to me was the notion of being
immersed in enveloping space, and the sensation that you're
fully enveloped, . . . it's not about interactivity but the fact
that you are spatially encompassed and spatially
surrounded—it's all around—and that's what sound is.

Char Davies, 10 September 2006

As a prologue to discussing Char Davies's work, I begin this chapter
retrospectively, from the position of one who has followed Davies's
work for over a decade, to establish a context through which the cas-
cading repercussions of a very simple event—walking and talking on
Reverie—will manifest in my reading of her work. I am making tea in
Davies's cabin, on her land—*Reverie*—in southern Quebec. We have
just returned from a long walk, and still a little breathless (Davies has a
fast clip), I am astonished to realize that during my short time in the
kitchen she had already sketched our "route." Although it seemed to
me that we were going nowhere in particular, and certainly there were
no paths, tracks, or markers of any kind, Davies walked me through
notable landmarks of her new work-in-progress: her land. This seems at
first to be a dramatic departure from her highly acclaimed VR works
Osmose and *Ephémère,* but in a very relaxed and matter-of-fact way,
Davies responds to my obviously puzzled expression: "For me the pro-
gression feels very natural—meandering through the land, the sensation
is one of being spatially enveloped, where the horizon and trees are all
around you, and everything is engaged in these transformations and
fluxes. So I see my current work as an expansion from what I was
attempting to enable other people to experience [in my immersive works].
This land for me is both a medium and an environment."[1] The sketch
Davies has drawn fills another page in her working notebook, already
brimming with handwritten entries, outlines of routes, and drawings—a

set of schematics by which she graphically maps the land, as she physically inscribes it through walking. Her sketches are less about depicting the two-dimensional space of conventional drawing, than showing "how a boulder may warp all the space that revolves around it, how the trees may have a certain rhythm depending on their place in the land." Where this will lead is still emerging, but themes that inhabited her entire oeuvre are palpable here also. Ephemerality, existence, becoming—themes that were evident in *Ephémère*—have now become integrated in what can only be described as a deep personal exploration—one that places Davies *within* what she had previously attempted to evoke through VR technology. This "within" is profoundly ethical, in the sense of *ethos,* as disposition, and also as comportment: a way of being in the land that makes walking the land such an essential component of Davies's current artistic process. There is an interiority to Davies's immersion in *Reverie*—placing one foot in front of the other is a movement both into the external environment and toward a sensibility that she describes as "being-among."[2]

In the field of her awareness, in the fields of her land, Davies is engaged in an ongoing reclamation that is as much physical (planting trees, restoring stone walls) as it is philosophical. In terms of new media, Davies is also reclaiming and reworking the aesthetic and philosophical principles that have always informed her work: her critique of ocular-centrism, dualism, and instrumentality through an investigation of perception that is itself grounded in her own "soft-sight." In so doing, she challenges many of the fantasies that have framed her work, since there is not much to say about virtual space and embodied awareness when it is resituated within the land itself. But this is not a repudiation of VR technology. Rather, by reclaiming terms originally used to signify (pretechnological) virtuality and (pretechnological) immersion—terms appropriated to support the particular technological configurations that emerged during the 1990s—Davies is clearing the ground; reinscribing her philosophical influences, while resituating embodiment, her here-and-now presence on the land, beyond the frame of technology. Unplugged perhaps, but then Davies has no particular loyalty to any one medium: while VR enabled her to realize one artistic goal—shifting the habituated, object-centered, perception of the "immersant" (the term Davies coined for the viewer or participant)—like Cage, she finds her aesthetic naturally leading to a perceptual/conceptual/ethical comportment—a "letting be," which is more than simply seeing, hearing, or touching, more than the material substrate of perception, more

even than the synesthetic perception and spatial simultaneity that she explored in her immersive works. Like Cage also, Davies has found that while sound (or visual transparency, spatial simultaneity, interactivity) might help the user or viewer to "see freshly," ethics becomes enfolded within aesthetics. My concern here is to address the phenomenological inspiration underlying her work, which has been realized in particular through the breath and balance interface and pertains directly to sound. The neglect—or miscontrual—of this component of Davies's work is an example of the way new media theory, by ignoring the field of aurality (breath, in particular) and concentrating instead on three-dimensionality and interactivity, has retraced and reinvigorated a techno-Romantic impulse associated with early audio.

In order to understand this process, we should return to the rhetorics of immersion that surrounded the premiere of *Osmose* in 1995 at the Musée d'Art Contemporain, Montreal. The opening itself was quite an experience, as expectant viewers, excited and nervous as they waited their turn, gathered in the foyer, while others drank champagne and watched the navigation of the immersants via a large-scale projection screen, or gazed quizzically at a translucent scrim where the shadowed silhouettes of the immersant could be seen swaying and bending as they navigated the "worlds" of this virtual environment. People emerged from the immersion chamber white and shaking, smiling, or speechless, and seeing their reactions made sense of the somewhat intimidating disclaimer that the viewer had to sign before being led into the chamber and carefully fitted with the breath and balance vest, before donning the helmet and being told to relax. This disclaimer, mounted on a podium, was a legal document, which freed both artist and sponsor from any responsibility for the surprisingly long list of medical conditions that experiencing *Osmose* might activate or upset. Although necessary, it seemed an odd intrusion, interrupting the buzz about this piece in particular and VR in general. Here we were, about to engage with this strange new technology, to enter this realm called "virtual reality" and, if the hype was right, experience something entirely new; yet we were presented with a medical disclaimer reminding us not only of our always vulnerable bodies but of our judicial body, the body that can sign its name, that is fully, legally committed to its one and only identity. Within the rhetoric of cyberspace and VR, identity was supposedly fluid and mutable—to the extent that one could feel like, indeed "be" a lobster, or a crow, but this document gave pause to such flights of fancy. Directly opposite, at the other end of the foyer, was another podium—supporting

a large comments book to which the immersant, still shaking from the VR experience, was asked to contribute. In contrast to the absolutism of the medical disclaimer, the pages of this book held together expressions of uncertainty, of not quite being able to gather oneself in order to speak or write. For people like myself, who could barely walk, let alone put two words together, the musings of previous contributors were there as both a guide and a record—and, incidentally, made for a surprisingly good read. Thrown by the complete ocular engulfment of the experience and still twitching from "virtual lag," reportees understandably would exude a state of excitement. But what caught my attention among the iterations of unbridled enthusiasm were the more serious pleas for technology and art to provide a reconciliation between nature, spirit, body, and culture and, in so doing, to capture again the *Wanderlust* that twentieth-century living has destroyed.

These documents could also act as bookends to the sphere in which VR and new media have been produced and received. At one extreme, there is the intense, entirely rational and legalistic tracking of the body, executed by the computer and the medical and legal establishments, at the other, a ponderous nebula of recounted experience, part mystical, part sublime. At the entry is the apex of Western systems of representation and knowledge, contained in the binary code that computes the vicissitudes of matter to suit the Cartesian architecture of the virtual, and at the exit, garbled messages about irrational unions and impossible transcendence. How could these polarities exist in the same room, the same cultural milieu? How could the paradoxes that flow between them be reconciled without triggering aphasia? The visual content of *Osmose*—which consists of nature imagery—didn't help, offering those who were willing to suspend disbelief the lure of an Edenic possibility: perhaps "the clearing" and "the deep sea abyss" were manifestations of a new technologically "tuned" nature, enabling a state of unmediated innocence to be rediscovered? Perhaps, as one immersant commented: "*Osmose* is a reconciliation with nature through technology, a reconciliation with technology also contrary to what we're used to, gentle and peaceful."[3] These entirely unscripted entries suggest that between the entry and the exit of *Osmose* lay a field of possibility that had already been sown with the unrequited desires of twentieth-century technoculture. Despite Davies's cautions, *Osmose* had previously already been invested with the hype of *new* technology and, paradoxically, nostalgic yearnings for some kind of closure to the blend of new age and technophilic attitudes formed in the 1960s counterculture. If *Osmose*

was "a good step toward a successful marriage between art and new tech-
nology," it also reinvigorated a union formalized by Experiments in Art
and Technology in the mid-1960s, as the following comment suggests.[4]

> All the rhetoric about "VR" can be dissolved by this work to produce a
> new ground for discourse—gentle and magical—I never have felt so ele-
> vated before by an immersive work, only by the actual experience as nature
> or dream. As Gene Youngblood hoped, here is a work wherein we, as a
> culture, had been able to create at the level which we destroy, that is, this
> technology, so often used for the extrapolation of the banal and the exploita-
> tion of violence and fear has been turned to the creation and experience
> of wonder![5]

In the art-to-life ethos of the time, industry often blurred the bound-
aries between art and commerce by appropriating the mystique of the
artist—it was, for instance, no coincidence that Pepsi-Cola became
involved with E.A.T.'s *Pavilion* project in the 1970s in order to extend
its market to youth culture in Japan.[6] In the late 1990s, youth culture,
cyberpunk, and geekdom-as-style helped create markets for once-nerdy
computers and IT. In both cases, artists played an important although
unacknowledged role at the time in forging, through their own labor
and through the historical and cultural weight of "Art," the rhetoric
required to sell a product, a culture, and—in the postmillennial global-
ized world of outsourcing—a new regime of work and life.[7] Indeed, the
axioms that Billy Klüver (cofounder and spokesperson for E.A.T.) for-
mulated to encourage partnerships between artists and engineers not
only laid the foundations of the rhetoric in the 1960s, but gave license
to the modes of address and rhetorical styles that launched a similar
movement in the 1990s.[8] Five years before the turn of the millennium,
it is no wonder that *Osmose* became a fulcrum for unresolved and rap-
idly mutating attitudes toward technology and inherited many of the
beliefs, conflicts, and ambiguities of prior decades.

So much has been written about *Osmose* that I will not repeat the
various interpretations here, except to offer readers unfamiliar with the
work a brief description and to mention some of the main criticisms.
Osmose is described by Davies in 1994 as:

> An immersive interactive virtual-reality environment installation with 3D
> computer graphics and interactive 3D sound, a stereoscopic head-mounted
> display and real-time motion tracking based on breathing and balance.
> There are nearly a dozen "realms" in *Osmose,* metaphorical reconstruc-
> tions of "nature" as well as philosophical texts and software code. The
> visual elements within these realms are semitransparent and translucent.

> *Osmose* is a space for exploring the perceptual interplay between self and world, i.e., a place for facilitating awareness of one's own self as consciousness embodied in enveloping space.[9]

The enormous attention *Osmose* has received is largely due to four distinct but related factors: first, technically the unique interface she and her team developed, together with the visually sophisticated images, and their multilayered transparency, remains at the forefront of innovation in the area. Second, the use of breath and balance as a navigational device has challenged the traditional VR interface, by offering a critique of VR as a medium based on Cartesian coordinates, one that reenacts the privileging of the eye and the mind over the body. Davies is well aware of the origins of VR in the "western-scientific-military-industrial-patriarchal paradigm," which she connects strongly with the Western philosophical tradition.[10] This paradigm has a physical correlate in the dominance of the visual, which in VR is hyper-attenuated through the use of all-encompassing stereoscopic screens in the HMD (through which the wearer is "cloistered from external distractions"), and the close association between the hand and eye in most VR navigational systems. The metaphysical and the perceptual (sight and touch) thus blend in a culturally proscribed, virtually "embodied" experience that—in traditional VR—reinforces visualism while adding the powerful element of interactivity. Third, the use of semi-transparent images critiques the photorealist bias of computer graphics, presenting a series of simulated environments or "worlds" devoid, for the most part, of solid objects. In doing so, the work evokes an alternate metaphysics in which materiality no longer governs ontology, and "perception," or rather proprioception, is governed less by sight than through the boundary disturbing operations of breath and balance. Finally, Davies's use of nature imagery is highly confronting, since it begs the *arche* question of VR: why attempt to create "virtual" realities in the first place—and what, politically and culturally, lies behind such a motivation? In the following I will deal specifically with the critique of visualism that Davies engages in her work, which provides an opening to her broader aesthetic, a context for her recent land-based project, and an answer to the most troubling question her work has generated—why VR?

Although some have responded to the ocularcentric basis of VR by extending the means for sensory interactivity (based on the assumption that once all senses are represented then immersion will be more realistic—so realistic in fact that the *experience* becomes "real" rather than "virtual"), Davies has attempted to move away from the visual by

incorporating the breath and body balance into the navigational system, rather than relying on the relatively crude interface of the data glove. The breath functions as a metaphor, signifying the fluidity between inside and outside the body, and as a navigational device that encourages deep breathing, "bring[ing] us closer to the connectedness of all things and reaffirming the physical world and the interior spiritual space of self."[11] The focus here is on embodiment—seen as the total body, rather than the body as a point of view determined by the eye/hand and head. Using breath to move up and down in the virtual environment, and balance to move left and right, the design of *Osmose* was intended to counter the frontality of vision with a sense of movement within enveloping space. This shift in perception, Davies hoped, would effect a shift in habitual modes of organizing the world—from hand-eye coordination (pointing to, naming, categorizing, etc.) to a focus on being-in, from the desire for forward movement, which in "looking ahead" sets in motion the ethos of modernity as futurity, to an appreciation of being grounded in the here and now of experience.[12] Breath, like sound and the voice, is constantly moving from interior to exterior, but as mentioned, this superfluity has been circumscribed throughout philosophy to produce the transcendent idealized voice. As mentioned in chapter 1, St. Thomas Aquinas relegated air to the voice's instrument, itself an instrument of the soul, while Aristotle quarantined speech from breathing.[13] If air and sound have historically been so reduced, an interface based on breathing would seem to restore some primacy to this most vital flow. But less abstractly perhaps, breath—as the first and last sign of life—is a constant reminder of mortality. While controlling one's breath might be important for the practice of meditation, generally in Western culture the obvious inhalation and exhalation of the breath signifies shock: "I gasped"; or fear: "I held my breath." Metaphors for breath describe moments of wonder and terror, moments when one is lost for words, when a state (terror, anguish, or joy) can be expressed only through a nonlinguistic, nonvocal exhalation.

Davies's choice of balance as the second component in the navigational interface was informed by David Michael Levin, who describes balance in terms of centering and suggests that "balance concerns our vertical alignment, our standing in relation to vertical axis. The two poles of this axis are the earth and the sky, the element of our grounding and the element that teaches us spaciousness."[14] In *Osmose* and *Ephémère,* the vertical axis of the immersant's body—as subjectively experienced through actual contact with the floor, and the sense of

ascending or descending in virtual space—is mirrored in the spatial structure of both works, with their emphasis on "above" and "below." Yet ironically, in *Ephémère,* the vertical and horizontal axes that the interface controls is subdued by Davies's larger focus on the liminal zone *between* life and death; *between* up and down. Occupying this liminal space depends on attaining not only a mental but a bodily, proprioceptively skilled "stillness" on the part of the immersant so that certain features of the work become responsive.[15]

The breath and balance interface has been interpreted by critics as an attempt to "reembody" the virtual within a new "reality, involving the artist in the seeming contradiction," as Steve Deitz puts it, "of attempting to create completely non-technical feeling spaces and experiences with some of the highest technology available."[16] This common criticism forms a substantial component of Oliver Grau's extended reading of *Osmose* in his book *Virtual Art* (which offers the reader more detail than I can provide here). Grau aligns *Osmose* with the attempt to "develop a natural interface" that eradicates the necessary distance for a work of art to be appreciated, or even exist *as such:*

> *Osmose* offers a totally new reality, a cascade of alternative realities that, through physical and mental presence in the image world, effect a fusion and a moment of transcendence. . . . The body is addressed polysensually and immersion is produced with the techniques of illusion. This full-body inclusion demands . . . that the observer relinquish distant and reserved experience of art and, instead, embrace eccentric, mind-expanding—or mind-assailing—experience of images. . . . The more intensely a participant is involved, interactively and emotionally, . . . the less the computer-generated world appears as a construction: rather it is construed as a personal experience.[17]

Grau's concern regarding the eradication of aesthetic distance that "total immersion" encourages is understandable. The lack of distance from an artwork, or the inability to view it as an object, is heightened in immersive media—which are unfamiliar (we haven't learned how to "read" them yet) while their illusionism is extremely seductive.[18] The danger lies not only in an obliteration of the very possibility of aesthetic appreciation, but in potential changes to human perception brought about by "the serious contradiction between corporeal reality and artificial image illusion [that] is likely to be at a level that almost precludes rational access."[19] For Grau, virtual reality departs from the long tradition of interactive art (as art that challenged the authority of the work of art and that often made use of technology) formed by the avant-garde; this departure is ontological, since the virtual image is not an

"image" as such—it has no separate existence outside of its realization in the cerebral cortex.[20] The immateriality of the image, the fact that it has no objective existence, means that it becomes essentially a private perception, and therefore, ontologically, it cannot be considered a work of art—as, for instance, Heidegger and others would consider it. All the attributes for which *Osmose* is praised (the sense of floating, of being enveloped, of moving through translucent objects and worlds) become, for Grau, mechanisms for psychosis—of being unable to differentiate between the virtual and the real. As we have seen with audio, in terms of "apparatus proximity," the danger with what Grau calls the "natural interface" is that it leaves no sense untouched—all the better to hide the technological apparatus while diminishing the possibility for critical and aesthetic reflection. The ideology of the natural interface then is bound by a certain formula: the more proximate and sophisticated the technology, the easier it becomes to dissimulate the apparatus, and thereby disavow the technological basis of the medium.

POORLY EQUIPPED BODIES

Even though stillness is an essential feature of Davies's intent, the irony of being still while using a highly interactive medium has featured in representations of her work (often as a criticism).[21] Richard Coyne, for instance, remarks that while *Osmose*

> provides freedom of movement through a "virtual space" [it] is a space in which there is nothing to do except contemplate, look, listen, and "float around." For all its qualities as an artwork, it is difficult to see how this work presents as a spatial environment beyond its immediate fascination, because there is nothing to do. From a Heideggerian perspective, space builds on spatiality, which operates in a field of praxis, and if there is nothing to do that draws you in, then you become aware of other sources of breakdown extraneous to the focus of the system: the heavy headset, the low image resolution, the noises in the museum, the time constraint, and so on.[22]

Here Coyne is describing the experience of one who has failed to become immersed, and such failure may have been more common than reported. The idealized experience of immersion that Davies wants visitors to share is one that, after all, developed from her hours of experimenting with the medium. Rather than presenting a universally understood medium, Davies instead created an apparatus that only she perhaps could "see through" with, and via, her uncorrected vision (to be discussed later) and her long history as an artist. This odd combination of skill and disability, translated into an art piece whose novelty at

the time defied comprehension, often meant that the deliberate (con)fusions underlying Davies's conceptual schema were felt as the intrusion of "extraneous" sources upon what was ostensibly a total (although undefined and then unknowable) immersive experience. As the world encroached upon this already mythologized virtual reality, Davies's aesthetic of flow, impermanence, transparency, and ephemerality was, ironically, quarantined to the space of the HMD, and all that her aesthetic represented was "captured" within that technical/rhetorical frame.

But while the VR apparatus—like the camera in mainstream film—might be beyond the visual frame, it does not follow the same logic of the disappearing interface that Grau and others contend. Yes, it is true that there is little distance between the "immersants" and the virtual environment they navigate, and this lack of distance has been used to argue a lack of difference between the viewers and what they see. However, in almost every media representation of VR the HMD is present, even fetishized, as a signifier of the possibilities that VR represents. In the popular imagination these representations take a variety of forms, from the data glove and transparent touch screens of *Minority Report,* to the grimy "dentist's chair" simulator in *The Matrix.* Indeed, the preponderance of grime and the frequency and consistency of a "metal and dirt" futuristic aesthetic (from *Brazil, Max Headroom, 1984, Johnny Mnemonic* to *Paranoia 1.0*) may not be a coincidence. Theorist Margaret Morse suggests that the desire for "incorporation, identification, and symbolization" that immersion in the datasphere represents (which, she argues, follows an oral logic) must be seen in the context of the body-horror genre of science fiction film: "fragmented, dismembered, or, for that matter, mismatched, multiple or decaying bodies and lost parts (namely the cannibalistic fantasy of the body treated as food) suggests that something fundamental is 'eating' our culture. . . . How can the body be resurrected when it is so loathed?"[23] With this cultural subtext, the immersant "enters" a virtual world with, at best, the faint possibility of, as Morse suggests, "eras[ing] the organic from awareness, if only partly and just for a while," but in *Osmose's* spectacular staging, the messy and fragmented organic was reinforced by the silhouettes of the immersant making very odd movements as they tried to balance their way through the environment. As Morse has suggested, for the spectator, it appears that the immersant is reduced to the semilocomotive state of infancy—a shadow on the screen negotiating the transparent and ambiguous spaces of a "nature" that is bordered by

code, constituted by code, and already culturally coded.[24] Morse recounts her own experience of *Osmose* as near to terrifying. Being an asthmatic, she found herself "instantly afraid" of even the symbolic association of being underwater, while her "math phobia" was triggered by the world of code that "scrolled upward faster than I could escape it by breathing in more and more."[25] My first experience of *Osmose* also provoked a variety of panic that would be familiar to those who are spatially challenged. As anyone who has traveled with me knows, left and right, let alone up and down, can be difficult coordinates to keep "in the right place"—and *Osmose* demanded that I remember which was where. My experience then was not of a disappearing but an all too present interface, one that foregrounded the skill of navigation (or lack thereof) as much as the worlds to be navigated. This disassembly was repeated recently, although for different reasons, when I attempted to "go through" *Osmose* and *Ephémère* in Davies's Montreal studio. Because the chest expansion belt was ill suited to my small dimensions, I was unable to navigate up or down and found myself on several occasions simply sinking. Expanding the chest belt by hand proved to require more physical force than I was able to muster, and so, reluctantly, my journeying was both limited in scope and scattered to the point of becoming literally dizzying. It is unfortunate that anecdotal testimonies like my own and Morse's were probably not recorded in the comments book placed on the podium at the exit of *Osmose*'s premiere, since the abject failure of virtual embodiment of which they speak may have muted some of the more wildly mystical comments that came to represent Davies's work.

As anyone who has ever engaged with this kind of technology knows, there are *multitudes* of technical and circumstantial impediments to forgetting the presence of the apparatus. But these pale in comparison to Davies's intentional, although latent, insistence on the "poorly equipped" body rupturing the fiction of the perfect body that virtual embodiment implies. For the kind of body that navigates Davies's virtual worlds is culturally and metaphysically challenged: not only do the immersants not get to "do this to that" via the data glove, not only is their virtual zoom constrained in order to encourage a stillness in *Osmose,* and a particular approach to objects in *Ephémère,* but the visual world they survey is composed of objects that aren't really "objects" at all. This liminality is matched by a primary source of Davies's aesthetic—her own "poorly equipped" eyes. Davies often cites her work in other media to discourage a techno-oriented reading of her

work, and while this seems at first absurd—given the sheer size, sophistication (at the time), and expense of the technical apparatus—when she details the actuality of her own uncorrected vision, her detachment from the apparatus is more understandable. Davies's "sight" and her aesthetic/philosophical vision are two sides of the same coin, intertwining the physical, perceptual, and very material basis of her work with what otherwise might be considered a fairly abstract, conceptual predilection.

Reminiscent of the way Cage turned to sound because he "had no ear for music," Davies's attraction to ephemerality and flux, and thence to phenomenology, can in part be understood as providing an intellectual ground for her astonishing physical (in)capacity, which became the source of her lifelong aesthetic and artistic practice. Not only did her childhood myopia (developed at age eight) give Davies the experience of a certain blindness or lack of visual acuity, but it demanded from her an uncertain and questioning approach—a stumbling that was both serene and alarming.[26] In her twenties, Davies was told by her eye doctor that she would have to take out her contact lenses for a week to do some tests, and it was during that time that she actually became interested in her uncorrected sight. From then on she began working with what she refers to as her "soft-vision" and developing a technique of painting using half-glasses: "I learned that if I took away my corrected vision, which is very frontal and whereby objects are hard-edged, it radically changed my sense of my own body. . . . Space was no longer empty, filled with solid objects, but rather felt like it was *all around* me and my body was moving *through* it."[27] Thereafter, Davies made what was essentially an aesthetic decision, to choose to (de)focus her vision, not so much as an exercise in developing a new perceptual modality, but in understanding the new sense of space her soft vision revealed. Davies attributes the transparency in her work to this investigation of space as objectless, enveloping, and full rather than "empty."[28] She was initially reticent to attribute her aesthetics to her myopia.[29] Davies began to see the relevance in her uncorrected sight, through which "the circles of confusion, to use that optical term, were like huge spheres of confusion, semi-transparent, luminous and overlapping."[30]

PHILOSOPHICAL INFLUENCES

Con-fusing objects, ontologies, and identities, Davies's body—or at least her eyesight—might provide a view of the world that is nondualist, a view that David Michael Levin, whom she cites, describes as the

"pre-ontological understanding of Being [which] is the precious gift the lived body can give to thinking."[31] But what is it to ground this idealized view, and all that it stands for, in an embodiment that is impossible to inhabit within the world of objects? Davies is caught between dual visions: the actual vision she has, and the philosophical vision she is trying to communicate. There is no doubt that her understanding of space, perception, materiality, and embodiment has been greatly influenced by Merleau-Ponty; she often sums up her ethical approach via Heidegger's concept of *Gelassenheit* and her critique of technology via his concept of "enframing," while environmental philosophy and Buddhist influences (in particular Nishitani) literalize these philosophical concepts in her physical engagement with her land.[32] It is no coincidence that many of the philosophers Davies mentions pose a subjectivity and metaphysics that are as much aural as visual. Merleau-Ponty, for instance, provides an avenue for thinking about the translucent, immaterial "objects" or flows that populate Davies's VR works, through his critique of traditional philosophy, which he refers to as "specular" philosophy, or the philosophy of reflection.[33] Very briefly, specular philosophy, in uniting perceptual "anomalies" (phantasms, illusions) via a transcendental rather than incarnate subject, creates an idealized perspective or "ideality," through which reflection approaches the phenomenal world by way of the ideal "essences" of its elements, thereby reducing the multiplicity of phenomena to the sedimented edifices of scientific objects. However, since "the reflection recuperates everything except itself as an effort of recuperation, it clarifies everything except its own role," there will always be a "blind spot"—a distance between the perceiving subject and the object, and the latter will always be constituted in the light of an already preconstituted world, an already given analytic. Traditional philosophy can therefore never restore to us the "there is" of the world; indeed, it "replaces our belongingness to the world with a view of the world from above."[34]

For Merleau-Ponty, the pervasiveness of this view is anchored in the perceptual experience itself, from which a relation of identity is established between, for instance, the object viewed from a distance and the object viewed close at hand. What establishes this "sameness" of the object is the "seeing apparatus" of the body, which constructs a "point of view" and inserts the object within the field of significations (language) that refer not to the objects themselves, but to the object as "object-thought"—as meaning. Within language the object is constituted, almost as an "artifact," and circulates through the "coherent

system of appearances," which indeed makes possible any relation to an object. But this constitution is not after the fact of perception; citing Jacques Lacan, Merleau-Ponty stresses that perception itself is already structured "as a language." Because the very act of perception forecloses the possibility of apprehending the thing in itself, the notion of complete certainty implies the evacuation of embodied subjectivity: "in the measure that the thing is approached, I cease to be; in the measure that I am, there is no thing, but only a double of it in my 'camera obscura.'"[35]

This dilemma cannot be resolved within philosophical discourse.[36] Merleau-Ponty urges that it can be mediated through the praxis of a "hyper-reflection"—a reflection that is simultaneously aware of itself and engaged with the horizon of the world—found within experiences that have not yet been "worked over," do not yet enforce the subject/object distinction. The example he gives is the perception of color, which begins as atmospheric until it is "fixed" into an entirely relational structure.[37] Rather than an "atom" that could be identified as "the same red," color is instead "a punctuation in the field of red things." He concludes: "a naked color, and *in general a visible,* is not a chunk of absolutely hard, indivisible being . . . [but rather is] an ephemeral *modulation* of the world."[38] If the visible is a modulation, the visual perception is less a "look" than a "palpatation": undivided, ephemeral, and not at all "thing-like." Perception and being are structured by a continuous movement or flux between subject and object, continuum and discrete series, sense and sensation.[39] For Merleau-Ponty, the body is no longer *in front of* the world: "Being [is] no longer *before me,* but surrounding me and in a sense traversing me." The "thing" becomes a field, horizon, or dimension, and the subject is no longer distinguished, though is distinguishable from, the object, which is no longer an "object" as such.

Merleau-Ponty's subject may as well be a listener. Like color, the field of sound is not a chunk of divisible being, but is more like a state or quality, surrounding the listener, who is simultaneously hearing and being touched by the vibrating, engulfing, sonic atmosphere. Referring to this synergy, in a seemingly tangential note, he writes: "What are these adhesions compared with those of the voice and hearing?"[40] Later in the text, he concludes that the voice and hearing belong to "other fields . . . beyond the circle of the visible."[41] These fields lead at once to interiority—"I hear my own vibration from within . . . I hear myself with my throat"—and to abstraction. Uniting voice, body, vibration, and the autoaffectivity of hearing oneself speak, Merleau-Ponty situates their intersection within the body, beyond the visible, at the threshold of alterity. As he writes, the

"expression" of the flesh is precisely "the point of insertion of speaking and thinking in the world of silence." What is inserted between the interior (flesh) and the abstract (thought), between sound and meaning, speech and "what it means to say" is a gap or delay—a pulsation. It is the dehiscence of the voice—the gap or delay produced by the subject hearing himself or herself speak, which forms a circuit between the felt voice (as flesh) and the heard echo (as exterior perceptions and abstract language), a circuit connecting matter and mind via a movement that both is and expresses "one sole contraction of Being."[42]

The sensorium sketched by Merleau-Ponty is not unique to his philosophy, but can be found in pre-Socratic thought—in particular the writings of Heraclitus, whom Davies cites and often echoes in her use of the term "flux." Heraclitus offers a cosmology radically different from the dominant understanding of Being as static, rational, and dualistic. Describing existence, knowledge, subjectivity, and the cosmos in terms of a perpetual Becoming, he represents this Becoming via a number of metaphors and symbols that Davies also incorporates—especially in *Ephémère*—based on their ephemerality, their ambiguous existence, their "flux." The flowing river, for instance, which is never the same as itself: "Into the same river we step and we do not step." Or fire, which is always either kindling or diminishing, simultaneously seen and felt, exterior and interior.[43] As Heraclitus writes: "Everything flows and nothing abides; everything gives way and nothing stays fixed." This mutability prevents the "thing" from being objectified. Even the soul—Aristotle's *prima causa* of the proper voice—loses its "the" and is described instead as "the vaporization out of which everything else is derived" and "in ceaseless flux."[44] These characteristics also apply to sound: like the fire, sound is always coming into and going out of existence, evading the continuous presence that metaphysics requires; like the fire also, sound is heard and felt simultaneously, dissolving subject and object, interior and exterior. Like the river, sound cannot be called "the same" since it changes at every point in its movement through a space; yet like "Soul," it does not strictly belong to the object. Nor can sound's source and ending be defined, for it originates as already multiple, a "mix," which makes it impossible to speak of "a" sound without endangering the structure of Western thought itself.

Bringing these writers and philosophies into the context of Davies's literal sight and aesthetic vision, one can sense a history to her VR works that has a multitude of correspondences with aurality. These are by no means accidental: Davies's breath and balance interface in *Osmose* and

Ephémère, together with her use of semitransparent luminosity, can be read as a primarily aural approach, eliciting perceptual and philosophical modalities based on sound and listening more than materiality and sight. Although rarely addressed by commentators, sound is one of the most important elements in Davies's VR works—literally (sonically) as much as metaphorically, and this aural influence can be interpreted as integral to the formation of her aesthetic and philosophy.[45] By reading Davies through aurality, common elements, characteristics, descriptions, associations, and embedded epistemologies emerge. The "coming into being, lingering and passing away" that propel her aesthetic are all terms that signal movement from one state, one ontology, one tense, to another. All the material and technological elements that Davies brings into play seem designed to capture the moment(s) prior to the becoming-object of being, to capture the virtual (in the sense of the "not quite"—as Bergson describes it). The concept of flux is the driving "narrative" of *Ephémère,* where each element, each "scene" undergoes—both internally and as a reaction to the immersant's navigation—a dissolution: from visibility through semitransparency, to invisibility, enacting a visual allegory of the rhythms of existence, within the multiplicity that composes the scene. This focus on "coming-into-being" creates the often uncomfortable contrast with digital technology, wherein "being"—even only as nominal code—is articulated at the minute level, and if there is any "in-between" it is not brought into whatever approximations are made in producing the digital sound or image, and therefore, not brought into the field of perception, which as Brian Massumi points out is always analog.[46]

This constant movement is, however, anchored by a certain stillness— a "space" from which "objects" emerge. The stillness resonates with Davies's understanding of *Gelassenheit*—itself informed by her experience of "hovering" in oceanic space—and manifests in the work as a surrendering of volition (of "doing this to that"), which is required of the immersant in order to experience both floating sensations and the opening or "presencing" of the boulders and seeds in *Ephémère.* By tracking the direction of the head, Davies uses the immersant's gaze to determine their approach toward the seeds and the subsequent activation of the seed's blooming.[47] This "approach" is analogous to the way that the head turns toward a sound source and requires the same degree of focused stillness.[48] Listening demands the kind of passivity that has been associated with the nonaggressive, mythologized innocence of sound within certain quarters. However, such an attribute is entirely misplaced—credible only within a metaphysics and culture that privileges action. In the context of

Ephémère, being still, poised, so to speak, in order to approach the other is, from the point of view of the other, a simulation, a pose, a comportment that draws attention to the necessary hybridity of apparatus and wearer. "The body" as such does not exist in *Osmose,* rather it transforms into an immersant, leaves behind the ethical approach that Davies is trying to install, and adopts instead the ethical or ideological apparatus of the interactive, computer driven, digital simulation that *is* VR. The fact that the body is still in this moment of suspended interactivity only serves to highlight the unnaturalness of this construct, and to suggest perhaps that stillness, or inactivity, is the perfect stance for approaching the simulated image. Which is to say that the phenomenological body of Davies's intent can never correspond with the immersant in the same way that the soft vision that drives her aesthetic must necessarily remain within the frame of her VR works and not be applied to everyday life.

VIRTUALIZING THE BODY

Technology interferes while enabling the phenomenological basis of Davies's work by enforcing a frame that transforms the body into an "immersant." At the same time, it is only through this frame that the ephemeral can be artistically realized. One frame enables and subverts the other. Similarly the sound in *Ephémère* has no resolution through the "music" representing flux. Unlike *Osmose,* the sound in *Ephémère* is continuously, relentlessly minor and discordant, with the only major chord appearing when the seed "blooms" after the immersant has paused for a moment. If flux—the flux and flow that Davies is evoking with *Ephémère*—has an aural correlate, it would be the kind of cacophony that Davies wanted to represent through a variety of sounds.[49] The origin of these sounds was disguised because as composer/producer Rick Bidlack noted, "sounds are as recognizable as words, and carry with them all kinds of emotional and contextual baggage which we did not want to impose on the world of *Ephémère.*"[50] In describing the spatialized and interactive sound, Bidlack gives as an example the "ethereal, shimmering, high pitched sound which accompanies the immersant as he/she is drifting through the above-ground forest. This sound is what we called in general a 'body' sound—it is intimately connected to the movements of the immersant."[51]

Bidlack raises the interesting question of whether or not the apparatus (the vest, helmet, and sensors) could be considered an instrument that the user plays. While he answers in the negative, "instruments require time on the order of years to attain proficiency," the parallels

with playing a musical instrument and the sonic interactivity of VR are revealing. As sound is the most "immersive" medium, so too playing a musical instrument is a very apt example of "interactivity." Musicians often speak of feeling "one" with their instruments and involuntarily move muscles when hearing their instrument played. Audiences commonly respond emotionally to certain chord sequences (national anthems are built on this), and sound is notorious for creating the suspense factor in films. However, musicians don't generally refer to their instrument as embodied; audiences—no matter how enchanted—don't regard the film or concert as a reality: a distinction is made between the body and instrument, the sound and the reality of the environment, the emotional experience and emotion in general. As Bidlack points out, sound carries its emotional baggage—it is always discursive. However, affect and interactivity—for so long associated with hearing and playing music—have appeared in recent theorizations of new media without so much as a nod to their aural, and still preeminent, exemplars.

This disregard is most obvious and potent in Mark Hansen's reading of *Osmose,* in which he champions the role of self-movement and touch while dismissing Davies's emphasis on stillness that Coyne has criticized. Like Coyne, Hansen sees movement as integral to the immersive, interactive experience: "whatever effect of presence the installations produce must stem not from a withdrawal from the activity of movement and the contact with the 'force-experience' . . . but rather from a heightening of self-movement and the proprioceptive in internal kinesthetic senses of the 'immersants.'"[52] In his recent book *Bodies in Code,* Hansen devotes a chapter to Davies's work, through which he elaborates an argument he has been developing for some time, namely that new media art is a unique vehicle for both the virtualization of the body and the recovery, or manifestation, of an originary technicity. *Osmose* and *Ephémère* are, he argues, exemplary instances of what he calls "one kind of 'body-in-code': an experience of embodiment that is specifically engineered to breathe life into the immaterial."[53] It is worthwhile pursuing Hansen's argument here, since it relates directly to the current discussion of Davies's work and also to larger theorizations of virtuality, technology, and questions of embodiment to be explored in the next chapter. Unlike Grau, Hansen regards the lack of aesthetic and proximal distance between the interface and the artwork not as a potential danger but as an aesthetic process in itself. Situating the proximity of the VR interface within an overall theorization of the medium in general and *Osmose* in particular, Hansen describes *Osmose*

as "restor[ing] virtuality as a dimension of embodied life, as a technicity within the living rather than a (mere) technical artifact that affects life from the outside."[54] Hansen's reading of *Osmose* is based in part on the phenomenological analysis of new media that he has been developing through his three books, *Embodying Technesis, New Philosophy for New Media,* and *Bodies in Code,* in which, roughly put, he outlines a theory of immersion in space as a dissolution between self and environment, a body/world blend, that is specific to digital media, and virtual environments (VEs) in particular. Hansen's reading of *Osmose* is part of this overall thesis and is based largely on a reading of Hans Jonas's essay "The Nobility of Sight," which he uses to critique the ocularcentrism of traditional VE (virtual environment) design. Jonas's central thesis is that sight depends on all the other senses, but especially touch, in order to produce its "noble" vision—a vision that, unlike the other senses, is not affected by temporality: "All other senses construct their perceptual 'unities of a manifold' out of a temporal sequence of sensations which are in themselves time-bound and nonspatial. . . .Thus the content is never simultaneously present as a whole, but always in the making, always partial and incomplete."[55] However, the persistence of vision— required for the ideality of the object to be established—comes at a cost:

> Vision secures that standing back from the aggressiveness of the world which frees for observation and opens a horizon for elective attention. But it does so at the price of offering a becalmed abstract of reality denuded of its raw power. . . . It is but the basic freedom of vision, and the element of abstraction inherent in it, which are carried further in conceptual thought; and from visual perception, concept and idea inherit that ontological pattern of objectivity which vision has first created. . . . Thus in speaking of the advantage of the casual detachment of sight, it must be born in mind that this results also in the casual muteness of its objects.[56]

Vision, for Jonas, must be supplemented by touch, "the true test of reality" (one can grasp an object), which moreover involves intentionality and is therefore not simply "mere sensation." Involving purposeful motion, touch is integrated with movement, becoming "self-movement," which Jonas argues is the "spatial organizer in each sense-species, and the synthesizer of the several senses toward one common objectivity."[57] Jonas's conclusion will sound familiar to critics of ocularcentrism: "Without this background of nonvisual, corporeal feeling and the accumulated experience of performed motion, the eyes alone would not supply the knowledge of space."[58] However, there is more to ocularcentrism than simply the idealization of sight; materiality is equally important in

establishing an object-centered ontology that, coupled with vision, cre-
ates a circuit between this and that, allowing, as Davies suggests, an
aggressivity toward the world that the transitory, transforming, and semi-
transparent images in her VR worlds are designed to subvert. Without
wishing to deny the critique of vision that Jonas establishes, it does seem
strange that—given the interface and visual content of Davies's work,
particularly her deliberate avoidance of manual grasping at objects—
Hansen would embrace the priority that Jonas affords touch, without
questioning the sonophobia latent in Jonas's analysis. I discuss it briefly
here to emphasize the denial of sound and aurality that persists in both
philosophy and (some) new media theory and that has also contributed to
the awkward and fantastic readings of Davies's oeuvre.

Jonas does not like sound and hearing. Sound's temporality, its inabil-
ity to "give . . . static reality" bars it from contributing to knowledge,
and this deficiency—although an aspect of Jonas's critique of *theoria*—
implies other negative qualities. Sound's perception and object are coin-
cident: it "has no reference to the world of things and therefore no
cognitive function"; it occupies the negative side of a set of dualities:
between the static and dynamic, the temporal and the omnipresent, the
partial and the complete, the persistent and the transitory.[59] While
Jonas's ultimate aim is to show that sight is integrated with and depends
on the proprioceptivity of the body in conjunction with the other senses,
on the way to getting there he repeats many of the dictums that have,
through the centuries, obscured the analysis of sound and marginalized
it within a sphere of incomprehension. For instance, sound doesn't
"refer" to anything except itself; being only itself, having no "represen-
tative function," sound, like music (perhaps *as* music), has meaning
only via the memory of its sequential ordering.[60] This very traditional
approach to sound ignores the events of 1966, when Jonas's essay was
published. David Tudor, for instance, was performing his *Bandoneon!*—
presenting for the listener a wall of sound wherein temporality was lost
to simultaneity and the sequential, tonal system of music was replaced
by white noise. Similarly, Cage's *HPSCHD,* or Varèse's *Ionization* for
that matter, creates a simultaneity of tone and a synesthetic experience
that parallels Davies's attempts, through visual transparency, to create
what she refers to as "spatial simultaneity."

For Jonas, such a juxtaposition produces only noise, another
"unmeaningful" aural event that, paradoxically, robs sound of its rep-
resentational function of representing only itself: "Even so the limits for
a simultaneous manifold allowing integrity to its members are narrow

in the world of sounds . . . to relate more than a few at a time to different source-loci in space becomes difficult, and beyond a limited number any multiplicity of sounds merges into a compound noise."[61] For Jonas, sound must both be and represent itself—and only itself—within a sphere delimited by noise: that is, it must be and represent itself through a meaning that cannot be named (the ambiguous or nonmeaning of sounds) circumscribed by a meaning that must be rejected (the "unmeaning" of noise). Unmeaning has for Jonas the same attributes that "mere sound" or "tone data" has for Heidegger and, like *Gerede,* is intimately related to the rumor and contamination of the multiple: "there is no 'keeping to one's place' in the community of acoustic individuals."[62] Whereas sight is selective and controllable, hearing is the opposite—rendering the listener a passive recipient of whatever sounds surround them: sound trespasses, it "intrudes upon a passive subject."[63] This "disability" has an ontological basis, since hearing is "related to event and not to existence, to becoming and not to being."[64] We could say, in paraphrasing, that sound and listening belong to the noisy and clamoring "outside" of metaphysics. Touch, on the other hand, is reified, it has a "mental" side "that transcends all mere sentience, and it is this mental use which brings touch within the dimension of the achievements of sight."[65] Coupled with sight, touch now has the status of materiality and immateriality at the same time—the ground of knowledge and the facility for transcendence—the phenomenal, material, and transcendental all at once. Touch is thus brought into the ideality of sight. Committing to an ontology of the material object, Jonas's analysis has no room for the kind of spatiality that Davies is attempting to evoke— if, in Davies's aesthetic, the transparency of images is intended to evoke a sense of sheer existence in objects—these objects are, like Cage's ashtray, both vital and vibrating. Viewing objects through a *lack* of sight— through the myopia that Davies has lived with for much of her life—is the act of viewing them in a vibratory sense. And indeed Davies describes the luminosities she sees in her field of (myopic) vision as "flowing" and "pulsing." So when Jonas writes that "things are not by their own nature audible as they are visible," he is ascribing to the nature of things what is indeed a shortfall in their (human) perception.[66] As a process of reasoning, "the nature of things" is referenced in order to build this hierarchy of the senses; and from this hierarchy, the nature of thought is established.

This reasoning continues in Hansen's analysis of *Osmose* and *Ephémère.* Following a narrative remarkably similar to early film

theorists' notion that sound could "breathe life" into the two-dimensional image, and with the same ontological implications, Hansen argues that touch synthesizes all other senses, transforming the interface from predominantly visual to primordially affective, and thereby embodying or materializing the immaterial in the process of vitualizing the body. Quite rightly, Hansen argues that the visual focus of VE design ignores "the grounding role played by the body and by experiential modalities—touch, proprioception, internal kinesthesia—proper to it."[67] Emphasizing "touch" as a "reality-generating" element (to use Jonas's term), Hansen argues that the success of generating compelling virtual experiences comes not by simulating visual images, but by simulating tactile, proprioceptive, and kinesthetic sense modalities. However, in equating Jonas's theory of perception in "real" environments to those of VEs, Hansen not only eliminates their difference, but, more important, he constructs a very individualistic and ideal notion of reality as only sensorially perceived, rather than socially shared. Hansen then couples touch with movement and "reality," or a sense of reality, with the perception of spatial depth—a theme he addressed in *New Philosophy for New Media*. By including action, Hansen (quoting Jonas) finds the element required to "synthesize" (according to Jonas) the other senses. Tactility here is understood as movement (qua "bodily performance"), which transforms perception into experience. From this purely phenomenological account of the body moving (touching) in an environment, Hansen infers the following conclusion: "On Jonas's account, then, VE's generate an effect of presence or 'reality' because they correlate a 'virtual' perceptual stimulus with a 'real' motor response."[68] Drawing on Bergson's account of the passage from virtual action to real action, which occurs through affection (the coincidence of the object perceived with the body itself—a correspondence not dissimilar to Merleau-Ponty's *chiasm*, which Bergson theorizes in terms of actual proximity), Hansen interprets affection as touch. In a prior essay, "affection approximates touch since in both cases what is at stake is some kind of 'force-experience.'"[69] In *Bodies in Code* this rationale is reduced to a correspondence between Bergson's "virtual" and vision, "real action" and touch, which, combined with self-movement (per Jonas), demonstrates for Hansen that all perception not only "must lead back to an action of the body on itself (self-movement) [but must clarify] how the reality-generating potential (or virtuality) of embodied self-movement can be lent to the most schematic artificial environments."[70] These cascading equivalences (between Bergson's "virtual" and VR, between Jonas's "reality-effect" of a nontechnologized touch

and the effect of presence, or "reality" that VEs generate, between the predigital understanding of environment and embodiment that Bergson and Merleau-Ponty shared and its digitally informed adaptations) are then applied to Davies's work: "We can now specify precisely what constitutes the uniqueness of Char Davies's deployment of virtual reality technology to create a body-in-code. *Osmose* and *Ephémère* are designed expressly to catalyze a shift, as well as to compel the self-reflexive recognition of the shift, from a predominantly visual sensory interface to a predominantly bodily or affective interface."[71] Grounding Davies's interface in touch and self-movement departs quite radically from the concept of ephemerality governing her aesthetic, which is itself tied to her ethics of stillness.

Amid abundant praise, Davies's critique of Cartesianism (interpreted, it seems, as a critique of ocularcentrism) is understood via her myopia, which is cited as a way of understanding her work in the context of "this private experience." Critiquing vision through poor vision is, however, only one reading of Davies's intent. As she mentions repeatedly, her use of semitransparency is a visual expression of a philosophically informed notion of being: "[my vision] has to do with things not being solid, not being separate, and being in a state of constant flux and flow."[72] Instead of seeking to extend sight as a sense dependent on the body, to reinvigorate "that most disembodied sense" that in a move similar to Heidegger Hansen asserts will stand for all other senses, a more productive approach might be to look at breath and balance from the perspective of listening.[73] The inner ear is after all the seat of balance, while the breath incorporates and is incorporated by that most affective, most troubling bodily production—the voice.[74]

Ephémère is an example of the maturity of Davies's work; her willingness to risk the conventions of VR and interactive media works, in order to place the immersant in a state of stasis, is, rather than a withdrawal, an openness that encourages the "other" to come forward.[75] In the context of diving, stillness requires balance and poise: that one subtly contain the movements of one's own body so as to engage the other. In the context of listening, it requires the listener first to quiet the sounds of the body brushing against objects. In the context of simulated computer-generated environments, poise might also be an ability to straddle the difference between the media-simulated images and the shift in perceptual habits they might provoke, without collapsing the two in an impossible and implosive ontology—one that leads to the infinite regress of positing multiple bodies and equal yet different realities.

And here we find that the metaphysical movement from aurality to audiophony provides an important and cautionary precedent for the movement between virtuality and VR. For while the metaphysics of aurality is transported through sound, it also opens up to epistemic fields *beyond* sound. No medium, technology, or sense can effect the shift of which Davies speaks, nor do aurality or virtuality adequately address the alterity they gesture toward. The idea that the technology acts as a form of *poiesis*—manifesting the latent virtuality of human embodiment—has been made for all media and in the case of audio has struck a particularly cosmic, evolutionary chord, with the activation of individual and interior capacities paralleling the activation of hitherto inert objects. These activations contribute to the attribution of agency to technology, through technical devices like amplifiers, microphones, and headphones (in the case of audio) or computer interfaces and eyephones (in the contemporary context). However, headphones augment by delimiting or filtering sounds in the environment, and VR eyephones augment the illusion of immersion through imposing a physical blindfold; and with every delimitation, a degree of control is exercised. The headphones can create their cosmic, ethereal inwardness only by collapsing the space between the ear and the audio device; just as the eyephones collapse the space between the eyes and the digital image. The proximity of the interface "immerses" through filtering, and, as the history of audio reveals, such filtering is never neutral. What sounds are amplified? What range of the voice is dominant? What perspective or frame is put in place? What kind of eyes and ears are being constructed here?[76]

Filtering out noise of course is a cultural conceit and has been used literally to silence voices, sounds, and noises that the idealized listener does not want to hear, or that the producer doesn't want them to hear. In VR, the actual space of the room in which the immersant stands, including the technical infrastructure, is blocked out visually, but as anyone who has worn an HMD knows, this context weighs heavily on the experience. The same question then applies to VR: what kind of proprioceptivity, or tactility, or "self-sensing affectivity" is augmented, and what is filtered? And isn't this a crucial question when it comes to utopic or dystopic readings of media? By internalizing virtuality, Hansen effectively erases any hard distinction—however dubious—between the body and technology. This occurs via the proximity of the stereoscopic apparatus (the HMD) to the eyes of the user, which in the context of the immersive artwork "places the body into interactive coupling with technically expanded virtual domains."[77] My focus here is on

the rhetorical mechanisms that inform interpretations of prosthetic augmentation. In "catalyz[ing] the production of new affects," new media artworks create, according to Hansen, experiences that are integral to the development of a newly virtualized subjectivity. As technology enhances and catalyses perception, so the user is transformed, since these new affects are unique to the new media apparatus and artwork:

> New media artworks facilitate interaction with virtual dimensions of the technosphere precisely in order to stimulate a virtualization of the body. By placing the body into interactive coupling with technically expanded virtual domains, such works not only extend perception . . . they catalyze the production of new affects—or better, new affective relations—that virtualize contracted habits and rhythms of the body. For this reason, virtualization can be said to specify the virtual dimension of human experience.[78]

In a broad rhetorical sense, Hansen's virtualized body may be understood as part of a larger project to confer an evolutionary agency on technology (discussed in the next chapter). The latter is particularly significant in the theorization of so-called embodied technologies—exemplified by the wearable devices and affective computer systems that involve the attribution of life or being or intelligence to the technologies themselves, making them coextensive with human experience and perception and rendering their output (data, information, or actions) originary. Again, there is no question of representation here because representation is replaced by the "perceptions" of the technologies: the question of source and copy does not arise. Embodiment is deferred onto a transcendental subjectivity that in turn defers to technology.

Arthur Kroker writes of new media art:

> New media art? That would be Heidegger's concept of the "turning" as a way of opening up being to the incommensurability of the digital nerve, learning, that is, a "comportment towards technology" that begins with the premise that the saving-power is also harbored within the danger. . . . *For Heidegger, the special purchase of art, understood as a poetics of listening to that "which withdraws," is that the artistic imagination recovers thinking in a time of thoughtlessness.* . . . Against the current of speed culture, the essence of new media art lies in reversing the technological field: an art of (electronic) slowness, and art of digital dirt, an art of boredom.[79]

In many ways Davies's aesthetic and philosophy resonate with Kroker's questioning of new media art. The schematics that Davies has built over time give her work a coherence that, in tying everything together, also tends to fold in on itself, and on the discursively ambiguous domain of cyberspace and new media phenomenology. The actual dirt, or the lack of

a frame, complicates the appreciation of her land-based work as "art," while the presence of the VR interface hides her aesthetics of being, or "letting be," from view. The trajectory of Davies's oeuvre can be read as a continued questioning of the frame—ironically, via a perceived absence of the frame—the disappearance of the apparatus that she allows into her work as an element that oscillates and wavers, like sound/noise, between being acknowledged and being ignored. Situated in the duplicitous context of incorrect sound and uncorrected sight, Davies's work offers both more and less than the many readings of her work suggest. More, because the elements of Davies's work, the breath and balance interface, the semi-transparent images and the spatialized sound are not, as some have suggested, simply destined to critique ocularcentrism, or subvert the dominant visual emphasis of VR, or "reembody" the user in VR, or, alternatively, reembody VR. Less, because the interface does not in itself dissolve the essential mediation that so many writers and theorists of new media have hoped it would: it does not create a new space, a new mode of perception, or a new body. Nor are Davies's references to nature a covert statement about the possibility of healing the rift between technology and nature.

FINE LINES

According to Timothy Morton, the fantasy and rhetoric of experiencing a surrounding, all-enveloping world or atmosphere—a fantasy he names "ecomimesis"—is established through a poetics that itself "interferes with attempts to set up a unified, transcendent nature that could become a symptomatic fantasy thing."[80] "Soundscape" writing is a perfect example of this, and Morton refers to ambient sound frequently to elaborate his notion of ambient poetics. For instance, the concept of "schizophonia" put forward by R. Murray Schafer is here interpreted as "sounds without a source" that stand for "disembodiment as a feature of modern alienation." Commenting on the uncanniness of "disembodied" sound, Morton introduces an important distinction that pertains in particular to Davies's recent work. Regarding sound, he writes: "If, however, there is no source at all, the phenomenon does not reside in our world. It radically bisects it. . . . We thus face a choice between a transcendental experience and a psychotic one. Most ecomimesis wants to reassure us that the source is merely obscure—we should just open our ears and eyes *more.* But this obscurity is always underwritten by a more threatening void, since this very void is what gives ecomimesis its divine intensity, its admonishing tone of 'Shh! Listen!' "[81]

The pressure of the void that underlies the more Romantic interpretations of Davies's work, as well as her possible leanings toward a Romantic pseudo-material flux that could be apprehended if only we saw differently, is again interrupted by her own eyesight, which has become a component in her most recent series of artworks, which consists, at the time of writing, mainly of pencil drawings. These develop as a series, at first engulfing the viewer in a multiperspectival, abstract, and moving mass of lines and shapes that, to some extent, are reminiscent of both the three-dimensional spaces in her VR works and the boulders, streams, gorges, on *Reverie*. However, toward the end of the series the lines have lost all reference to any object or space and seem to be disappearing into the paper to the point that they become almost invisible (see figs. 1 and 2). Davies is drawing the kind of fine lines that are impossible to see with the naked eye—and especially impossible for her—with her eyesight—to see. If these lines and shapes represent the flux she is attempting to evoke, they are also pointing to the void that flux necessarily belongs to. And if this void is an atmosphere, an ambiance, an environment, it is one Davies is familiar with—she returns to it every time she takes out her contact lenses. The distinction Morton refers to—between a transcendental and psychotic experience—is extremely present in Davies's recent work, and it also haunts *Ephémère*. Often interpreted as transcendental, the atmospheres she visually inhabits out of choice and necessity are, like Heidegger's *Stimmung,* fraught with a danger both physical and metaphysical. "What is that object?" is a constant question in both the world of the visually impaired and the ambiance, atmosphere, and environments of sound. It elicits a thinking that is itself traumatic, and these traumas can be seen in the very faint lines Davies takes pleasure in not quite being able to see. If the void is present in Heidegger's embrace and his refusal of sound as a marker of a thinking that itself draws and repulses him, similarly, the fine lines of Davies's drawings are a marker of a state of unknowing that she is attracted to. The oscillatory, turbulent presence of sound—materially and figuratively—functions in an analogous way to the breath and balance interface she uses, to her insistence on stasis, and finally to her exploration of vision's fine lines in her most recent work.

of the voice as a source of an originary self presence. The divide between the interior and the exterior, the model of all other metaphysical divides, derives from here. . . . This illusion—the illusion par excellence—is thus constitutive of interiority and ultimately consciousness, the self and autonomy." Mladen Dolar, *A Voice and Nothing More,* Short Circuits, ed. Slavoj Žižek. (Cambridge, MA: MIT Press, 2006), 37–39.

53. "Ulysses Gramophone," 272. Compare with Heidegger: "the call asserts nothing, gives no information about world-events." *Being and Time,* 318. Nor does it, like the anechoic, onto-theological interior voice of Western metaphysics, "try to set going a 'soliloquy' in the Self . . . [rather] Conscience discourses solely and constantly in the mode of keeping silent." *Being and Time,* 318.

54. Derrida, *Speech and Phenomena,* 154.

55. Derrida and Bernard Stiegler, *Echographies of Television,* trans. J. Bajorek (Oxford: Polity Press, 2002), 38.

56. "These machines have always been there, they always are there, even when we wrote by hand, even during the so-called live conversation. And yet, the greatest compatibility, the greatest co-ordination, the most vivid of possible affinities seems to be asserting itself, today, between what appears to be the most alive, the most *live,* with a reference to this present and this moment anywhere anytime." Ibid., 38, 40. The following quotes in this section are from *Echographies of Television,* 108, 134, 108, 111, 109–11.

57. Agamben, *Language and Death,* 59.

58. See especially Heidegger, *The Question Concerning Technology,* trans. William Lovitt (New York: Harper Torchbooks, 1977).

59. As Kroker writes: "Heidegger was apocalyptic in his prognosis of what is disclosed by the coming to presence of completed technicity: '*objectification*' as the result of technological willing; the '*harvesting*' of humans, animals, plants, and earth into a passive '*standing reserve*' waiting to be mobilized by the technical apparatus; the liquidation of subjectivity itself into an '*objectless object*' streamed by the information matrix; the appearance of '*profound boredom*' as the essential attunement of the epoch of the post-human; the potentially fatal transition of the language of destining to the last '*enframing*'—post-human culture under the ascendant sign of 'completed nihilism.' " Arthur Kroker, *The Will to Technology and the Culture of Nihilism: Heidegger, Nietzsche, and Marx,* Digital Futures, ed. Arthur Kroker and Marilouise Kroker (Toronto: University of Toronto Press, 2004), 25.

60. Ibid., 45.

CHAPTER 5

1. Davies continues: "There have been certain elements recurring in my work for more than 30 years—an iconography of elements, a vocabulary, including boulders, flowing streams, and trees, often bare-branched as in a Canadian winter. One of the earliest paintings I ever made, in 1974, was an ink wash of semi-transparent boulders in a stream with luminous particles flowing between them, and more than 20 years later, in both *Osmose* and *Ephémère,* there are transparent boulders, flowing streams, bare-branched trees, etc. And here at

Reverie I am among these same elements, except now they are actual, physical—note that I say 'among' as in 'enveloped by,' so even my language is the same—and when I am engaged in moving 3 ton boulders from one place to another on the land—I see this as placing still points among the flux—my creative process is very similar to how I worked with my former team in VR, except that now I am working with a team of traditional stone-cutters, farmers and foresters as well as technicians. My conceptualization of this land is almost as if it's this huge sphere all around us—I don't see a distinction between what I'm creating *with* the land—in terms of making paths through it, pruning or planting trees, surveying its salamanders and so on—and the schematic drawings I'm making of it—I see it as all part of the same creative process. But most importantly, in 'being among' what's here on the land, I have an overwhelming sense of being among all these *life flows* . . . so when I say that for me this land is an immersive environment that's what I mean—I'm not talking about technology and that has to be very clear." Interview with Davies, 15 October 2006, *Reverie,* southern Quebec.

2. This aesthetic impetus is very much informed by Davies's reading of Heidegger, in particular of his concept of *Gelassenheit,* artistically realized as her attempt to move "beyond habitual seeing and behaving towards the world—conventionally categorized as a collection of separate static objects, all treated as 'standing reserve' for human use—and instead approach life with a sense of wonder and humility for how extraordinary it is to be here, embodied as we are so briefly, among its flux and transformation. . . . this is what *Ephémère* was pointing towards." Interview, *Reverie.*

3. Cited in Andrew Treadwell, "Virtual Transcendence" [online] (Oxford: Oxford Brookes University, Jan. 2002), last accessed June 2006.

4. Ibid.

5. Ibid.

6. Tomkins notes with some irony that the Pepsi public relations department—at a loss to find a name for the *Pavilion*—was considering the word "Sensosphere" until they realized that in Japanese "senso" means war. Calvin Tomkins, "Outside Art," in *Pavilion,* ed. Billy Klüver, Julie Martin, Barbara Rose, Experiments in Art and Technology (New York: E. P. Dutton, 1972), 134.

7. Davies is an example of this, as she was a founding director of the very software company whose technology she was using, yet whose role in the initial shaping of the company was later forgotten.

8. The full list of these are as follows: "(1) Technology directs our attention to the practical rather than to the abstract, . . . to physical rather than intellectual activity. (2) Technology is neutral. It possesses no inherent values, value judgments, teleological direction, or normative goals. It is a tool. (3) Technology separates and defines functions. Understanding and interacting with these functions can take place outside a specific cultural environment or value system. (4) Technology generates activity. The introduction and use of technical products leads to development of skills and involvements and generates work activity. (5) Technology and technical activity promote agreements between individuals. . . . Technology demands and, at the same time provides, accessibility to information. . . . (6) Technology encourages the individual to engage exploratory

intellectual activity, rather than accumulating facts. (7) Technology promotes individualistic behavior." See my Web publication *And Then It Was Now,* Daniel Langlois Foundation.

9. See the Immersence Web site: http://www.immersence.com/ and Char Davies, "Changing Space: Virtual Reality as an Arena of Embodied Being" (1997), in *Multimedia: From Wagner to Virtual Reality* (New York: W. W. Norton, 2001).

10. As Davies elaborates: "It is important to understand that virtual space is not neutral. The origins of the technology associated with it lie deep within the military and western-scientific-industrial-patriarchal complex. . . . As a realm ruled by mind, virtual reality—as conventionally constructed—is the epitome of Cartesian desire, in that it enables the construction of artificial worlds where there is the illusion of total control, where aging mortal flesh is absent, and where, to paraphrase Laurie Anderson, there is no 'dirt.' I believe such desire to escape the confines of the body and the physical world is symptomatic of an almost pathological denial of our embodied embeddedness in the living world. . . . In the virtual environments *Osmose* and *Ephémère,* I have proposed an *alternative* approach to virtual space, intended to resist the cultural trajectory described above." Davies, "Virtual Space," in *SPACE in Science, Art and Society,* ed. François Penz, Gregory Radick, and Robert Howell (Cambridge: Cambridge University Press, 2004) [online, www.immersence.com]. Davies, "Landscapes of Ephemeral Embrace" (PhD diss., University of Plymouth, 2005), 32.

11. "The intent of the breath [and balance] interface wasn't merely about making the graphics change, it was about *facilitating a certain way of being* in that virtual space. It was about deliberately taking use of the hands away. . . . away from domination and control, from doing-this-to-that, and instead shifting the experience from one of *doing* to *being*." Interview with Davies, Montreal, 1996. For a more detailed account, see my article, "Charged Havens," *World Art* 3 (1996): 42–47.

12. As she writes: "I have attempted to use the medium of immersive virtual space to . . . situate the previously externally situated (and disembodied) viewer as an embodied participant *within* the scene: a scene which is no longer merely viewed as a statically-composed and framed two dimensional representation, but which can be visually, aurally and kinesthetically experienced as an animated and bodily-enveloping *place*." Davies, "Landscapes of Ephemeral Embrace," 47.

13. The full argument runs as follows. Interpreting Aristotle, St. Thomas Aquinas decides that the phantasm must be an "image" and that since "vocal impact proceeds from the soul" and "operations proceeding from imagination can be said to be from the soul," then "the principal cause of the production of voice is the soul, using this air, i.e. air inhaled, to force against the windpipe the air within it. Not air, then, is the principal factor in the formation of voice, but the soul, which uses air as its instrument." Now that the proper voice is devoid of unintentional sound ("the cough or the clicking of the tongue"), it bears no traces of the body, representing or "voicing" only the signifying "image." *Aristotle's De Anima, in the Version of William of Moerbeke and the Commentary of Thomas Aquinas,* trans. Kenelm Foster and Silvester Humphries

(New Haven: Yale University Press, 1954), par. 466–77. "We cannot produce voice while inhaling air nor while exhaling it, but only while retaining it." Ibid., Aristotle, par. 478.

14. Centering becomes an essential step in the development of one's "ontological capacity to open oneself to the larger measure of Being and to encounter other beings with equanimity, justice, and a presence that is deeply responsive." For Levin, being "well centered in Being," is at the very root of what he calls "Gelassenheit," that "way of being" in virtue of which, according to Heidegger, we are going to be most favored with a deeper experience of beings, and the presencing of Being as such. David Michael Levin, "The Body's Recollection of Being," cited in Davies, "Landscapes of Ephemeral Embrace," 272.

15. Davies learned this skill when deep sea diving and describes it as a state of hovering rather than being absolutely still—and in my reading I have incorporated this sense of focused, or "poised," stillness.

16. Steve Dietz, "Ten Dreams of Technology," published in *Leonardo,* 35, no. 5 (2002): 509–13. For writer Erik Davis, the paradox *Osmose* presents revolves around the high cost of the technology, its origins in the military-industrial complex, and contradictions involved in "making art at the edge of a gargantuan multinational industry, [which] forces those artists who are even able to get their hands on high-end tools into all sorts of anxious compromises." Erik Davis, *Techgnosis* (New York: Harmony Books, 1998), 247–48.

17. Oliver Grau, *Virtual Art: From Illusion to Immersion,* trans. Gloria Custance, ed. Roger F. Malina (Cambridge, MA: MIT Press, 2003), 200. Grau identifies his concerns through a summary of what he sees as two basic, polarized trends in the reception of *Osmose:* "First, the work promotes a new stage in an intimate, mind-expanding synthesis with technology—this is a comforting argument, an old variant of uncritical faith in machines. Second, *Osmose* confirms the opinion of those who see in the ideology of the natural interface a new level in the history of ideas and images of illusionism, or who dismiss *Osmose* as virtual kitsch. The adherents of virtual reality, who have often reiterated their claim that immersion in virtual reality intensifies their relationship with nature, might ponder the following question: Why the immense technological effort in order to return, after a gigantic detour, to the real? Does not the quest for nature using technical means resemble the plane curve of a hyperbola pretending to be an ellipse?" Ibid., 201.

While there is no doubt that hype has been immensely important in preadvertising the emergence of VR, the ellipse that Grau is referring to may also be a rhetorical construction of his own making. For the total immersion that he suggests is more fictive that actual, and the notion of oneness with nature presumes a correspondence between the technology and the philosophy that motivates Davies, which simply does not exist. As Davies has commented many times, her virtual environments are not intended to illusionistically conjure an alternate space—which is why she constantly refers to VR as a medium like film, or painting, or sculpture.

18. Grau, *Virtual Art,* 202. Further: "Inside the 'omnipresence' of virtuality, any mechanism of knowledge acquisition will be affected and influenced. In virtual environments, a fragile, core element of art comes under threat. . . .

Notwithstanding the longing for 'transcending boundaries' and 'abandoning the self,' the human subject is constituted in the act of distancing. . . . However, being enveloped in a cocoon of images imposes profound limitations on the ability for critical detachment, a decisive hallmark of modern thought that has always played a central role in experience of and reflections on art" (203).

19. Producing perhaps "a voyeuristic, dissecting penetration of representations of objects and bodies." Ibid.

20. "These ephemeral image spaces, which change within fractions of a second, achieve the effect of existing only through a series of computations in real time, 15 to 30 per second. The image is constituted as a spatial effect, via the interposing program and HMD, only on reaching the cerebral cortex thus it leaves its medium in a twofold sense. Recently developed laser scanners can project virtual reality images directly onto the retina; in this case, the category 'image' does not disappear altogether—if the retina will suffice as a medium—but this must surely constitute the most private form of image currently imaginable: an image that is seen only by the observer, who triggers or retrieves it through actions or movements. Moreover, these virtual images will be seen only once by one person before they disappear forever—something that is entirely new in the history of the image." Ibid., 206.

21. Interview with Davies, *Reverie,* April 2006.

22. Coyne continues: "It was perhaps this Heideggerian perspective that Davies was trying to convey, except the re-focusing she was aiming for was on the body and being, rather than more external distractions." Richard Coyne, *Technoromanticism: Digital Narrative, Holism, and the Romance of the Real* (Cambridge, MA: MIT Press, 1999), 159.

23. Margaret Morse, "Aesthetics and Immersion: Reflections on Martin Jay's Essay 'Diving into the Wreck,'" Asthetik-Colloquim vom 27.02. bis 01.03.03 in Berlin, October 2003.

24. Mentioned in conversation with Morse, San Francisco, 1990.

25. Margaret Morse, *Virtualities: Television, Media Art and Cyberculture* (Bloomington: Indiana University Press, 1998), 209.

26. "I remember when I had begun paying close attention to the way I was seeing, without corrected vision, and deliberately attending a party in Toronto without being able to see, that is without wearing my contact lenses. It was rather frightening because it made me very vulnerable. . . . I couldn't operate by any of our normal social cues because I couldn't read people's faces." Interview, *Reverie.*

27. "And I think that made me want to live in that vision . . . I remember the very first painting I made with this 'soft sight' . . . I was visiting a friend in Vancouver and we were just sitting around the kitchen at night and there were two cups on the table and I began painting them without being able to see, and I thought 'You know . . . this is really interesting. Maybe I'm just going to . . .'" Davies, April 2006.

28. Davies emphasizes that she increasingly attempted to go beyond the depiction of recognizable, hard-edged, solid objects so as to represent the luminous space they inhabited, through what she calls her "soft vision": "At one point, I had half glasses made so I could still see the brush-tips on the surface I was painting while looking beyond it with soft vision, which enabled me to see

beyond the particular object as, say, 'only' a cup or a jar with distinct edges, to instead seeing *freshly,* whereby the object itself had disappeared and I was drawing or painting a spatial volume of light . . . a semi-transparent luminous voluminosity or voluminous luminosity." Ibid.

29. "In the late 80s, there was a huge commercial demand for more and more photo-realism in the computer graphics industry—I used to call it 'the hard-edged objects in empty space syndrome.' As someone who had been involved in building a world-leading 3D software company, I was well aware of this 'syndrome' and the various cultural values which it reinforced. This awareness, and the ensuing desire to demonstrate an alternative—based on my previous explorations as a painter, that is, my already established painterly aesthetic of transparency and spatial ambiguity—was key to my approach to VR. I don't think you can simply reduce it to myopic eyesight, but I do believe my *alternative* way of seeing has played a significant part." Ibid.

30. Ibid.

31. Levin, cited in Davies, "Landscapes of Ephemeral Embrace," 88.

32. For instance, Davies writes that by "subverting, redirecting, or even turning [the medium of VR], in Heidegger's sense" she hopes, paradoxically, "to release [the viewer] from the constraints of a technologically-objectifying worldview" while focusing their attention on the sensations of their "own embodied being, thereby providing an opportunity for wonderment at the very mystery of the presencing of Being itself." "Landscapes of Ephemeral Embrace," 25.

33. Maurice Merleau-Ponty, *The Visible and the Invisible,* ed. Claude Lefort (Evanston: Northwestern University Press, 1968), 32.

34. Ibid., 31, 33, 36–37. Merleau-Ponty describes this "high altitude" thinking as being at one with the "eagle eye" of the Hegelian subject: "I no longer think I see with my eyes things exterior to myself who sees them: they are exterior only to my body, not to my thought, which soars over it as well as them." Ibid., 30.

35. Ibid., 37, 97, 122. Also note that the "seeing apparatus" Merleau-Ponty refers to is "presupposed in every notion of an object" (37). Merleau-Ponty describes language as "a world and a being to the second power, since it does not speak in a vacuum, since it speaks of being and of the world and therefore redoubles their enigma instead of dissipating it." Ibid., 96. "If I express this experience . . . I immediately make the experience itself impossible: for in the measure that the thing is approached, I cease to be; in the measure that I am, there is no thing, but only a double of it in my 'camera obscura.' The moment my perception is to become pure perception, thing, Being, it is extinguished; the moment it lights up, already I am no longer the thing" (122).

36. See Ibid., 120.

37. Ibid., 38, 130. "This red is what it is only by connecting up from its place with other reds about it." Ibid., 132.

38. Ibid., 132 (emphasis mine). The full quote runs as follows: "a naked colour, and in general a visible, is not a chunk of absolutely hard, indivisible being, offered all naked to a vision which could be only total or null, but is rather a sort of straits between exterior horizons ever gaping open . . . an ephemeral modulation of this world . . . not a thing but a possibility, a latency, and a flesh of things."

39. Ibid., 134. This movement occurs as an exchange between the subject and the world: "By means of this mediation, . . . this chiasm, there is not simply a for-Oneself for-the-other antithesis, [rather there is] an exchange between me and the world, between the phenomenal body and the 'objective' body, between the perceiving and the perceived." In severing this primary linkage to the world, philosophy conceives of Being as an "*objective* presence" a "visual picture." "The specular image, memory, resemblance: fundamental structures (resemblance between the thing and the thing seen). For they are structures immediately derived from the body-world relation—the reflections resemble the reflected =the vision commences in the things. . . . Show that the whole expression and conceptualization of the mind is derived from these structures: for example, *reflection*." Ibid., 215, 258, 271. The last quote in this paragraph is from p. 114.

40. Ibid., 143. See editor's note (3).

41. The full quote is as follows: "[Circularity] . . . exists in other fields; it is even incomparably more agile there and capable of weaving relations between bodies that this time will not only enlarge, but will pass definitively beyond the circle of the visible." Ibid., 144.

42. Ibid., 144, 145, 211. "Speech, . . . goes unto Being as a whole. We dream of systems of equivalencies, and indeed they do function. But their logic, like the logic of a phonematic system, is summed up in one whole tuft . . . they are all animated with one sole movement, they each and all are one sole vortex, one sole contraction of Being." Ibid., 211.

43. Heraclitus, fragment 110, cited in Wheelwright, *Heraclitus,* 90. For instance, when Heraclitus speaks of "the warm becoming cool," he invokes a conceptual schema in which what we would normally consider a quality (e.g., warmth) is given object status ("the warm"), which can nonetheless change its identity: the warm *becomes* cool. See Wheelwright, *Heraclitus,* 33.

44. Heraclitus, fragment 43, cited in Wheelwright, *Heraclitus,* 58. "Soul" provides an originary movement, but this movement involves both the ascent of vaporization and the decent of condensation and therefore cannot be interpreted in terms of the telos of spiritual ascension characterizing Christian and later Idealist thought. Ibid., 43, 62.

45. As Davies writes in "Virtual Space": "When visual acuity is decreased, one also becomes more aware of sound: and sound, as an all-encompassing flux which penetrates the boundary of the skin, further erodes the distinctions between inside and outside. Sound, like soft vision, also returns us to what I have come to call the 'presence of the present.' In this perceptual state, rather than being mentally focused on the future and thus inattentive, even absent, to the present, one becomes acutely aware of one's own embodied presence inhabiting space, in relation to a myriad of other presences as well." "Virtual Space" [online, www.immersence.com].

46. Brian Massumi, *Parables of the Virtual* (Durham, NC: Duke University Press, 2002).

47. "With our use of gaze, it was more a sense of approaching slowly and becoming *near*—while maintaining a certain tactful proximity—this involves a kind of *Gelassenheit*—which is very different from staring to make something happen, which is more conventional—whether it's using hand, gaze or voice—

do this to make that happen. . . . I was interested in enabling an experience whereby the particular element, such as the seed, when gazed upon and slowly approached, would respond by opening, by revealing itself. . . ." Davies, "Virtual Space" [online, www.immersence.com].

48. As Serres puts it: "The condition of being a receiver, a subject, an observer, is, precisely, that he make less noise than the noise transmitted by the object observed. If he gives off more noise, it obliterates the object, covers it or hides it. . . . Cognition is subtraction of the noise received and of the noise made by the subject." Michel Serres, *Genesis,* trans. Genevieve James and James Nielson, Studies in Literature and Science (Ann Arbor: University of Michigan Press, 1995), 61.

49. "To be able to change the quality or timbre of sounds at times to be exterior or interior, . . . maybe the sound of breathing (a very powerful aural sensation when one is diving). The heartbeat sound could be linked to the speed of the immersant through the work, and a myriad of other heartbeats of the other entities in the world, all different pulsations of life flowing." E-mail correspondence between Davies and Bidlack, 1996.

50. Rick Bidlack identified the sounds in *Ephémère* as belonging to four major categories: viola sounds producing tonal sounds from various manipulations of the strings (bowing, plucking, spiccato, tremolo, etc.) and percussive, timbral sounds from the body of the instrument; animal sounds; nonpitched noises; pure sine wave tones and white noise. All of these sounds were then digitally manipulated: through changing their speed and pitch; editing each sound's initial attack—which, in digital audio, carries the major portion of the sound identity; shifting the amplitude or volume of the sound, using filters, adding reverberation, and finally using sound spatialization, a process that simulates the position of a sound in three-dimensional space. Sounds are subcategorized into assemblages that act according to particular behaviors triggered by the visual scenes and their durations. Bidlack gives the example of the scene of a falling tree in the virtual forest: "if the immersant stares long enough at one of the many trees, a ghostly image of a tree falling will appear. This tree falls for three seconds . . . the fall is accompanied by a sound—any of seven sounds, actually—which have all been carefully chosen to convey a general impression of a tree falling in the woods." Bidlack, "The Sound World of *Ephémère,*" appendix to Davies, "Landscapes of Ephemeral Embrace," 11.

51. Ibid.

52. Mark Hansen, *Bodies in Code: Interfaces with Digital Media* (New York: Routledge, 2006), 125.

53. Ibid., 111.

54. Ibid.

55. Hans Jonas, *The Phenomenon of Life: Toward a Philosophical Biology* (Evanston, Illinois: Northwestern University Press, 1966), 137–38. Jonas continues: "These more temporal senses therefore never achieve for their object that detachment of its *modus essendi* from their own, for example of persistent existence from the transitory event of sense—affection, which sight at any moment offers in the presentation of a complete visual field."

56. Ibid., 148–49.

57. Ibid., 153.

58. Ibid., 154.

59. Ibid., 137. "The gain is the concept of objectivity, of the thing as it is in itself as distinct from the thing as it affects me, and from this distinction arises the whole idea of *theoria* and theoretical truth" (147). The remaining quotes are from pages 137, 147.

60. "The object-reference of sounds is not provided by the sounds as such, and it transcends the performance of mere hearing. All indications of existents, of enduring things beyond the sound-events themselves, are extraneous to their own nature." Ibid., 137. "Since this synthesis deals with succeeding data and is spread over the length of their procession, so that at the presence of any one element of the series all the others are either no more or not yet, and the present one must disappear for the next one to appear, the synthesis itself is a temporal process achieved with the help of memory. Through it and certain anticipations, the whole sequence, though at each moment only atomically realized in one of its elements, is bound together into one comprehensive unity of experience" (138).

61. Ibid., 139.

62. Ibid. By this we can infer that Jonas is ascribing to sound what is true for noise and analyzing noise in terms of its phenomenality, rather than its sociality.

63. Ibid.

64. Ibid., 139.

65. Ibid., 141.

66. Ibid., 146.

67. Hansen, *Bodies in Code,* 118.

68. Ibid., 123.

69. Hansen, "Embodying Virtual Reality: Touch and Self-Movement in the Work of Char Davies," in *Critical Matrix: The Princeton Journal of Women, Gender and Culture* 12 (2001): 112–47.

70. Hansen, *Bodies in Code,* 123.

71. Ibid.

72. Davies, Interview with author, San Francisco, 2006.

73. "If I can prove my thesis (that the digital image demarcates an embodied processing of information), I will, in effect, have proven it for the more embodied registers (e.g., touch and hearing) as well." Hansen, introduction, *New Philosophy for New Media* (Cambridge, MA: MIT Press, 2004), 12.

74. Further, the "reality conferring experience of touch" is based, in Jonas's analysis at least, on grasping a material object with intentional force. Yet Davies's work cannot be associated with either this experience or this force, since both are far from her aesthetic intention. Furthermore, Jonas's notion of force is materially circumscribed—it excludes the force of sound, for instance, a force that happens to be more virtual and more immersive than that of a material object.

75. Whereas the standard premise of VR is that only the user makes a choice, *Ephémère* allows the immersant to float up or sink downward among its various realms and simultaneously sweeps the immersant along in a predefined temporal narrative that necessitates surrender, a giving up of control. *Ephémère* was a further step beyond *Osmose* in this respect and an attempt to move beyond the latter's realism.

76. It is fair to say that audio technologies generally attenuate certain frequencies while amplifying others, in order to reduce "noise" and produce the greatest "fidelity" to the desired (imagined) source. In terms of noise, what is filtered out is often the "background" sounds that would interfere with the listener's focus— a process that occurs "naturally," without the aid of technology, but is enhanced through such technology.

77. Hansen, *New Philosophy For New Media,* p. 146. Proximity is important here because, in contrast to the stereoscopic image, Hansen argues that in VR environments: "an intuition of the space of the body takes the place of the intuition of an extended, geometric space. . . . the VR interface mediates an absolute survey of nothing other than the space of the body itself—that paradoxical being which is neither object nor absolute subjectivity" (177).

78. Ibid., 146.

79. Arthur Kroker, *The Will to Technology and the Culture of Nihilism: Heidegger, Nietzsche, and Marx,* Digital Futures, ed. Arthur Kroker and Marilouise Kroker (Toronto: University of Toronto Press, 2004), 64, my emphasis.

80. Timothy Morton, *Ecology without Nature* (Cambridge, MA: Harvard University Press, 2007), 77.

81. Ibid., 42.

CHAPTER 6

1. For example, a "typical" sound shape is sketched for an instrument, and only its "attack" (generally occurring in the initial part of the sound shape's curve) is sampled and repeated or "looped"—in theory, the attack is what makes the instrument recognizable as a violin, or a tuba.

2. Brenda Laurel, *Computers as Theatre* (Reading, MA: Addison-Wesley, 1993), 125.

3. As Rick Bidlack, who with Dorota Blaszczak designed the sound environment for Char Davies's *Osmose* and *Ephémère* (discussed in the previous chapter), describes: "Typically, these sound sources are attached to graphical objects in the virtual space; as the user navigates through the space, the location of these objects, and hence the direction of the virtual sound sources, change relative to the user's point of view. At a higher level, an interface has been designed which allows the creator of the virtual space to specify the behavior of specific sound objects in the space, as well as to create a responsive and dynamically changing aesthetic sonic environment as the user interacts with the space." Rick Bidlack, Dorota Blaszczak, and Gary Kendall, "An Implementation of a 3D Binaural Audio System within an Integrated Virtual Reality Environment," unpublished paper, Banff Centre for the Arts, 1993.

4. As Durand Begault writes: "You could describe the sound of a reverberate environment by showing a direct sound and its 'early reflections' (the first bounces of the sound off the walls) coming towards you. Then you calculate the early reflections' angle of incidence to a listener and you apply head-related transfer functions to the delayed sound as well as to the direct sound. Then we simulate dense reverberation, which basically is many, many reflections, by using exponentially decaying white noise with different distributions, and the