

CHAPTER ONE

Inhabiting Matter

New Media Art and New Materialisms Informed by Feminism

Epistemology, ontology, and ethics are inseparable. Matters of fact, matters of concern, and matters of care are shot through with one another. Or to put it in yet another way: matter and meaning cannot be severed.

—KAREN BARAD, "INTERVIEW WITH KAREN BARAD," IN RICK DOLPHIJN AND IRIS VAN DER TUIN, *NEW MATERIALISM*

Artists such as Pipilotti Rist, Patricia Piccinini, and Mariko Mori typify a fascinating yet underappreciated variant of post-1990 new media art that draws attention to our encounters with new sciences, technologies, and other forms of matter, often in forceful and unexpected ways.¹ What is more, these artists create new media installations that offer novel experiential environments for exploring, inhabiting, and even critiquing our relations with science and technology in the twenty-first century. Consider the following propositions and provocations.

Pipilotti Rist's cathedral-scaled installation, *Pour Your Body Out (7354 Cubic Meters)* (2008), entreats us to "pour our bodies out"—and in the cavernous atrium of New York's Museum of Modern Art (MoMA), no less. The all-encompassing multimedia work consists of enormous biomorphic moving images projected onto all four walls of a colorful carpeted and cushioned interior. Immense cascades of magenta drapery partially enclose the otherwise sprawling exhibition space. Breast-shaped projectors emit dreamy jewel-toned imagery of female, animal, and natural forms merging in verdant and moist interactions. Upon entering the unabashedly feminized space, the installation's viewer-participants are free to choose how to explore it: some roam throughout the eroticized multimedia



FIGURE 1. Pipilotti Rist, *Pour Your Body Out (7354 Cubic Meters)*, installation view, 2008. Multichannel video projection (color, sound), projector enclosures, circular seating element, carpet. The all-encompassing multimedia work includes enormous moving images projected onto all four walls of the Museum of Modern Art's atrium as well as custom-designed viewing and lounging areas. Copyright 2009 Pipilotti Rist and The Museum of Modern Art, New York. Images courtesy of the artist, Luhring Augustine, New York, and Hauser & Wirth. Photography by Thomas Griesel. Digital Image copyright The Museum of Modern Art / Licensed by SCALA / Art Resource, New York.

environment, circulating amid the other visitors; others sprawl, cheek by jowl, on a massive mattress-like seating element custom-designed by the artist. Regardless of which path they choose to follow or the perspective from which they view the piece, Rist's viewers find themselves surrounded by other viewing bodies, encircled by wall-sized projections, and enveloped by hallucinatory electronic music.

Many art historians think we already know how to judge this type of populist, large-scale multimedia installation: as commercialized and institutionalized media spectacle. Such projects are deemed to be emblematic of the contemporary art museum's commercially inclined experiential programming and bombastic architecture. On the one hand, that might not be entirely unjustified. After all, Rist's sumptuous installation is the first in the museum's history to inspire site-specific yoga lessons, both impromptu

and museum-sponsored. As many of the foremost cultural critics of the twentieth century have convincingly argued, we must be ever vigilant against the uncritical embrace of the popular and the new, particularly insofar as they are bound up with the culture industry (Max Horkheimer and Theodor Adorno), commodified spectacle (Guy Debord), and the seeming insatiable quest for the “experience of experience” itself (Rosalind Krauss).²

If we look closer, however, we might see that something else is going on in Rist’s well-known MoMA installation. There is no getting out of the entangled stickiness of it all—you *feel* your surroundings in this immersive multimedia environment. If you “pour your body out” in your multisensory encounter with this work (and good luck avoiding it), new possibilities arise. You are provoked, no matter how briefly, to experience yourself as embodied, sensuous, and contingent—as an active body coconstituted with other lively bodies and processes. We pour our bodies out, and yet we simultaneously perceive ourselves doing so from a contextualized, embodied, and located point of view.

If Rist invites us to pour our bodies out, Patricia Piccinini instead requests that we wear our hearts on our sleeves. Piccinini’s *We Are Family* exhibition (Venice Biennale, 2003) asks viewers to come face-to-face with otherworldly biotech-generated creatures. The most remarkable are hyper-realistic sculptures of charmingly grotesque bioengineered creatures engaged in various everyday activities: prematurely aged cloned boys playing a handheld video game, a nursing family of mutant porcine-bovine-hominoid crossbreeds, a small child amicably fondling presumably sentient flesh lumps (complete with mouths, hair follicles, and freckles), and so on. Tellingly, these immobile and nonsentient beings appear just “human enough” to inspire absorptive attention and even an anxious affection in their viewers. Encountering a room populated with Piccinini’s transgenic humanoid objects is an extravisual experience that you feel in your gut. Who are these hybrid aberrations and what do they want? Should you love them? Pity them? Use them to decorate your home? However melodramatic these sculptures may be (a charge lobbed against the work by unsympathetic reviewers for reasons that parallel Rist’s bad press), Piccinini’s installation allows you to experience yourself shamelessly anthropomorphizing these nonhuman entities. And this, in turn, just might challenge your notion of what it means to be human in the first place.

Mariko Mori, for her part, requests that viewers leave planet Earth altogether. Mori’s multimedia installation *Wave UFO* (1999–2003) invites gallerygoers to step inside a shiny sculptural UFO equipped with brain-wave interface technology. Attendants strap three visitors at a time into



FIGURE 2. Patricia Piccinini, *The Young Family*, 2002–3. Silicone, acrylic, human hair, leather, timber. 80 cm × 150 cm × 110 cm (31.5 × 59 × 43 inches) (irreg.). This hyperrealistic, life-size sculpture depicts a nursing family of mutant porcine–bovine–hominoid crossbreeds. Photographer: Graham Baring. Photograph courtesy of the artist.

EEG brain-monitoring equipment that allows the threesome to watch simulations of their shared body–brain experiences accompanied by crystalline electronic music. Each individual participant’s brainwave patterns are artistically rendered as slowly morphing and interlocking pastel patterns on a series of overhead screens. The redolent moving images on the screens in turn affect the ongoing brain activity of the other two participants, creating a neurofeedback loop. Mori’s customized software interprets these data in a visual rendering that allows all three participants to see an evocative, and, importantly, highly mediated, translation of their interconnected brainwaves in action. Art critics have detailed the apparent ridiculousness of the work’s New Agey ethos, lab-coated gallery assistants, and long queues. But when is the last time you *felt* neuroimaging technology and its sociocultural implications? When is the last time you *inhabited* distributed consciousness or the fluidity of subjectivity?

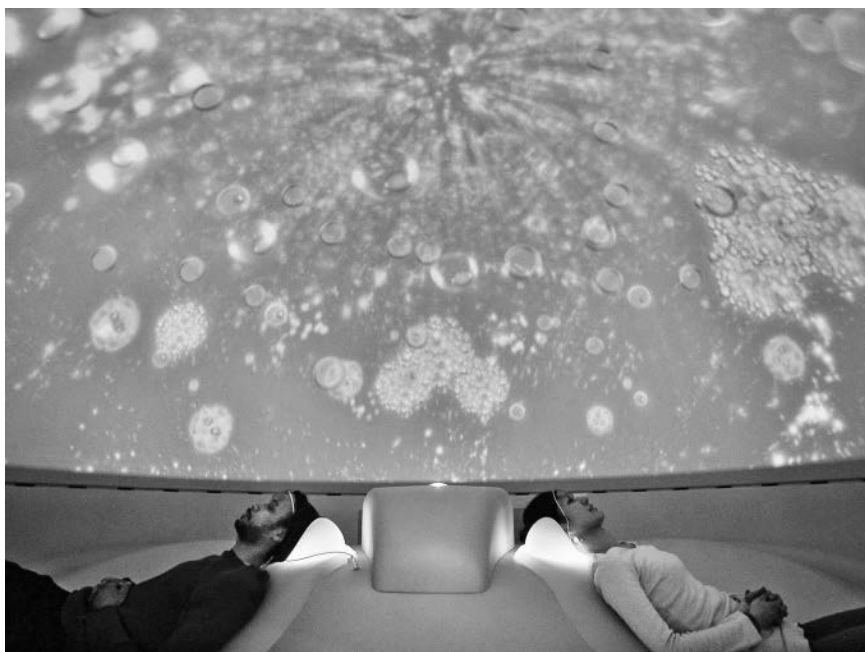


FIGURE 3. Mariko Mori, *Wave UFO*, 1999–2003, detail. Brainwave interface, Vision Dome projector, computer system, fiberglass, Technogel, acrylic, carbon fiber, aluminum, magnesium. 493 cm × 1,134 cm × 528 cm (194 × 446.5 × 208 inches). The artwork's participants are monitored by a brainwave-tracking apparatus while they watch projected images on hemispherical overhead screens. The images shown here are from the artist's prerecorded "Connected World" sequence. Courtesy of Shiraishi Contemporary Art, Inc., Tokyo, Deitch Project, New York. Copyright Mariko Mori 2009. All rights reserved. Photo courtesy of Mariko Mori / Art Resource, New York. Copyright 2016 Mariko Mori, member Artists Rights Society (ARS), New York.

New media installations like those of Rist, Piccinini, and Mori have been underappreciated by contemporary art scholars despite—or perhaps because of—their relative approachability and widespread popular success. The critical disregard of these projects by many (although by no means all) scholars may also be motivated in part by the gendered nature of the ostensibly passive and immersive corporeal reception these multisensory works promote.³ These artists represent particularly extreme examples of new media installation art in that they are not afraid of affect, populist museum spectacle, or passive immersion—the very qualities said to make post-1990s media artwork an unwelcome debasement of the ostensibly

more critical media art practices of the 1960s and 1970s.⁴ Indeed, Rist, Piccinini, and Mori get very close, possibly even too close, to the scientific and technological interfaces they set out to explore and critique. This book puts incriminatory analyses of post-1990 media installation practices into productive conversation with what I consider to be the prodigious contribution of these artists: their provocative enactment of the interfaces with new sciences and technologies that define our everyday lives.

At a time when reimagining the exchanges among human beings, technologies, and the other nonhuman creatures, forms, and processes that make up our world arguably has never been more urgent, installations such as those by Rist, Piccinini, and Mori far exceed their reductive characterization as institutionalized media spectacle. Participatory new media installations such as these deliberately mobilize the contemporary art museum's critical framing function in order to stage spectators' physical and emotional interactions with science, technology, and other objects (including human bodies), transforming these encounters into part of the work of art itself. The remarkable installations detailed above *perform* our affective and corporeal relations with the objects of media art, biotechnology, and the brain sciences such that we actively experience how our contemporary sciences and technologies create us even as we create them. Through creatively enacting a variety of human–nonhuman relations, these artworks reveal how human experience is always contextual and interactive, and they instantiate how subjects and objects emerge through their encounters with each other.

I propose that the experiential and environmental works of artists such as Rist, Piccinini, and Mori promote a critical and potentially revelatory spectatorship: one deeply informed by feminism's long-held epistemological commitment to exploring the mechanisms by which bodies and matter become meaningful. They not only carry on a feminist epistemological project, however—they do so in ways that directly employ and analyze twenty-first-century science and technology. These artists may justly be called theorists: practitioners in the growing interdisciplinary field of feminist theoretical materialisms.⁵ Installations such as those by Rist, Piccinini, and Mori advance the ethical-political aims associated with feminist materialisms' models of material agency and embedded, contextualized embodiment—especially, as we shall see in what follows, feminist technoscience studies.

This book explores materialisms and modes of spectatorship in post-1990 new media art. It brings the research areas of new media art and interface studies into conversation in original ways while simultaneously maintaining a historical perspective that acknowledges the way in which

many of the qualities habitually attributed to our experiences with new media are not in fact “new.”⁶ Rist, Piccinini, and Mori are my central case studies because each has demonstrated a career-long investment in exploring the interactions between humans and new technologies (with a special focus on developing these speculations in material and experiential art environments) and each has been discussed in relationship to feminism, albeit inconclusively.⁷

This book focuses on the connections between new media art and feminist materialisms for two principal reasons: first, drawing out affinities between new media installation art and the persuasive ethical-political motivations of feminist materialisms helps us to recognize the often-observed critical-aesthetic potential of these artistic practices and their spectatorship. It also helps us to think through a seeming paradox: how the artistic enactment of technological intimacy and mediated entanglement, as a feminist material practice, might offer a new model of critical aesthetics. Second, this approach allows us to appreciate how new media artworks such as those by Rist, Piccinini, and Mori constitute feminist theoretical materialisms in their own right. Artists may even go one better, at least by some reckonings, because they theorize not just with words, but *in* space, *with* technologies, and *through* bodies. As practicable material feminisms, these experiential artworks offer meaningful and heretofore unappreciated opportunities for examining the material, social, technological, and biological conditions that define our contemporary technoculture.

With this in mind, *A Capsule Aesthetic*’s objective is efficiently defined: to think new media art through feminist materialisms, and feminist materialisms through new media art.⁸ To be clear: my intention here is not simply to propose philosophy as a way to explain art, or art as a means to illustrate theory. Rather, I aim to explore how these instruments can work together, provoke each other, and even begin to unite in the interest of larger critical and intellectual projects. In short, this study takes new media art seriously as a form of feminist theory and praxis, and it looks at art as a way to augment current feminist theorizing. Through extended case studies of specific installations, *A Capsule Aesthetic* expounds upon many of the motivating social, technological, and ecological concerns of feminist theoretical materialisms. These include, for example, the imperative to develop a post-anthropocentric theory of subjectivity, the momentousness of building interpretive bridges between the humanities and the sciences, and the urgency of feminism to contemporary ethics.

Feminism at the Interface

In terms of methodology, I approach these dynamic new media art practices as a study of spectatorship, the premise being that *how* one sees and experiences a given work of art is just as important as *what* one sees. Throughout the book, I consider the issue of spectatorship by examining the human–nonhuman interface conditions in a given media artwork: the array of physical, symbolic, and sociological sites of exchange among bodies, technologies, and other forms of matter.

The museum-based media installations examined in this book are distinguished by their purposeful staging of body–environment syntheses. There is no conception of an artwork or environment “over there” and the viewer “over here”: the work is an *ongoing event* that happens at the ever-changing interface. This interweaving of lived phenomenal bodies with active nonhuman matter—the deliberate framing of embodied technointerfaces—challenges conventional models of spectatorship. Spectatorship studies tend to rely on traditional notions of the human subject’s relationship to the world as a spectatorial view on an “outside” reality, on conceptions of aesthetic experience as exclusively sited in the observing subject, and/or on notions of the apparatus as all-determining.⁹ Instead, as I will argue throughout this book, the interface is always a process-based enactment and the viewing subjects of media installations are simultaneously actors *and* observers, subjects *and* objects.¹⁰

Taking a cue from the works of art themselves, *A Capsule Aesthetic* introduces a spectatorship model in which “interface matters.”¹¹ In the case of media installation artworks, the interface is of particular importance because the interface—where and how the viewing body encounters the material artwork—is in large part the meaning of the work of art itself. Installation artworks are participatory sculptural environments in which the viewer’s spatial and temporal experience with the exhibition space and the various objects within it forms part of the artwork. These pieces are meant to be experienced as activated environments, rather than as discrete objects: they are designed to “unfold” during the spectator’s experience in space and time, rather than to be known visually all at once.¹²

Installations are always contingent upon the viewer’s embodied and contextualized experience, and they exhibit the entwined relationships between viewing subjects and material objects—this totally by design. Installation artists, crucially, use the institutional context of the visual arts as a frame to set off and activate the spectator’s experience as a site of aesthetic-critical contemplation. In the case of the new media installations explored in this book, the spectator’s experience of embodied

technointerfaces—which I have deemed to be a feminist materialist project—is of primary importance.

The corporeal and investigative spectatorship associated with installations made by artists like Rist, Piccinini, and Mori arguably intersects with a wide range of feminist critical approaches. Of course numerous difficulties are associated with periodizing and identifying feminism in art with regard to the multiplicity of feminisms since the 1970s—including generational and regional divergences, feminist critiques centered on race and class, and so-called postfeminisms. My goal in this book is not to demarcate definitively what constitutes an authentic feminist art; rather, my aim is to explore how expansive the intellectual inheritance of feminism(s) can be for theorizing contemporary artistic production and its methods. In *Self/Image: Technology, Representation, and the Contemporary Subject*, Amelia Jones proposes the useful term “para feminism” to draw out affinities among multiple feminisms. “If postfeminism implies an end to feminism, through the term para feminism, with the prefix ‘para-’ meaning both ‘side by side’ and ‘beyond’—I want to indicate a conceptual model of critique and exploration that is simultaneously parallel to and building on (in the sense of rethinking and pushing the boundaries of, but not superseding) earlier feminisms.”¹³ *A Capsule Aesthetic* shares Jones’s objective of tracing affinities across various feminisms. However, I make a strategic decision to eschew the restrictive label “feminist art” altogether, in favor of Mary Kelly’s more capacious designation “art informed by feminism.” As Kelly explains, “Perhaps we shouldn’t maintain this formulation ‘feminist art,’ because an ideology doesn’t constitute a style. Rather I would say ‘art informed by feminism.’”¹⁴ This approach allows me to recognize meaningful similarities across various feminist methods while also acknowledging that there is no single feminism and, moreover, that artists informed by feminism(s), Rist, Piccinini, and Mori included, do not necessarily self-identify as feminist.

I identify the feminism in these new media art practices not by virtue of the artists’ professed investment in feminist philosophy, but rather by analyzing the particular model of artistic experience (the interface) proposed in a given work and appreciating its conceptual and methodological similarities to feminist frameworks past and present. Although written in a different context, Stacy Alaimo’s qualification regarding the feminism in present-day theoretical materialisms is helpful here. Even if these theories do not explicitly address feminist questions of sex or gender, explains Alaimo, “they still have their roots in feminism as a social movement, via their insistence that the human body is, simultaneously, a political, ontological, and epistemological site.”¹⁵

From a historiographical perspective, feminist philosophers for decades have been at the forefront of rejecting dualistic separations of minds from bodies or nature from culture and insisting (à la Foucault) on the materializing force of broadly circulating ideas.¹⁶ Postcolonial, environmental, and black studies have long shared overlapping concerns as well. The feminist precedents that most concern us in this study, however, are those that specifically theorize how human bodies and nonhuman technologies are entangled. Feminist scholars of poststructuralism and psychoanalytic film theory developed the first spectatorship theories concerned with the complex relationships among media technologies, bodies, and subjectivity as early as the 1970s. (Chapter 2 is devoted to revisiting these profoundly influential yet often misunderstood theoretical frameworks developed in the 1970s and 1980s—a period during which feminist theory and media art were very much entwined, and one that represents an important but overlooked prehistory to the so-called new materialisms.) I will argue throughout the book for the continued relevance of all these earlier feminisms, but the correspondences between post-1990 media art practices and contemporaneous feminist new materialisms are even more forceful and will be our focal point here.

Understanding Feminist New Materialisms

To appreciate the contributions of the feminist variants of new materialisms (feminist critiques of technoscience in particular), and to understand how they map onto the artistic practices at issue in this book, we first need to establish a working definition of new materialism and determine how it relates to the larger “material turn” across the humanities and social sciences over the past three decades. The material turn has been motivated both by the perceived inadequacies of the linguistic turn and by new scientific definitions of matter, including living matter.¹⁷ While in many ways prefigured by earlier feminist theories (a point increasingly well articulated by writers such as Alaimo, Sara Ahmed, Rebekah Sheldon, Iris van der Tuin, and others, and one we will return to in chapter 2), the self-conscious scholarly turn toward matter has inspired a proliferation of theoretical approaches known as “new materialisms.”¹⁸ Scholarship in this interdisciplinary area is more or less unified by the conviction that a viable twenty-first-century philosophy needs to account for the activity of materials and the nonhuman world. In their anthology *New Materialisms*, Diana Coole and Samantha Frost concisely describe the transformative influence of the shift in emphasis toward agential matter: “Conceiving matter as possessing its own modes of self-transformation, self-organization, and directedness, and thus no-longer as simply passive or inert, disturbs the conventional

sense that agents are exclusively humans who possess the cognitive abilities, intentionality, and freedom to make autonomous decisions and the corollary presumption that humans have the right or ability to master nature.”¹⁹ Whereas scholars’ specific critical investments diverge and even contradict each other, writings on new materialism, such as those collected by Coole and Frost, tend to share certain basic characteristics, namely, a critique of anthropocentrism, an emphasis on the self-organizing powers of matter, a commitment to thinking from a planetary perspective, a reevaluation of subjectivity by accentuating the agency of nonhuman forces, and, ultimately, a reconsideration of the bases of contemporary ethics.²⁰

Feminist variants of the new materialisms, such as those developed by scholars like Karen Barad, Rosi Braidotti, Donna Haraway, Claire Colebrook, and Elizabeth Grosz, are of special interest, in part because they maintain that bodies (human or otherwise) exist in interaction with an array of discursive forces.²¹ Their specific writings reveal a rich and internally variegated body of literature, but all these thinkers bring the material (including the materiality of the human body) into the forefront of feminist theory and practice. Moreover—and this is key—they do so without losing sight of its sociocultural production. The logical imperative behind such an approach has been identified by Bruno Latour as part of his advocacy of science studies. Latour argues that the challenge for contemporary thinkers is to move beyond what he calls the failure of the “modernist settlement”: the erroneous belief in the separation of the material and linguistic and of the social and natural worlds.²² Instead, Latour proposes, we need to develop a material theory that encompasses language, materiality, science, and technology; that is, to understand the material in discursive terms.²³ In *The Material of Knowledge*, Susan Hekman convincingly argues that feminist theory is unmistakably the most developed and explicit of the contemporary “settlements” that meet Latour’s call for material-discursive analysis. Her endorsement of feminist new materialisms is unequivocal: “My thesis is that this feminist attempt will be the driving force behind the formulation of a new settlement not only for feminism but for critical thought as a whole.”²⁴ Hekman reasons that this is due to the sociopolitical commitment that lies at the root of feminism itself. As Hekman describes, this commitment has two aspects: “First, feminists want to be able to talk about the reality of women’s bodies and their lived experiences in a patriarchal world. . . . Second, feminists want to assert the truth of their statements regarding women’s status in that world.”²⁵ In other words, the reason material feminisms convincingly unite an interest in materiality (including material bodies) with the insights of discursive analysis is twofold: feminists cannot afford either to lose women’s bodily realities entirely or,

significantly, to ignore questions of political subjectivity and the socially constructed experience of bodies—which, as these theorists persuasively describe, are also material.²⁶

Grosz described this feminist political ontology of the body as early as 1994. The objective is for “subjectivity to be understood as fully material and for materiality to be extended and to include and explain the operations of language, desire, and significance.”²⁷ Braidotti, in conversation with Rick Dolphijn and van der Tuin, helpfully clarifies the starting point for feminist new materialist redefinitions of subjectivity. As explained by Braidotti, these feminist materialist thinkers understand the body or the embodiment of the subject as “neither a biological nor a sociological category, but rather as a point of overlap between the physical, the symbolic, and the sociological.”²⁸ Like Latour, then, feminist theorists of the new materialisms begin from the premise that the material and the cultural are overlapping and coextensive. For feminist new materialists, however, knowledge production even more specifically is a material–semiotic relation that is emphatically *relational, embodied, and embedded*. This is significant because, as Braidotti points out in *The Posthuman*, even scholarship emerging from science and technology studies such as Latour’s ultimately exhibits a “high degree of political neutrality” vis-à-vis the human (or, in Braidotti’s terms, “posthuman”) predicament. “Science and technology studies tend to dismiss the implications of their positions for a revised vision of the subject. Subjectivity is out of the picture and, with it, a sustained political analysis of the posthuman condition.”²⁹ We will return to the intersections of contemporary feminism and posthumanism in chapter 4. At present, I want to underline how Braidotti’s counterthesis encapsulates the significantly different project shared by many scholars associated with feminist materialist critiques of technoscience. Braidotti advocates for a conceptual framework that includes, as she puts it, “both scientific and technological complexity *and* its implications for political subjectivity, political economy and forms of governance.”³⁰ In short, (technological and scientific) matter and (social) meaning cannot be separated.

What is essential to grasp is that feminist new materialists like Braidotti (and her like-minded artist peers) work both *through* and *against* the larger new materialisms (material turn). These feminist thinkers are exceptional in that they reject traditional subject-centered humanism, but *not* the fundamental importance of context and embodied experience. In so doing, they bring renewed attention to the questions of subjectivity that are sometimes occluded in materialist theories that challenge the interpretive exception of human experience, and even discount the embodied subject altogether. (For example, the critique of “correlationism” associated with

various speculative realisms, and the antipathy to relations in favor a “flat” world of autonomous objects among object-oriented ontologies.)³¹ A recent article by Cecilia Åsberg, Kathrin Thiele, and van der Tuin in *Cultural Studies Review* pinpoints feminism’s strategic contribution to the larger new materialism. They grant that while there are many productive points of overlap, feminist methods differ from materialist projects such as speculative realism in crucial and revelatory ways. “Trained with a political pathos that taps into sexual difference, feminist science studies, anti-colonial, environmental, animal and social justice movements, [feminist scholars] certainly can agree with the need to acknowledge the nonhuman (poor term, of course) agency.” That said, Åsberg, Thiele, and van der Tuin go on to identify a decisive difference that marks feminist approaches: “Where speculative realists strive for an unmediated, wholly a-subjective real, feminist immanence ontology (in the singular plural) insists on the co-constitutive role of the embedded observer, the perspective and the rich agency (multi-subjectivity) of context itself.”³² As these feminist theorists insist, and as the embodied technointerfaces enacted by Rist, Piccinini, and Mori affirm, we are always interimplicated with each other and with the rest of the material world—and from a particular embodied and contextualized perspective.

Whether in scholarly or artistic configurations, feminist new materialisms’ special perspective on the body and the contextualized embodiment of the subject successfully circumvents the abstraction and universalizing that sometimes (ironically) vexes other theoretical materialisms. While the critical practices, epistemologies, and ontologies of feminist theoretical materialism, pointedly, are always bound up with their politics, it is vital not to equate this sociopolitical commitment with identity politics and the potential anthropocentrism of that approach. Instead, for feminist new materialists, things and ideas *jointly* produce the world. Epistemology and ontology are inseparable. As Sheldon deftly explicates, “[Feminist] epistemology . . . is not a sieve filtering out the material world and leaving only our relation to ourselves; rather, epistemology directly acts on material liveliness.”³³ For feminist new materialists, bodies are not merely cultural or biological, but rather are constituted in performative affective encounters—the very encounters and embodied interfaces enacted in the participatory art installations by Rist, Piccinini, and Mori.

Intra-action in Art and Theory

The artistic feminist materialisms examined in this book purposefully instantiate our myriad potential relations with nonhuman technological

entities and beings. Rist's feminized bastion of sensuous moving images and erogenous exhibition design submerges museum visitors like undersea divers. Piccinini's biotech babies cry out to be picked up and held to our chests. Mori's futuristic machine literally interweaves viewers' bodies with the scientific imaging apparatus and with their peers. In each, bodies and technologies open outward and constantly remake each other. These installations enable us to appreciate how coherent "bodies" and "technologies" do not preexist the interface (as one might conventionally assume), but instead are constantly in process.

In their critical engagement with new sciences and technologies, the installations explored in this book intersect most explicitly with feminist critiques of technoscience by writers such as Barad, Grosz, Braidotti, Haraway, Lucy Suchman, and N. Katherine Hayles.³⁴ In tracing the achievements of various new materialisms in *The Material of Knowledge*, Hekman assigns special priority to feminist materialist studies of technoscience because this specialized field "addresses epistemological, ontological, political, scientific, and technical issues simultaneously. It is concerned, not just with science, knowledge, or power, but with all of these at once, and most importantly, with the interactions among them."³⁵ Much like Rist, Piccinini, and Mori, these scholars have developed material perspectives to reconceptualize nature, biology, and other forms of matter, but also to critically address new developments in physics, neuroscience, and other technoscientific disciplines. The editors of the recently launched journal *Catalyst: Feminism, Theory, and Technoscience* succinctly indicate the timeliness of this increasingly prominent field in their introduction to the inaugural issue. "In a world infused with technoscience, the work of theorizing and inventing better relations and practices with technoscience remains urgent: from the ways in which scientific practices are built out of social hierarchies, to the ways in which new and old forms of militarisms propagate; from the ways that race relations build structural violence into the everyday, to the ways that new forms of life are being assembled in labs."³⁶

As in the case of artists like Rist, Piccinini, and Mori, the analysis of human–nonhuman interfaces is a foremost concern for these scholars. In *Human–Machine Reconfigurations*, Suchman astutely observes that the term "interface," like the related concept of "interaction," in many ways falls short of capturing the always already entangled quality of human–computer interfaces. Suchman notes that whereas the construct of *interaction* suggests two entities given in advance that come together and engage in some sort of exchange, Barad's term "intra-action," in contrast, productively underscores the sense in which subjects and objects emerge through their encounters with each other.³⁷ Barad, a theoretical physicist

and feminist theorist, first introduced the concept of intra-action in a discussion of quantum physics: a field that studies the intra-actions of the observer, the observed, and observing instruments/apparatus, all of which are “agential,” and none of which can be articulated in the absence of the other. Barad expands on these ideas in her theory of agential realism (Barad’s name for her particular brand of feminist theoretical materialism): “On my agential realist elaboration, phenomena do not merely mark the epistemological inseparability of ‘observer’ and ‘observed’; rather, *phenomena are the ontological inseparability of agentially intra-acting ‘components.’*”³⁸ For feminist materialist critics of technoscience like Barad, observers, technological apparatuses, and what they observe do not predate their dealings with each other; because of this, they can only be known in their comings together (their intra-actions).³⁹ Moreover, observers, technological apparatuses, and what they observe *all* are active and possess some form of agency—not in the liberal humanist sense, but in the sense of a process-based enactment. (Note that while, like Suchman, I am profoundly sympathetic to Barad’s project, I retain the use of the term “interface” throughout the book even as I detail the interface’s *intra-active* fluidity.)

Alaimo and Hekman succinctly identify the mandate for appreciating “intra-activity” that inspires many of today’s feminisms in the introduction to their anthology, *Material Feminisms*. They state: “We need ways of understanding the agency, signification, and ongoing transformative power of the world—ways that account for myriad ‘intra-actions’ . . . between phenomena that are material, discursive, human, more-than-human, corporeal and technological.”⁴⁰ Alaimo’s own notion of “trans-corporeality” exemplifies this trend and is especially relevant for our current argument regarding the potential contribution of artistic environments that enact human–nonhuman interfaces. She argues that focusing on what she calls transcorporeality—the movement across human bodies and nonhuman nature—stands poised to profoundly alter our sense of human subjectivity, ethics, and the individual’s relation to scientific knowledge.⁴¹ Reconceptualizing human subjectivity and agency as context-bound enactments is not transformative for ethics and the individual’s relation to knowledge because it nullifies conventional accounts of agency and responsibility. On the contrary, *it is transformative because the embodied, embedded, and agential human subject still maintains some degree of political and ethical accountability for the new possibilities that are brought forth.*

My point is this: in projects conceptually analogous to feminist materialist critiques of technoscience, and similarly addressed to exigent socio-cultural concerns, artists such as Rist, Piccinini, and Mori are centrally concerned with how science, technology, and society, all of which possess

agency (in the entangled ways described above), complexly interact to give us an understanding of the world. Moreover, both groups are explicitly concerned with how technological and scientific interfaces come to matter *through* and *with* human, phenomenal experience, and both are engrossed in reformulating definitions of embodied subjectivity. While much scholarship devoted to the feminist materialisms stays exclusively within the realm of theory, however, the new media installation artists examined in this book are exceptional in that they literally stage and enact scientific and technological interfaces in relation to the embodied phenomenal experience of human actors. If feminist theoretical materialism's reconceptualization of the material world allows us to acknowledge its influence on experienced reality, and thus enables us to imagine new ways of doing politics and ethics, material art practices informed by feminism are even more distinctive: they allow us to experience and inhabit these new ways of being firsthand. The participatory new media art environments of Rist, Piccinini, and Mori appropriate the art institution's critical framing function in ways that allow us access to feminist new materialisms that were previously unknown. By inviting us to pour our bodies out in conjunction with moving images (Rist), negotiate affective relationships with nonhuman creatures (Piccinini), and inhabit body-brain codependencies (Mori), these artists' new media installations allow us to actively experience *and* critically assess the multifaceted ways in which we are enacted with the material world. The profound aesthetic, ethical, and political implications of performative human-technology interfaces such as these will be our primary focus in the remainder of the book.

Chapter Outlines

Having already established the significant methodological and conceptual correspondences between post-1990 new media installation art and feminist theory, the remainder of the book comprises four thematic chapters organized around case studies of exemplary artworks, exhibitions, and critical texts. Chapters 2 and 3 establish a theoretical and historical model for understanding new media art as it has been informed by feminism and identify the art form's critical aesthetics. Chapters 4 and 5 approach the thematic of feminism in a less direct fashion. They do not explicitly reargue for the "feminism" visible or not in each case, but rather build from the book's foundational premise regarding the affinities to feminist new materialisms in order to demonstrate the ways in which new media art may offer useful entry points for studying the place of human experience (and indeed the humanities) in our contemporary technoculture. Like

the artworks in question, the book's chapters traverse many different terrains—from art to cinema, from biotechnology to the brain sciences.

Chapter 2, “Thinking Through Feminism: The Critical Legacy of 1970s and 1980s Feminist Media Art and Theory,” explores the immediate prehistory of post-1990s new media art and materialisms in the feminist theories of media art and spectatorship of the 1970s and 1980s. The central case study is the pivotal exhibition *Difference: On Representation and Sexuality* (Kate Linker and Jane Weinstock, New Museum of Contemporary Art, 1984–85), which, together with Laura Mulvey's essay, “Visual Pleasure and Narrative Cinema” (1975), has become emblematic of feminist media art and theory inspired by psychoanalytic and poststructuralist models of spectatorship. The chapter's historiographical analysis of the exhibition and its critical context reveals the complexities and internal diversity of so-called social constructionist feminist theories in the 1970s–1980s, including feminist theories of media art spectatorship. This is especially significant in relationship to the material turn because these divergent social constructionist feminist models tend to be collectively dismissed as outdated for their alleged exclusive focus on language and representation. Instead, we will see how feminist art and spectatorship theories in many ways prefigured the concerns with the subject–object relations and technological interfaces that occupy many of the current new materialisms. This defensive rethinking of earlier feminist approaches allows us to more responsibly theorize and historicize post-1990 new media art in a manner that is mindful of past models, even while scrutinizing key points of departure.

Chapter 3, “Critical Proximity: Pipilotti Rist's Exhibited Interfaces and the Contemporary Art Museum,” takes up the challenge identified in chapter 2 of theorizing feminist new media art in the wake of prior cinemacentric and language-based models of social constructionism and ideology critique. It proposes that analyzing the conditions of the body–technology interface enacted in a given work of art best assesses the critical contributions of post-1990 new media installation art practices. It also details why this approach yields special gains in ascertaining the transformative role of the contemporary art museum for new media art spectatorship. Rist's pioneering new media practice is the chapter's principal case study. One of the most celebrated artists of her generation, Rist's iconoclastic videos, sculptures, and installations have tested the prevailing critical frameworks for assessing media art and feminism. Several art historians have deftly detailed the ways in which Rist's playful approach to female subjectivity and embodiment generates a spectatorship that complicates the once-orthodox critiques of voyeurism, pleasure, and the gaze. This chapter

builds on that foundational work but with a focus heretofore unexplored by Rist's supporters: I evaluate and defend the critical-aesthetic potential of Rist's immersive and multisensory museum-based installations in light of the widespread commercialization, spectacularization, and institutionalization of moving-image art practices since the 1990s. Through extended analysis of *Pour Your Body Out*, particularly as it compares to her closely related feature film *Pepperminta* (2009), I demonstrate how the art gallery exhibition situation, including material and psychological conditions of spectatorship, facilitates a range of productive opportunities to experience and evaluate the myriad interactions among viewing bodies, digital media, and other forms of materiality that tend to go unnoticed outside of an art exhibition context.

Chapters 4 and 5 elaborate on these critical opportunities and investigate the interdisciplinary relevance of new media art works as they intersect with contemporary technoscientific discourses. Chapter 4, "Unbecoming Human: Patricia Piccinini's Bioart and Postanthropocentric Posthumanism," explores Piccinini's multimedia bioart as it relates to fluctuating and often paradoxical definitions of what counts or is valued as human in the age of biotechnologies. Piccinini creates fictitious hybrid life forms, working across various media to stage a variety of transspecies encounters. Through detailed analysis of the artist's *We Are Family* exhibition and its critical reception, the chapter explores what is at issue with the prevailing, positive judgments about Piccinini's work. Reviewers tend to theorize the spectator's experience in generous and ostensibly progressive terms, interpreting Piccinini's work as encouraging viewers to lovingly parent the pitiful creatures seemingly generated through biotech's experimental mishaps. I show how these dominant feel-good interpretations reveal an ongoing anthropocentrism of our relation to technology that may even be read as politically reactionary. Put simply, the nonhuman figures of biotechnology are made familiar and humanized at every turn in the literature documenting the artist's work. Through reference to specific works of art, I show how Piccinini's art objects promote a spectatorship that transcends these well-intentioned yet reductive frameworks and gestures instead toward a form of artistic experience that invites viewers to experience and care for non-human others in a positive relation based not on the grounds of their similarities with us (as dominant accounts suggest), but rather in an affirmative relation based on inexhaustible difference.

Chapter 5, "Mind over Matter: Mariko Mori, Art History, and the Neuroscientific Turn," extends chapter 4's emphasis on art and technoscience and focuses on the emerging nexus of art, art history, and neuroscience. It identifies the best of the neuroscientific trend in art history and criticism

while rejecting its false starts, particularly the contentious notion that human consciousness can be reduced to gray matter (i.e., the brain's neural activity). Mori's new media art practice structures this discussion. Since approximately 1995, Mori's artistic production has been closely engaged with emerging issues in scientific theories of consciousness. Her brainwave interface and multimedia installation *Wave UFO* thus offers an ideal entry point for interrogating the much-contested "neuroscientific turn" in the humanities. I propose that the most promising transdisciplinary encounters between the brain sciences and the humanities begin from the premise that human experience is embodied, but the "body" itself is interwoven across biological, ecological, phenomenological, social, and cultural planes. I suggest that artworks such as *Wave UFO*, by enacting body-brain events and challenging dominant assumptions about neuroimaging through experiential art environments, productively complicate and augment brain science research as well as its dissemination into other social and cultural arenas.

The book's conclusion reviews the text's primary contributions in identifying the critical potentialities contained in these museum-based new media installations and how they express themselves. This chapter elaborates on Mori's larger post-1990 oeuvre in terms of what I call "a capsule aesthetic": an artistic engagement with the notion of human experience as a nested intermingling of the human and nonhuman, the material and immaterial, the social and physical. I advance the construct of a capsule aesthetic as a way to revisit the book's premise that understanding new media installation art as it relates to feminist materialisms enriches pressing socio-cultural debates about human-nonhuman interfaces in our contemporary technoculture. In an age of slippery categories—when dualisms such as active versus passive, animate versus inanimate, and self versus other appear increasingly unsustainable—artistic practices such as those of Rist, Piccinini, and Mori may very well antedate mainstream ethics. I suggest that the capsule aesthetic indeed may intimate a compelling nonhierarchical way to conceptualize the entangled relations—and co-implicated futures—of human bodies and the rest of the material world.