



Dough (video still) (Mika Rottenberg, 2005–6,
c-print, 16 x 20 inches, edition of 7+2AP,
MR50.1). Courtesy of Nicole Klagsbrun Gallery

Mika Rottenberg's Productive Bodies

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Born in Argentina in 1976 and raised in Israel “by parents steeped in the country’s labour movement,” Mika Rottenberg has received widespread acclaim in magazines ranging from *Artforum International* to *Elle*.¹ In 2004—the year she graduated from Columbia University’s master of fine arts program—*New York Times* art critic Roberta Smith selected Rottenberg’s video installation *Mary’s Cherries* (2003) as “best of show” among the P.S.1 Contemporary Art Center’s summer exhibitions.² Since then, her work has been shown at the Guggenheim, the Museum of Modern Art, and the Nicole Klagsbrun Gallery, as well as in more than a dozen international exhibitions. Rottenberg’s video installations feature bodies performing tasks that range from the extraordinary to the mundane: a woman painstakingly crossing a frozen lake balanced on her bare hands (*Julie*, 2003); a bored cashier tapping her fingernails on the counter of a kitschy Chinese take-out restaurant (*Time and a Half*, 2003); a contortionist bending over backward until her head is between her feet and then exploding in a puff of dust (*Fried Sweat*, 2008); and a bodybuilder grunting and dripping sweat onto

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a hotplate, each drop of sweat evaporating with a fizz (*Fried Sweat*). In other works, dancers, professional erotic wrestlers, and a group of women with fantastically long hair are put to work in inventive, surreal re-creations of the industrial assembly line. Critics often underscore the motifs of labor and manufacture in Rottenberg's videos, invoking Taylorism, the "sweatshop," "a blue-collar work ethic," and "the sense of claustrophobia induced by a dead-end job."³ "In this world's often vertical, assembly-line-like compartments," writes Smith, "women are enslaved and enshrined, serviced and exploited."⁴

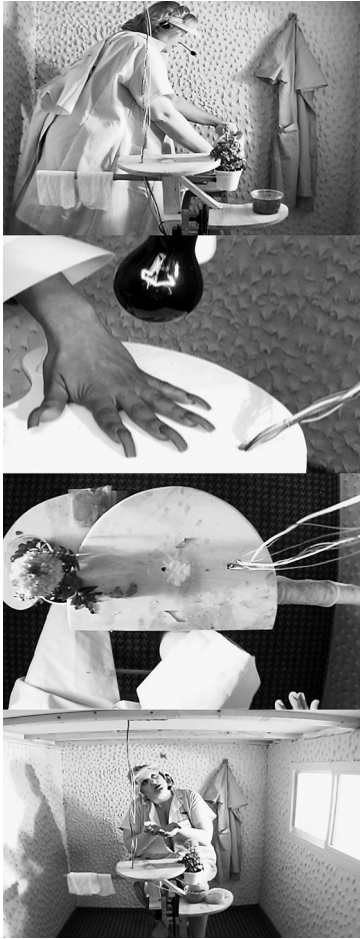
Yet the specific relations between Rottenberg's assembly lines and the dynamics of industrial production remain unclear. Do her factory settings function as critical parodies that condemn the exploitation of workers' bodies or as utopian simulacra of factories in which alternative modes of labor are imagined and staged? Do they critique capitalism's constraints on the body, or do they allegorize—in the spirit of Matthew Barney's *Drawing Restraint* (1987–) studio experiments—the labors involved in artistic creation? While critics have commented extensively on the themes of manual labor and industrial exploitation in Rottenberg's corpus, they stop short of the most puzzling aspects of her simulacral assembly lines, which have to do with their striking differences from actual situations of industrial production.

What is being produced in these scenes of repetitive labor? In *Time and a Half*, the continual tapping of fingernails, juxtaposed with the title's reference to overtime pay and fair labor laws, foregrounds a labor process divested from any material product. Similarly, the bodybuilders featured in Rottenberg's videos maintain only the simulacrum of a working-class body: less the body of a worker than a body that is worked *on*. Although many of the artist's factory scenarios do yield manufactured products—scented toilettes, maraschino cherries, globs of dough, a block of cheese—even these products seem defamiliarized, distanced from both utility and capitalist circuits of exchange. As one reviewer puts it, commenting on the end result of one of Rottenberg's assembly lines, "Why would anyone want a shrink-wrapped piece of raw dough with a [human] tear?"⁵

These invocations of industrial manufacture seem anachronistic given that the Western cities in which Rottenberg's works are most often exhibited have been characterized by deindustrialization and a concomitant increase in "immaterial labor." What do the bodies and by-products that appear in the artist's videos and installations have to do with the post-Fordist decline of industrial manufacture and the emergence of new strategies for deriving profit from human bodies? The historical context of Rottenberg's assembly lines suggests that they function as metaphors rather than literal objects of critique or representation. This essay considers how her works dramatize the increasing capitalization of biological life itself: not what laborers produce but what bodies consist of, grow, secrete, and reproduce. Drawing on Michael Hardt and Antonio Negri's analysis of post-Fordist "empire" as "a situation in which what is directly at stake in power is the production and reproduction of life itself," I examine the roles of industrial labor, bodily by-products, race, and geography in Rottenberg's stagings of gendered industrial production.⁶ Rottenberg's works, I argue, do not critique industrial labor so much as they evoke the dissonance between industrial assembly lines and emergent forms of affective, immaterial, or biological production. By exploring relations between immaterial goods and manufactured products, Rottenberg exposes divisions of race, gender, and geography that complicate efforts to forge transnational alliances against capitalist exploitation.

Body Machines

Rottenberg's factory scenarios begin with two video installations completed while she was in art school. *Mary's Cherries*, the artist's first direct treatment of industrial manufacture, is set in a vertical arrangement of three rooms in which muscular women (played by professional wrestlers) collaborate to produce replicas of maraschino cherries while seated on stationary bicycles. The woman in the top room—whose name tag indicates that her name is Mary—clips one of her long, painted fingernails and passes it down to the middle room, where a woman named Bar-



Stills from *Mary's Cherries* (Mika Rottenberg, 2003, video sculpture, 6 min., dimensions variable, edition of 5, MR30.3). Courtesy of Nicole Klagsbrun Gallery

bara smashes and pulverizes it by hand. She then passes it down to the bottom room, where a third worker named Rock Rose carefully rolls the fragments into a cherry. This process—an elegant dramatization of Karl Marx's observation that, in the industrial production line, "the result of the labour of the one is the starting-point for the labour of the other"—is repeated over and over again, because a lightbulb powered by the stationary bicycles accelerates the growth of Mary's nails.⁷ Eventually, the workers are fed with burgers that appear on a conveyor belt, also powered by their stationary bikes.

If *Mary's Cherries* presents the image of a total production line in which even eating and exercise are accommodated by the architecture of the workstation, *Tropical Breeze* (2004) introduces the element of racial difference. The video depicts two laboring bodies: a white woman on a stationary bike and a muscular, profusely

sweating black woman seated behind the steering wheel of a truck. The first woman—played by a dancer named Felicia—picks up squares of fabric with her foot, dabs them with some chewing gum from her mouth, and passes them to the other woman by means of a mechanical pulley; the second woman—played by a

professional bodybuilder—then wipes a drop of her sweat onto each towelette and hands it back to her coworker, who packages the products into boxes of lemon-scented towelettes labeled “Tropical Breeze.” The women fuel their own bodies by ingesting Stay Awake pills and an energy drink labeled “Lemon Rush,” which is also the source of the towelettes’ lemon scent. As in *Mary’s Cherries*, the women’s consumption—from energy drinks to chewing gum—is incorporated into the machinery of production. Both videos were exhibited in installations whose size and shape approximated the factory spaces depicted on-screen, suggesting a continuity between the gallery space and the constrained spaces of manual labor. Yet the self-sustaining nature of these assembly lines, their simulacral products, and their enclosed spaces (both on-screen and of the installations) also resonate with what Yvonne Spielmann has called the “reflexive” and “nonrepresentative” nature of video art. Video, Spielmann explains, is unique in being an audiovisual medium whose “signal can emerge from the circulation of electric impulses in the devices and requires no external input.”⁸ At the same time that she presents claustrophobic images of women at work, Rottenberg’s playful replicas remind us that video (in contrast with film) does not represent “real” objects and processes so much as it presents continual electric signals.

Asked about the factory scenario of *Dough* (2005–06)—an installation purchased by the Guggenheim Museum—Rottenberg commented, “I suppose it really was based, somewhat literally, on Marx’s theory of labor and value, but as more of a joke about surplus and product.”⁹ Rottenberg is referring to Marx’s labor theory of value and implying that the slow, repetitive nature of the tasks she depicts dramatizes the link that Marx establishes between labor time and surplus value. Her depictions of bodies enclosed in factory spaces also resonate with Marx’s account of how the transition from handicraft to cooperative manufacture (characterized by an increasingly specialized division of labor) saps the vitality and individuality of workers. Manufacture, he writes,

converts the worker into a crippled monstrosity by furthering his particular skill as in a forcing-house, through the suppression of a

whole world of productive drives and inclinations, just as in the states of La Plata they butcher a whole beast for the sake of his hide or his tallow. Not only is the specialized work distributed among the different individuals, but the individual himself is divided up, and transformed into the automatic motor of a detail operation, thus realizing the absurd fable of Menenius Agrippa, which presents man as a mere fragment of his own body.¹⁰

Even as it dramatically increases industrial productivity, the fragmentation of the labor process enervates the worker's intellect and reshapes her body in accordance with the requirements of the assembly line. Yet even under these exploitative conditions, the relation between capital and the body is filled with contradictions. As David Harvey notes in "The Body as an Accumulation Strategy," "Capital continuously strives to shape bodies to its own requirements, while at the same time internalizing within its *modus operandi* effects of shifting and endlessly open bodily desires, wants, needs, and social relations . . . on the part of the laborer."¹¹ If industrial production attempts to shape laborers into fragmentary, mechanical bodies, it also thrives on their "creative passions, spontaneous responses, and animal spirits" (103).

This contradictory relation between capital and the laborer's body helps account for the divergent responses that Rotenberg's representations of labor have elicited. For example, critics have described the quirky, absurd process of producing vacuum-sealed globs of dough in *Dough* as both a dignified, intimate vision of empowered women's bodies and a critical exposé of the collusion between video technologies and Taylorist factory surveillance. The video installation depicts three physically distinctive women (one weighs six hundred pounds, and another is seven feet tall and unusually thin) harnessing flower pollens, allergy-induced tears, energy from stationary bicycles, and air from a bellows to shape a viscous raw material into packages of dough. Although she acknowledges that "their toil is yoked by industry," Chen Tamir argues that the three women in *Dough* "are not your average assembly-line housemaids: they are freakish and empowered. Their strength and individuality defy objectification by the camera's gaze."¹² The

video provides plenty of evidence to support Tamir's assessment: the small-scale, intimate, and intricately choreographed nature of the cooperative production process shared by the three women, as well as nearly erotic interest in the women's hands, faces, and lips that appears to motivate the video's close-ups, alter the usual, objectifying dynamics of the gaze.

Claire Barliant, conversely, suggests that Rottenberg intentionally draws a parallel between the viewer's spectatorship and industrial surveillance: "Are we being put in the position of managers scrutinizing them for lapses in attention?"¹³ In this reading, the camera's erotic interest could be viewed as invasive and abusively intertwined with the managerial

gaze; the video's close-ups could index the claustrophobically small "factory" space in which these unusually large women are enclosed; their unusual physical features—obesity as well as thinness—could be read in terms of class, not "freakish" fascination; and the inclusion of two dark-skinned workers—like the prominent role played by the sweating driver in *Tropical Breeze*—could be taken as a reminder of the disproportionate exploitation and vulnerability of women of color in factory work, particularly under contemporary conditions of globalized maquiladora production. The very medium of video art is implicated in the industrial process, not



Stills from *Dough* (Mika Rottenberg, 2005–6, video sculpture, 7 min., dimensions variable, edition of 5+2AP, MR38). Courtesy of Nicole Klagsbrun Gallery

only because it employs technologies produced in factories but also because its temporality—the endless playback loop, the suggestion that the activity depicted is contemporaneous and ongoing—captures the repetitious nature of sweatshop labor.

Yet far from being diametrically opposed, these readings together highlight the contradictory demands of industrial manufacture as detailed by Marx: it requires the vitality, passions, and idiosyncrasies of laborers at the same time that these are suppressed by impulses to lower wages, maximize efficiency, and intensify the division of labor. The ambiguities of Rottenberg's scenarios, which register as both satirical critiques of capitalism and utopian attempts to imagine intimate and collaborative systems of production, reflect the extent to which the capitalist assembly line itself requires, exploits, and controls utopian aspects of production such as cooperation, creativity, and the individuality of workers. Rottenberg's simulacral factories both express this contradiction and, as I show in the following section, move beyond it by significantly departing from the material conditions of industrial production. Her works cannot be understood in terms of the assembly line alone because they are concerned with bodies and tasks that reference not only industrial capital but also the post-Fordist predicaments of our own era.

Fetishism and Immaterial Labor

In *Multitude: War and Democracy in the Age of Empire*, Hardt and Negri present an influential account of post-Fordist shifts toward new forms of production accomplished by labor processes that are increasingly flexible, mobile, and informal. "In the final decades of the twentieth century," they write, "industrial labor lost its hegemony and in its stead emerged 'immaterial labor,' that is, labor that creates immaterial products, such as knowledge, information, communication, a relationship, or an emotional response."¹⁴ Elaborating on this claim, they explain that "immaterial labor is central to most of what statistics show are the fastest-growing occupations, such as food servers, salespersons, computer engineers, teachers, and health workers" (114). Furthermore, as pro-

duction itself is entirely “informationalized” and organized by flexible global networks, “the division between manufacturing and services is becoming blurred. Just as through the process of modernization all production tended to become industrialized, so too through the process of postmodernization all production tends toward the production of services, toward becoming informationalized” (285–86). Rottenberg’s assembly lines may seem anachronistic or merely nostalgic in light of these developments. However, a closer look at the actors cast in her videos (along with the ways her camera fetishizes their bodies) will demonstrate that immaterial labor is a central motif in her work.

Rottenberg’s interest in the relation between capitalism and the body extends far beyond the industrial assembly line. By deploying manual labor metaphorically, her videos draw attention to the anachronism of US factory labor in an era characterized by geographically uneven development, when many factory jobs in the West have been outsourced to underdeveloped nations. In fact, Rottenberg foregrounds the role of immaterial labor via both the working conditions she stages and the particular types of bodies she casts in her videos. Simultaneously depicting both factory assembly lines and forms of immaterial labor, Rottenberg foregrounds the disjunction between the two and poses the question of how we can rethink our models of production, capitalism, and aesthetic resistance to address the hegemony of new forms of production that increasingly derive value from life itself.

Time and a Half, which progresses from extended slow-motion close-ups of fingernails tapping a countertop to longer shots of a long-haired Guamanian woman and the Chinese restaurant where she is employed, features a form of immaterial labor that consists primarily in waiting. In a subtle visual pun on the etymology of “manual labor” and the conventional designation of laborers as “hands,” Rottenberg presents close-ups of a hand that is not making anything at all. (This focus on nonlaboring hands associates *Time and a Half* with *Mary’s Cherries*, in which Mary’s left hand, resting on a table, does not manufacture but rather *grows* the raw material for the assembly process.) Although the camera in *Time and a Half* pans across a lush landscape filled with exotic build-

ings, a longer shot reveals that this is merely a decorative picture of an Asian landscape; likewise, the wind that blows the woman's hair is generated by a fan, not by the weather. Like the woman, the viewer has no access to a space external to the exaggeratedly artificial restaurant interior. The work's title—an allusion to overtime pay—enhances our sense of the woman's boredom: perhaps no one is coming into the restaurant because it is a holiday, or perhaps she is tired from having already completed a full shift. By slowing down the time and amplifying the sound of the fingernails tapping the countertop, Rottenberg directly presents viewers with the worker's psychological state.¹⁵

At first, the restaurant cashier's state of lassitude, in which time is decelerated and a simple activity is repeated ad nauseam, may seem inconsistent with the theme of labor. Yet as the woman's elaborately painted nails and long, flowing hair (which is blown around by the fan throughout the video) remind us, waiting patiently and poised behind the counter is precisely what she is paid to do. These traditionally "feminine" features—along with her exotic appearance (though being from the annexed island of Guam would make the woman a US citizen)—enhance the atmosphere of the restaurant: in the video's longer shots, when the camera distances itself from the cashier's psychological mood and slow-motion perception in order to view her body from a distance, the woman appears as an integral part of the décor. The video's shifts between slow-motion close-ups and longer shots create a critical dissonance between the woman's boredom and the atmosphere of serviceability that she maintains by just standing there. By slowing down the time of the video and amplifying the sound of the fan and fingernails, Rottenberg creates a mood of reverie: the woman appears to tap the counter meditatively; her hair seems to float. Yet when the video shifts to real time, we see that what appeared to be either boredom or reverie is, in fact, a rapid, agitated tapping, and the hair that appeared to have a life of its own is animated and whipped around by an electric fan. The specific mode of labor that this woman performs is immaterial and affective: she delivers a service (or the possibility of one) rather than a material good.¹⁶ The dissonances created by Rottenberg's variations of time and

camera distance expose the contortions of attitude and bearing often required by employment in the service sector: boredom and agitation must be painstakingly masked as beauty and readiness to serve.

While critics have often suggested that Rottenberg's works expose how factory labor exploits and degrades women's bodies, this seems inconsistent with the fact that the actors featured in her videos are not factory workers at all but bodybuilders, personal trainers, wrestlers, and women who earn a living by commodifying their body type or the length of their hair. If some of these conspicuously abnormal bodies appear to allegorize the ways that physical labor distorts the worker's physique, they more literally inhabit a sector of immaterial labor far removed from the assembly line. Whereas the factory is a crucial element in the erasure of labor through "commodity fetishism," Rottenberg's casting references a different form of value altogether—one that fetishizes bodies themselves rather than the commodities they produce. Her idealization of extraordinary bodies participates in a long-standing project of video art initiated by figures such as Joan Jonas, Martha Rosler, Dara Birnbaum, and Joan Braderman: the critique of, and exploration of alternatives to, mass media stereotypes about gender and body image.¹⁷ For these early feminist practitioners, "video offered a potential for the development of a new language that, whilst drawing on the images and syntax of broadcast television, could, through its alternative technical accessibility and closed-circuit distribution, be used to critique and deconstruct dominant ideologies and the patriarchal status quo. For many feminist artists, the instant replay of video offered an electronic mirror that could be used to construct a new and more positive reflection, an alternative set of less repressive images and appearances."¹⁸

Heather Foster, who plays the driver with the "tropical," lemon-scented sweat in *Tropical Breeze*, exemplifies Rottenberg's penchant for including unusual bodies in her staged production lines. A well-known professional bodybuilder whom Rottenberg found on the Internet, Foster suspends common conceptions about both labor and gender. Her extraordinarily muscular build seems incongruous in the context of a factory production line. This is

because weightlifting—along with other athletic practices, such as yoga and gymnastics, which appear in Rottenberg’s videos—consists of physical exertion without a product, labor whose purpose is simply to enhance the appearance and (arguably) the functionality of one’s own body. On another level, however, female bodybuilders like Foster defy masculinist stereotypes of strength, creating an open-ended version of beauty that the critic and performance artist Joanna Frueh analyzes in *Monster/Beauty: Building the Body of Love*. Midlife female bodybuilders play a prominent role in Frueh’s book, which argues that “monster/beauty”—her term for the sensual beauty of ordinary women’s bodies—“departs radically from normative, ideal representations of beauty. Monster/beauty eroticizes the midlife female body, develops love between women, embraces without degrading or aggrandizing bodies that differ from one’s own in age, race, sex, and shape.”¹⁹

Frueh’s opposition between “monster/beauty” and “normative, ideal representations of beauty” also clarifies the symbolism of the objects and bodies presented in *Mary’s Cherries*. This video, too, presents exceptionally muscular middle-aged women: Mary, Barbara, and Rock Rose are professional erotic wrestlers. Instead of thematizing the derivation of “tropical” scent from the sweat of a black woman, however, *Mary’s Cherries* emphasizes the extraordinary quantities of labor, violence, and artifice that underlie traditional images of feminine purity. As Rottenberg puts it, the video is “about two types of femininity. . . . The fingernails represent the mature side, and the cherries represent being a little girl.”²⁰ Yet even this account seems to devalue the mature, feminine, erotic physicality of the three wrestlers positioned along the video’s assembly line. Professional wrestlers, like female bodybuilders, embody an aesthetic liberated from both long fingernails and traditional signifiers of virginity.

In a discussion of *Dough*, Rottenberg further elaborates on her attempt to combat popular stereotypes about women’s bodies:

I don’t think it’s about society’s reaction to long hair or fat people. It’s about society’s interaction with the body in all its possibilities. Of course, there’s a layer that relates to American obesity, but that’s not my focus. Instead, it’s more about taking something to an extreme to examine it.

If the dough is a stand-in for the body, there's a fantasy about the body's ability to stretch as if there's nothing inside. And it's also more about my personal attraction to long hair or to big bodies, for example.²¹

According to the artist, her unusual images of idiosyncratic bodies convey a sense of "the body in all its possibilities," moving viewers to identify with the women they are watching through their common flesh, muscles, fat, sweat, and tears. Although some critics might balk at Rottenberg's own voyeuristic tendencies, she embraces them, pointing out how her videos empower the women who appear in them: "You could argue that we have an equal and satisfying relationship serving each other's needs as exhibitionist and voyeur."²²

Whereas the assembly line invokes Marx's concept of commodity fetishism, these statements about voyeurism and corporeal fantasies suggest a link between the working bodies depicted in Rottenberg's videos and psychoanalytic accounts of fetishism. For Sigmund Freud, the fetish is a substitute that enables the boy to disavow the fact that his mother has no penis: thus the stocking, the garter, the foot, hair, or fur represents the last thing that the boy saw before the traumatic sight of a woman's vagina. While Rottenberg is certainly interested in long hair and fingernails, most of the fetishes featured in her videos exceed Freud's definition, which has been widely criticized—despite his critical distinction between the biological penis and the symbolic phallus—for overvaluing the penis and the Oedipal family romance.²³ It would be reductive to construe the unusually large, muscular, tall, or acrobatic bodies in Rottenberg's works as penis substitutes. Instead, they suggest that the erotic investment in the fetish may be displaced from the penis onto other attributes, such as "the body's ability to stretch as if there's nothing inside" or "the body in all its possibilities." In "The Lesbian Phallus and the Morphological Imaginary," Judith Butler makes a similar claim about the possibilities opened up by "the displacement of the phallus, its capacity to symbolize in relation to other body parts or other body-like things."²⁴ This displaced and expanded conception of the fetish opens up the possibility of a voyeuristic practice that does not reduce its objects of interest to penis

substitutes—a form of visual fetishism for which “the signifier can come to signify *in excess* of its structurally mandated position” (90).

This mode of fetishism does not simply objectify physically idiosyncratic women as penis substitutes; it also enables them to negotiate their own versions of erotic signification. In their own exhibitionist practices, many of Rottenberg’s actors use the Internet to locate and attract fans who particularly appreciate their physical appearances. Along with Rock Rose, two of the women featured in *Dough*—the writer, model, wrestler, and size-acceptance activist Raqui and the exceptionally tall woman who calls herself Tall Kat—earn an income from their own Web sites.²⁵ Although their blogs and Web sites could be viewed as instances of self-commodification, they could also be seen as tactical, empowering appropriations of the Internet by members of traditionally marginalized groups. Whereas Jonas, Rosler, Birnbaum, and Braderman critiqued mainstream television’s images of women, the Internet makes some room for alternative body images that video can incorporate in less oppositional ways. As professional wrestlers and online celebrities, Rottenberg’s actors are self-employed producers of “immaterial” and affective goods such as images, texts, relationships, “in-person services,” and erotic arousal.²⁶

Rottenberg’s interest in bodily excess and her employment of actors who display their bodies on the Internet help explain why her assembly lines often seem intimate and supportive rather than harsh, disciplinary, and alienating. To the extent that they participate voluntarily, the women in Rottenberg’s videos solicit the viewer’s gaze and actively challenge traditional canons of femininity and beauty. Nevertheless, as Michel Foucault has shown, social control need not be harsh to be effective, and power can function by fostering and harnessing, rather than threatening, human life. If Rottenberg’s nonobjectifying practice of voyeurism has a stake in “the body in all its possibilities,” so does “biopower”—Foucault’s term for the modern form of power grounded in the optimization and management of human life.²⁷ If immaterial labor and the commodification of nonnormative body image liberate Rottenberg’s women from the brutalizing drudgery of industrial production, her videos also explore a further, more nefarious, aspect of contemporary capitalism: its capacity for extracting value from life itself.

Biopolitical Production

Critics have associated Rottenberg's scenarios with detailed representations of machines and repetitive tasks such as Eadweard Muybridge's motion captures, Charlie Chaplin's *Modern Times* (US, 1936), and Matthew Barney's *Cremaster Cycle* (US, 1994–2002). While the form and staging of Rottenberg's videos similarly invoke the assembly line, industrial labor is strangely absent from the videos' depicted "content." The bodies and assembly processes in Rottenberg's videos are primarily concerned with the extraction of value from biological life. Her work does not critique the ways that industrial capital profits through the starvation, fatigue, and injury of workers' bodies so much as it explores how capitalism is increasingly able to profit by commodifying bodies themselves.

Rottenberg's engagement with the geography and gender politics of "biopolitical production" puts her works in dialogue not only with artists who have represented manual laborers in industrial settings but also with recent visual texts that explore how capital extracts value from life itself. While popular exhibitions of chemically preserved dissected corpses have sparked public debates about the ethics of anatomical displays, films such as *Dirty Pretty Things* (dir. Stephen Frears, US, 2002) and *Maria Full of Grace* (dir. Joshua Marston, Colombia/US/Ecuador, 2004) have thematized the commodification of human bodies and organs for transplants and drug smuggling.²⁸ Meanwhile, artists such as Damien Hirst and Kiki Smith have exhibited graphic images of organs and bodies—and, in Hirst's case, actual animal corpses—in the most prestigious museums and galleries, thus blurring the boundary between traditionally "disinterested" museum spectatorship and visceral corporeality. Most recently, groups such as subRosa, Critical Art Ensemble, and the Tissue Culture and Art Project have produced experimental works foregrounding the relations between biotechnology, biopolitics, and the visual arts. Tissue Culture and Art, for example, has grown and exhibited *Victimless Leather*—a miniature garment consisting of cultured mouse stem cells, displayed in an intricate incubation system—to critique "the technological price our society will need to pay for achieving 'a victimless utopia.'"²⁹

While she does not overtly address topics such as genomics, anatomy, and organ trafficking, Rottenberg explores the implica-

tions of emerging markets structured around the production and circulation of what Catherine Waldby terms “biovalue.” “Biovalue,” Waldby writes, “refers to the yield of vitality produced by the biotechnical reformulation of living processes. Biotechnology tries to gain traction in living processes, to induce them to increase or change their productivity along specified lines, intensify their self-reproducing and self-maintaining capacities.”³⁰ To clarify how Rottenberg’s works relate to these issues, I consider how they engage with three contemporary developments that highlight the changing relations between life and value: the commercial sale of body parts, the blurring of distinctions between vital and productive functions, and the role of social reproduction in generating biological resources.

The leveraging of the body itself as a productive machine (rather than bodies as operators of tools and machines) is a prominent theme in Rottenberg’s drawings, which appear to rehearse some of the sequences of activities dramatized in her video works. The drawings assemble relational clusters between diverse creatures, plants, body parts, and biological functions. Rottenberg’s drawings feature an idiosyncratic notation in which diverse symbols suggestive of trees, grass, chickens, lips, eyes, drops of water, buttocks, anuses, patches of body hair, and streams of vomit appear repeatedly in different configurations. As her press materials explain, “These frenetic symbols flirt with legibility and, like worker bees, organize into structures suggestive of factories or Rube Goldberg machines. In an almost biological process, the density of drawing accumulates to a point of fullness, seemingly ingesting and regurgitating itself in each variation.”³¹ Through their abstract symbols, Rottenberg’s drawings present colorful bodies, plants, and secretions amalgamated into energetic and erotically suggestive bundles of activity. They map newly productive relationships between bits of decontextualized biological matter—fluids, holes, creatures, organs without bodies—in a manner that is at once utopian (how can bodies be unconventionally recombined to realize new desires?) and exploitative (how can bodies be unconventionally recombined to realize new forms of value?).

Rottenberg’s videos, however, generally differ from her drawings in that they depict the extraction of some form of value from



s27 (Mika Rottenberg, 2008, graphite, acrylic, color pencil on paper, 30 x 40 inches [image], 32.75 x 46.5 inches [framed], MR119). Courtesy of Angel Collection of Contemporary Art, Israel

bodies, not the abstract clustering of body parts into apparently purposeless collectivities. In the videos, life is harnessed toward the production of fake cherries, packages of dough, and scented towelettes. Strictly speaking, Rottenberg's machines do not yield manufactured products so much as they yield agglomerations of excretions: tears, sweat, hair, sneezes, milk, feces—not what bodies produce but what they consist of and secrete. If Rottenberg's defamiliarizing close-ups of Heather's sweating skin and Raqui's allergenically irritated eyes frustrate viewers' desire for a comfortable and all-encompassing gaze, they also highlight the ways that basic, intimate bodily processes may be expropriated and exploited. Moreover, bodies themselves are altered by external influences in Rottenberg's works: *Stay Awake* pills modify Heather's metabolism and presumably increase her perspiration; Raqui sniffs flowers to induce allergic reactions and evoke tears; and an ultraviolet light powered by stationary bikes accelerates the growth of Mary's bright red fingernails. In all these instances, the space of the factory seems coterminous with that of a biological laboratory.

Although these extractions of biological value may seem relatively harmless, they nevertheless participate in the same logic that governs more nefarious forms of “biopiracy,” as Vandana Shiva calls the pursuit of profit from natural and biological resources. As she explains, “Capital now has to look for new colonies to invade and exploit for its further accumulation. These new colonies are, in my view, the interior spaces of the bodies of women, plants, and animals.”³² Shiva documents examples of commodified human lives and biological materials ranging from the enclosure of the global commons to cases of genetic exploitation: “John Moore, a cancer patient, had his cell lines patented by his own doctor. In 1996, Myriad Pharmaceuticals, a US-based company, patented the breast cancer gene in women in order to get a monopoly on diagnostics and testing. The cell lines of the Hagahai of Papua New Guinea and the Guami of Panama are patented by the US commerce secretary.”³³ In addition to invoking industrial labor and critiquing conventions of femininity, the clipping, repackaging, and accelerated regrowth of fingernails depicted in *Mary’s Cherries* allegorizes the acquisition and commodification of DNA strains, blood cells, or organs in the nascent global bioeconomy. To call the video’s products “Mary’s cherries” is not only to occlude the labor of the women positioned beneath her in Rottenberg’s vertical assembly line but also to capitalize on Mary’s unique capacity for growing long, bright red fingernails.

Rottenberg highlights another intersection between life and the extraction of profit in a photograph titled “The Cardio Solaric Cyclopad: Work from Home as You Get Fit and Tan” (2004). The machine, which at once prefigures and parodies actual devices for exercising while working, such as the “TrekDesk treadmill workstation and exercise ball,” enables its user to work as a telemarketer or in some other “immaterial” capacity by talking on a headset while exercising.³⁴ In addition to the fitness regimen offered by any stationary bike, this machine also draws on the energy produced by cycling to simulate the sun, providing a controlled tan. A plant positioned behind the user recycles the air while a cheeseburger, a stack of clean towels, and a bottle of suntan lotion make it unnecessary for the user to leave the machine to take care of basic needs.



"The Cardio Solaric Cyclopad—Work from Home as You Get Fit and Tan" (Mika Rottenberg, 2004, digital c-print, 60 x 50 inches, 152.4 x 127 centimeters, edition of 3+2AP, MR34). Courtesy of Nicole Klagsbrun Gallery

Moreover, the "solaric" energy produced by the cycling could fuel the plant's photosynthetic process, making real sunlight superfluous. Raised off the floor by a pink pole and surrounded by an abstract sky-blue background, this machine could be stationed virtually anywhere (indeed, modified versions of the cyclopad are featured in both *Tropical Breeze* and *Mary's Cherries*). The woman's enormous grin and shiny skin suggest that the machine keeps her

happy; yet we cannot tell from the photograph whether her skin is covered in lotion or sweat, and her hands appear to be gripping the precariously balanced machine, holding on for dear life.

Many of Rottenberg's videos also depict a total environment for work and life. Plants are prominently positioned in the workstations of *Time and a Half*, *Mary's Cherries*, and *Dough*; in *Tropical Breeze*, plants appear outside the vehicle, which seems to be driving through a park. In addition to providing oxygen (assuming that these are real plants), flowers induce Raqui's allergic tears (which, when evaporated, cause dough to rise), as well as a general sense of aesthetic or affective well-being. Viewed as a series, Rottenberg's assembly lines yield products that are in turn used to sustain the health and productivity of workers: in *Mary's Cherries*, a conveyor belt feeds the women with cheeseburgers that contain dough and cheese, and it maintains their bodies with towels that are reminiscent of Tropical Breeze towelettes; even the very walls of the room depicted in *Mary's Cherries* (as well as the walls of the installation in which viewers watch the video) are composed of a malleable, doughlike substance.

Through these comical linkages between work and regenerative activities like breathing, eating, exercise, and hygiene, Rottenberg's machines demonstrate how work and life interpenetrate each other both spatially and temporally under the conditions of flexibilized labor that Richard Gordon has called the "homework economy."³⁵ As Hardt and Negri observe, deskilled workers "have to juggle several jobs just to make ends meet," and even "at the high end of the labor market companies like Microsoft try to make the office more like home, offering free meals and exercise programs to keep employees in the office as many of their waking hours as possible."³⁶ By depicting flexible, multitasked laborers whose practices of self-care are incorporated into their workplace, Rottenberg registers how "labor and value have become biopolitical in the sense that living and producing tend to be indistinguishable. Insofar as life tends to be completely invested by acts of production and reproduction, social life itself becomes a productive machine" (148). In *Mary's Cherries* and *Tropical Breeze*, the reproduction of workers' bodies through consumption (lemon-scented energy drinks, the

protein that supports Mary's fingernail growth, and chewing gum) is incorporated into the very process of production: the cherries literally consist of the proteins in Mary's fingernails; the towelettes are lemon-scented because Heather's sweat contains traces of her Lemon Rush energy drinks.

Another theme of Rottenberg's works that involves the intersection of biology and value is the work of social reproduction—what cultural geographer Cindi Katz describes as “the fleshy, messy, and indeterminate stuff of everyday life.”³⁷ Social reproduction, Katz explains, “hinges upon the biological reproduction of the labor force, both generationally and on a daily basis, through the acquisition and distribution of the means of existence, including food, shelter, clothing, and health care” (710). Often expected to perform unremunerated housework and the work of child rearing, women bear a disproportionate burden of social reproductive labor. As Silvia Federici puts it, “The body has been for women in capitalist society what the factory has been for male waged workers: the primary ground of their exploitation and resistance, as the female body has been appropriated by the state and men and forced to function as a means for the reproduction and accumulation of labor.”³⁸ Social reproduction plays a prominent role in Rottenberg's depictions of women engaged in the production of food, or at least of substances (“dough,” “cheese,” and “cherries”) that resemble food. Likewise, the scented towelettes of *Tropical Breeze* are presumably used to keep bodies and living spaces clean. Even the forms of affective labor performed by personal trainers, erotic wrestlers, and those who exhibit their bodies on the Internet provide clients with psychological, affective, or erotic support. If life itself is increasingly penetrated by capital, then social reproduction becomes a directly productive form of labor. Instead of reproducing the bodies of laborers so that they can produce goods in factories, reproductive labor regenerates bodies themselves so that their affects, excretions, organs, and genetic materials may be mined for profit.

While they have provided a nuanced account of these new articulations of life and value, Hardt and Negri also argue that emergent forms of “biopolitical production” create relationships

and potentialities that exceed the grasp of capitalism. They suggest that the knowledge and productivity embodied in forms of life such as DNA strains, the human genome, OncoMouse, and distinct plant varieties may be reappropriated as the “common” property of the multitude rather than patented and protected as private property.³⁹ Similarly, social reproduction, for example, may assume productive forms when it is recognized as common and accorded discursive and material support. This appears to be the case in Rottenberg’s most recent installation, *Cheese* (2007), which depicts a group of long-haired women (based on the nineteenth-century celebrities from Lockport, New York, who marketed the Seven Sutherland Sisters Hair Grower) collaboratively rounding up farm animals, making cheese, bottling their hair concoction, and caring for their hair.⁴⁰ Several collective shots—in which the women’s faces appear together in a circle staring down at a block of cheese they have made or in a row watching wild birds—emphasize the collaborative and positive aspects of the labor process depicted in *Cheese*. In the Whitney Biennial’s description of *Cheese*, Trinie Dalton writes, “As nurturing caretakers, these women represent maternal aspects of Mother Nature. Here Rottenberg investigates feminine magic, the ability to ‘grow things out of the body’ as she says, as the ultimate, wondrous physical mystery.”⁴¹ Recalling how Rottenberg’s earlier videos (ambivalently) gesture toward small-scale, intimate, and collaborative scenarios of production, *Cheese* presents a positive scenario of “biopolitical production” wherein nature itself—in the form of human hair, farm animals, underground wells (which are churned during the production of cheese), and even the waters of Niagara Falls (which are gathered as a key ingredient of the Hair Grower tonic)—is sustainably harnessed toward productive ends. Yet even here, the painstaking labor involved in caring for the women’s long hair (and in extracting the hair tonic that will help others grow long hair) registers the immense, uncompensated labors involved in maintaining Victorian (or, in the case of Rottenberg’s actors, post-Victorian) ideals of femininity.

Another recent collaborative work by Rottenberg and Alona Harpaz—a forty-by-forty-inch photographic print titled “Infinite #1”—presents a more ambiguous scene of reproductive labor. The

image depicts an attractive, presumably self-sustaining scenario in which a woman and a girl tend to the earth, surrounded by lush plants, what appears to be a spontaneous upwelling of water, and bright gemlike objects sprouting from the ground. Like *Cheese*, “Infinite #1” offers an image of women working collaboratively in the outdoors as a utopian alternative to the physically circumscribed and alienated factory scenes of Rottenberg’s earlier videos. At first glance, social, biological, and ecosystemic reproduction all seem in harmony here; the two pools of water connected by streams roughly approximate female reproductive anatomy, and the human and landscape figures seem peacefully to coexist and sustain one another. This utopian reading of the image is further reinforced by its contexts of production and consumption. Rottenberg and Harpaz are selling the photograph in an edition of thirty prints to raise money for a weaving center owned by the inhabitants of the northern Indian town of Chamba. “Infinite #1” is named after the Berlin-based nonprofit Infinite Earth, which was founded “out of a need to redirect systems, to intervene in the flow of goods and products, and to work towards a more equitable distribution of resources. It is our belief that by giving others a self-sustaining means of production, we can pass on the artist’s ability to create and circulate their products within social systems. Infinite Earth is our means of using the abstract nature of art to address basic human needs.”⁴² Yet while this effort to redistribute the means of production is worthwhile, the central idea in Infinite Earth’s project statement reinscribes the disjunction between immaterial production and manual labor, as well as the distinction between “the abstract nature of art” and “basic human needs”: “By giving others a self-sustaining means of production, we can pass on the artist[s’] ability to create and circulate their products.”⁴³ This analogy between artistic creation and productive labor turns out to be a central theme of the photograph: a closer look reveals that the bright objects that appear to sprout from the ground are actually pools of paint; the plants are houseplants stuck into sand; and what looks like water is a blue substance entirely covered in plastic and connected to a space beyond the frame by a black wire. The larger woman seems to be supporting the largest of the plants with her



"Infinite #1" (Alona Harpaz and Mika Rottenberg, 2008, c-print, 41.5 x 39 inches [image], 42.5 x 41 inches [framed], edition of 30, AHMR01). Courtesy of Nicole Klagsbrun Gallery

right hand; her left hand is holding what looks like a paintbrush, with which she is coloring in the blue "water." In "Infinite #1," what appears to be a bounteous natural landscape turns out to be a product of artifice sustained by paint and wires, with much of its blue "water" literally under wraps.

The disjunction between artistic creation and manual labor represented by "Infinite #1" is symptomatic of the uneven positions of women in developed and underdeveloped parts of the world. The spatial and socioeconomic distance between the white women depicted in the photograph's circumscribed frame and the much less idyllic situation of women struggling for sustenance and economic self-determination in rural India reminds us that labor in all

its iterations—agricultural, reproductive, industrial, and immaterial—is unevenly distributed along geographical and racial lines. The Infinite Earth foundation aims to redress these inequalities by redistributing funds and resources generated by sales of the photograph to a rural development program in Chamba. The proceeds of the new weaving center, in turn, “will go towards improving the living standards of the women and children of Chamba through health care and education programs.”⁴⁴ This agenda highlights the extent to which Chamba’s inhabitants have been deprived not only of the means of production but also of the means of social reproduction (“health care and education”). By deliberately blurring the boundaries between aesthetic creation and productive agricultural labor, “Infinite #1” indicates both the difficulty and necessity of forging solidarities between immaterial laborers and manual laborers. The limitations of this project are evident in the difference between the idyllic agricultural and aesthetic work depicted in the photograph and the community-owned weaving center that the photograph was made to benefit, where villagers would manufacture garments for export. Whereas Rottenberg’s videos often use factory spaces as metaphors for immaterial labor, this photograph deploys a self-consciously artificial scenario of agricultural production as a metaphor for the manual labor of weaving. The photograph’s ambiguities (whether the water is actually paint, whether the plants are real, whether agriculture can represent weaving, and whether apparently white women can stand in for South Asian villagers) raise critical questions about the concept of “Infinite Earth”: how can this scene be universalized as “infinite” either temporally (through social reproduction) or spatially (across the contours of uneven development)?

Despite the prominence of the production line as a metaphor in Rottenberg’s pieces, the actual bodies of the industrial working class remain invisible throughout her works. Her interests in immaterial production, erotic labor, and extraordinary bodies obscure the bodies of workers in real factories that are now concentrated in underdeveloped, offshore locations. Rottenberg herself is highly conscious of the politics of visibility in video representation:

I am interested in the psychological and political aspects of the type of fantasies one can find in travel brochures and pornography, and the way that these fantasies function in the construction of power relations and desire. Many feminist film theorists such as E. Ann Kaplan, Luce Irigaray and Linda Williams have analysed the construction of the cinematic gaze as a male projection. In these arguments, there are no real women represented on the screen. In my videos, I cast women with extreme physical abilities in roles that both exploit and empower them by focusing on their real extraordinary talents.⁴⁵

Yet even as her surreal factory spaces enable the bodies of “real women” to appear on her screen, Rottenberg’s recent works occlude the bodies of working-class women and men. This occlusion, in turn, reminds us that the prominence of immaterial labor in the developed world and especially the US is itself enabled and sustained by the global outsourcing of factory labor. Thus Aihwa Ong has critiqued Hardt and Negri’s universalizing arguments about the global hegemony of immaterial production by emphasizing that “global commodity chains for the production of consumer goods are highly dependent on subcontracting Asian factories scattered throughout developing countries that hire workers who are organized by ethnicity and gender.”⁴⁶ Drawing on her local analysis of “high-tech sweatshop” conditions in the Asian Pacific, Ong shows that “Hardt and Negri’s claims about the formation of a unified space of counter-Empire blithely neglects [*sic*] analysis of the actual, multiple, and segregated conditions of workers in the Empire’s networks” (125, 123). In this regard, Edward Burtynsky’s sublime, impersonal images of Chinese factory floors provide an illuminating formal contrast to Rottenberg’s intimate, small-scale production lines. Whereas Rottenberg depicts a small number of women working at interconnected tasks to complete a product, Burtynsky’s photographs of manufacture in Guangdong present hundreds of workers, depersonalized both by their working conditions and by the camera’s distance, performing minute, indecipherable tasks. While Burtynsky has been criticized for obscuring details and reinscribing the alterity of Chinese laborers, his photographs draw attention to the geographically uneven distribution of immaterial and material labor. Even Rottenberg’s *Tropical Breeze*

and *Time and a Half*, which appear to address just these global divisions, end up inverting them by sublimating a black woman's perspiration into a tropical scent (she does no visible work other than hold a steering wheel and wipe her sweat) and highlighting the inactivity of the bored, beautiful restaurant cashier from Guam. The bodies of factory workers are invoked and impersonated but not directly depicted in Rottenberg's videos.

My aim here is not to criticize Rottenberg for "failing" to depict the bodies of factory workers but, rather, to argue that her works exhibit points of intersection between industrial and postindustrial forms of exploitation. By juxtaposing formal references to industrial and agricultural labor with actors and content drawn from the realm of immaterial labor, Rottenberg's videos metaphorically suggest that new forms of immaterial labor are continuous with industrial exploitation: in different ways, both feed ("vampire-like," as Marx put it) on human life.⁴⁷ Metonymically, however, the juxtaposition of industrial form and postindustrial content highlights the globally uneven articulation of immaterial labor and manufacture. Industrial labor, after all, has not been entirely superseded by the rise of "biopolitical production"; it has merely been relocated abroad, redistributed to super-exploited (and, increasingly, female) workers in nations with conveniently low standards of living and flexible attitudes about labor laws and human rights. Yet even immaterial labor is hierarchically tiered and unevenly distributed across the globe: while some forms of affective labor—personal trainers, online models, or artists—are disproportionately located in wealthy urban centers, the traffic in organs, sex tourism, migrant domestic workers, the international adoption market, and various forms of communicative and informational labor all draw disproportionately on flexibilized workers in underdeveloped nations. Rottenberg's presentations of immaterial labor in factory settings at once allegorize and occlude the exploitation of bodies in underdeveloped countries by both manufacture and biopower. Indeed, it is precisely by displacing working-class bodies that she allegorizes these different forms of exploitation, pushing us to look far beyond the claustrophobic frames of her images to conceptualize the geographically uneven global system that has rendered factory labor invisible throughout much

of the developed world. In her video works, Rottenberg deploys a medium that is deeply imbricated in communication technologies and the dynamics of immaterial cultural production to explore the obstacles as well as the incentives for forging solidarities across “the actual, multiple, and segregated conditions of workers in the Empire’s networks.”⁴⁸

Notes

Thanks to Shameem Black, Lynne Joyrich, and Martha Lincoln for their insightful responses to drafts of this article.

1. Claire Barliant, “Mika Rottenberg,” *Artforum International*, April 2006, 247; Aaron Gell, “Factory Girl,” *Elle*, February 2006, 129.
2. Roberta Smith, “Summertime at P.S.1: Where Opposites like Hands on/Hands off Attract,” *New York Times*, 16 July 2004.
3. Barliant, “Mika Rottenberg,” 247; Chen Tamir, “Mika Rottenberg: ‘Dough,’” *C Magazine*, Summer 2006, 42; Trinie Dalton, “Mika Rottenberg: About the Artist,” Whitney Museum of American Art, whitney.org/www/2008biennial/www/?section=artists&page=artist_rottenberg (accessed 5 October 2008).
4. Roberta Smith, “Mika Rottenberg,” *New York Times*, 17 February 2006.
5. Tamir, “Mika Rottenberg,” 43.
6. Michael Hardt and Antonio Negri, *Empire* (Cambridge, MA: Harvard University Press, 2001), 24.
7. Karl Marx, *Capital*, trans. Ben Fowkes (New York: Vintage, 1977), 1:464.
8. Yvonne Spielmann, *Video: The Reflexive Medium* (Cambridge, MA: MIT Press, 2008), 32.
9. Ossian Ward, “The Body Factory: Mika Rottenberg in Conversation with Ossian Ward,” *db artmag*, October–November 2006, www.db-artmag.de/2006/6/e/1/482.php.
10. Marx, *Capital*, 1:481–82.
11. David Harvey, “The Body as an Accumulation Strategy,” in *Spaces of Hope* (Berkeley: University of California Press, 2000), 115.

12. Tamir, "Mika Rottenberg," 42.
13. Barliant, "Mika Rottenberg," 247. Video artists such as Bruce Nauman (*Performance Corridor* [1968–70]), Peter Campus (*Interface* [1972]), Dieter Froese (*Not a Model for Big Brother's Spy Cycle* [1985]), and Julia Scher (*Security by Julia* [1988–]) have long engaged with the intersections between video technology and different forms of visual surveillance. For a discussion of video artists' treatments of surveillance, see Michael Rush, *Video Art* (London: Thames and Hudson, 2007), 27–38.
14. Michael Hardt and Antonio Negri, *Multitude: War and Democracy in the Age of Empire* (New York: Penguin, 2004), 108.
15. Roberta Smith offers a different reading of this piece, emphasizing and even valorizing the way formal aspects of the video aestheticize the woman's boredom: "Adding nothing more than microphones and a fan to a Chinese take-out restaurant, Mika Rottenberg transforms the impassive attendant at its counter into a siren of almost mythic, if not Medusa-like proportions, whose powers of concentration, long hair and extravagant, incessantly tapping fingernails conspire to make the space seem to reel." Roberta Smith, "Agitprop to Arcadian: Gently Turning a Kaleidoscope of Visions," *New York Times*, 11 November 2005.
16. As defined by Hardt and Negri (*Multitude*, 108), affective labor "is labor that produces or manipulates affects such as a feeling of ease, well-being, satisfaction, excitement, or passion. One can recognize affective labor, for example, in the work of legal assistants, flight attendants, and fast food workers (service with a smile)."
17. See, for example, Rosler's *Semiotics of the Kitchen* (1975), Birnbaum's *Technology/Transformation: Wonder Woman* (1978–79), and Braderman's *Joan Does Dynasty* (1986). For overviews of feminist video art, see Catherine Elwes, *Video Art: A Guided Tour* (London: I. B. Tauris, 2005), 37–58; and Chris Meigh-Andrews, *A History of Video Art: The Development of Form and Function* (London: Berg, 2006), 235–42.
18. Meigh-Andrews, *History of Video Art*, 240.
19. Joanna Frueh, *Monster/Beauty: Building the Body of Love* (Berkeley: University of California Press, 2000), 11. See also Pamela Moore,

- ed., *Building Bodies* (New Brunswick, NJ: Rutgers University Press, 1997); and Leslie Haywood, *Bodymakers: A Cultural Anatomy of Women's Body Building* (New Brunswick, NJ: Rutgers University Press, 1998).
20. Gell, "Factory Girl," 129.
 21. Merrily Kerr, "Mika Rottenberg," *Flash Art*, July–September 2007, www.flashartonline.com/interno.php?pagina=articolo_det&id_art=127&det=ok&title=MIKA-ROTTENBERG.
 22. Kerr, "Mika Rottenberg."
 23. See Judith Butler, "The Lesbian Phallus and the Morphological Imaginary," in *Bodies That Matter: On the Discursive Limits of "Sex"* (London: Routledge, 1993), 57–91; and Luce Irigaray, *This Sex Which Is Not One*, trans. Catherine Porter (Ithaca, NY: Cornell University Press, 1985).
 24. Butler, "Lesbian Phallus," 84.
 25. See www.raqui.com; and www.tallkat.com.
 26. Hardt and Negri, *Multitude*, 292–93.
 27. Michel Foucault, *An Introduction*, vol. 3 of *The History of Sexuality*, trans. Robert Hurley (New York: Vintage, 1990), 137.
 28. See Hsuan L. Hsu and Martha Lincoln, "Biopower, *Bodies . . . the Exhibition*, and the Spectacle of Public Health," *Discourse* 29 (2007): 15–34; and Emily S. Davis, "The Intimacies of Globalization: Bodies and Borders On-Screen," *Camera Obscura* 21 (2006): 32–73.
 29. Tissue Culture and Art Project, "Victimless Leather—a Prototype of Stitch-less Jacket Grown in a Technoscientific 'Body,'" www.tca.uwa.edu.au/vl/vl.html (accessed 5 October 2008). The Web site for the feminist art collective subRosa is www.cyberfeminism.net; for Critical Art Ensemble, see www.critical-art.net; and for the Tissue Culture and Art Project, see www.tca.uwa.edu.au. A 2005 conference at the University of California, Irvine, "BioArt and the Public Sphere," provided a forum for discussing the possibilities of emerging practices situated at the intersection of biological and aesthetic production. See also Beatriz Da Costa and Kavita Philip, eds., *Tactical Biopolitics: Art, Activism, and Technoscience* (Cambridge, MA: MIT Press, 2008); and Eduardo

- Kac, ed., *Signs of Life: Bio Art and Beyond* (Cambridge, MA: MIT Press, 2006).
30. Catherine Waldby, "Stem Cells, Tissue Cultures, and the Production of Biovalue," *Health* 6 (2002): 310. Also consult Nikolas Rose, who asks, "Is there a relationship between the birth of the bioeconomy and the emergence of the living biological body as a key site for the government of individuals, as the contemporary locus for so much of our unease and discontents, as the site of hope and potential overcoming? What are the links between the modern salience of biocapital, and all the novel forms of ethical work that human beings do to themselves in the name of health, longevity, and their vital existence?" Nikolas Rose, *The Politics of Life Itself: Biomedicine, Subjectivity, and Power in the Twenty-First Century* (Princeton, NJ: Princeton University Press, 2007), 255.
 31. Nicole Klagsbrun Gallery, "Mika Rottenberg Drawings," www.nicoleklagsbrun.com/images/pdfs/rottenberg-pr-2008.pdf (accessed 19 July 2009).
 32. Vandana Shiva, *Biopiracy: The Plunder of Nature and Knowledge* (Boston: South End, 1997), 5. For consideration of the "real subsumption of nature" by capital, see also Neil Smith, "Nature as an Accumulation Strategy," in *Coming to Terms with Nature: Socialist Register 2007*, ed. Leo Panitch and Colin Leys (New York: Monthly Review, 2007), 31.
 33. Shiva, *Biopiracy*, 3–4. For in-depth studies of the emerging bioeconomy and its political and ethical implications, see Rose, *The Politics of Life Itself*; Catherine Waldby and Robert Mitchell, *Tissue Economies: Blood, Organs, and Cell Lines in Late Capitalism* (Durham, NC: Duke University Press, 2006); and Nancy Scheper-Hughes and Loïc Wacquant, eds., *Commodifying Bodies* (London: Sage, 2002).
 34. For an image and description of this product, see Chris Davies, "TrekDesk Treadmill Workstation and Exercise Ball," www.slashgear.com/trekdesk-treadmill-workstation-exercise-ball-0711507/ (accessed 15 July 2009). Thanks to Lynne Joyrich for bringing this to my attention.
 35. Donna Haraway, in an influential discussion of "the homework economy," writes: "The new economic and technological

arrangements are also related to the collapsing welfare state and the ensuing intensification of demands on women to sustain daily life for themselves as well as for men, children, and old people. The feminization of poverty—generated by dismantling the welfare state, by the homework economy where stable jobs become the exception, and sustained by the expectation that women's wages will not be matched by a male income for the support of children—has become an urgent focus." Donna Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century," in *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991), 167. On the "homework economy," see Richard Gordon, "The Computerization of Daily Life, the Sexual Division of Labor, and the Home Economy," in *Microelectronics in Transition*, ed. Richard Gordon (Norwood, NJ: Ablex, 1985).

36. Hardt and Negri, *Multitude*, 145.
37. Cindi Katz, "Vagabond Capitalism and the Necessity of Social Reproduction," *Antipode* 33 (2001): 710.
38. Silvia Federici, *Caliban and the Witch: Women, the Body, and Primitive Accumulation* (Brooklyn, NY: Autonomedia, 2004), 16.
39. Hardt and Negri, *Multitude*, 206.
40. Rottenberg associates the women's hair care routines with agricultural labor. She notes, "There are parallels between the incredible amount of labor that goes into farming and the routines the women adopt to care for their hair, such as brushing it daily for two hours." Kerr, "Mika Rottenberg."
41. Dalton, "Mika Rottenberg."
42. Infinite Earth, "About Us," www.infinite-earth.org/about.html (accessed 5 October 2008).
43. Infinite Earth, "About Us."
44. Infinite Earth, "About Us."
45. Mika Rottenberg, quoted in Daniel Kunitz and João Ribas, "The ArtReview Twenty-Five: Emerging US Artists," *ArtReview*, March 2005, 121.

46. Aihwa Ong, *Neoliberalism as Exception: Mutations in Citizenship and Sovereignty* (Durham, NC: Duke University Press, 2006), 123.
47. Marx, *Capital*, 1:342.
48. Ong, *Neoliberalism*, 123.

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Installation view of *Tropical Breeze* (Mika Rottenberg, 2004, video sculpture, 4 min., edition of 5+1AP, MR13). Courtesy of Nicole Klagsbrun Gallery