

In/Visible Body: Notes on Biotechnologies' Vision

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Never before has so much been available to the eye. The revolution in biotechnologies accelerates the centuries-long drive of vision technologies, bringing ever more of the world within the domain of the visible. Distant stars and galaxies, citizens and enemies of state alike, and the minutest particles of matter have for some time now been objects of the sight machine. The moment foreseen by Jorge Luis Borges, in which ambitious cartographers have produced a map with such detail and accuracy that it would completely cover the very territory it depicts, has become normalized in everyday life. Military satellites hurtling through space can visually read an address, a map, or a face: Images produced not with photography—light—but digitally, with 0's and 1's. In a strange double-vision, the hypothetical surveilled citizen could (in the unlikely event of being granted access to such an image), step outside her home and then view her screenal self, moments later on her personal computer. In the hyperreal, simulation and lived experience are inseparable.

HYPER/VISIBLE BODY

How does the body, that most vulnerable of territories, fare in the relentless expansion of the sight machine? The same viewer could now download The Visible Human™, the “first digital description of an entire human being,” created by anatomists and computer scientists as part of a project conceived by the U.S. National Library of Medicine. This lofty goal is being realized through the creation of a hypermedia medical image-and-text database that

can be accessed by computer nets. The data for the Visible Human™ was obtained from digitized images of cadavers. The data body was named Adam in a religious invocation of the creation of life, and the images are heralded as “living images,” or “real images.” Virtual animation will eventually be applied to the data to simulate the signs of life, the motion of circulation, respiration, and even disease processes.

If the data body Adam represents the ultimate Western fantasy of autogenic scientific objectivity, then Adam’s repressed foundational moment is surely the

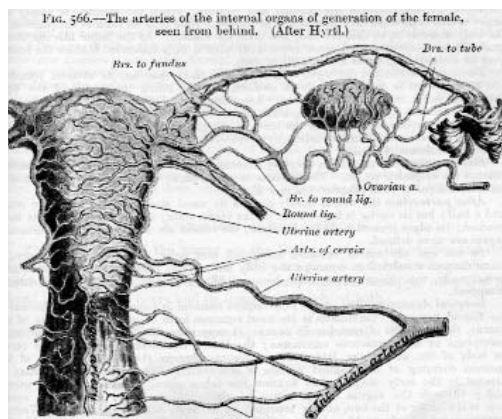


FIG. 566.—The arteries of the internal organs of generation of the female, seen from behind. (After Hyrtl.)

colonizing violence that opened modernity’s vision, and among the erased others must be the “Hottentot Venus.” An African woman, known as Saartjie Baartman, she was “exhibited” in London in 1810. She died in Paris at age twenty-five after being displayed for a period of five years all over Europe. “Her body was

Dissection of the uterus.

whisked away and promptly cut open, cut into pieces. We can, to this day, examine [the remains of her flayed body] at the Musee de l’Homme [sic] in Paris.”¹ If Adam is the classical body, once hermetically sealed and now finally open to surveillance, Saartjie, her colonized sisters, and the prostitutes studied by nineteenth-century medicine as markers of bodily deviance, were not lucky enough to benefit from science’s “disinterested” gaze. While the Visible Human™ may indeed save lives, his foremothers—Baartman and countless colonized others like her—literally died of their hypervisibility.

Perhaps this foundational repression explains why it is so easy to forget that the Visible Human™ is not living blood and tissue, but created of bits and bytes, or to believe in the complete identity of the image and the portrayed, as if one were the identical double of the other.² And to forget that the data was obtained by a process of radical disembodiment: By slicing segmentally into the (dead) body of a male (death row prisoner) and then segmenting again—that is,

selecting and organizing the data digitally according to identifiable outlines of anatomical structure. But identifiability necessarily presupposes the possibility of its opposite: Non-recognition. What happens to the data that does not fit identifiable outlines? And what of anatomy—as structure or process—whose outlines cannot be identified?

Although the identity of image and portrayed has no basis in some sort of ultimate truth, this does not stand in the way of capital's instrumental deployment of representation on living bodies. The dataset Adam will be used not only for surgical

simulation and training; the simulated operation will also be applied to the living bodies of patients or the semi-living bodies of soldiers, as the case may be. The U.S. Defense Department's Advanced Research Projects Agency (DARPA) is developing telepresence technologies to allow virtual surgery by robots guided by satellite and computer, on the "remote" battlefields of the future.

Similar interests are working to increase the profitability of medicine through, for example, the use of vision technologies to further reduce and even eliminate doctor-patient contact. As Claudia Reiche points out, the title of one international conference sponsored by military, corporate, and medical leaders "NextMed: The End of Healthcare?" referred not to the crisis in accessibility of healthcare for forty-three million Americans, but to the goal of rendering the doctor even less visible to patients. Where patients' data bodies could not be treated remotely, genetic engineering would supposedly eliminate "more objective" health problems such as aging and cancer.³

When Audre Lorde spoke of deep seeing, she had something entirely other in mind. For Lorde, 'seeing' as black feminist practice entailed attention to the unseen histories as much as to the visible body of the female subject.⁴

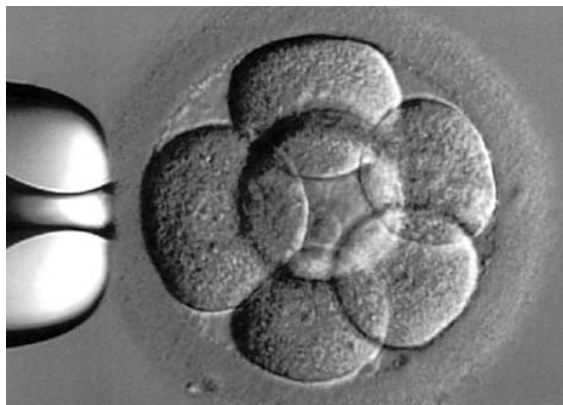


**National AIDS Action for Healthcare
direct action, Chicago, IL, 1990.**

PHOTOGRAPH BY LINDA MILLER

IN/VISIBLE DIGITAL

Even the most in/visible reaches of the human body have been thrown open by the sight machine. Now, we are told, life itself can be seen, manipulated, and controlled. Reprotech scientists can view a human egg as it is pierced and implanted with sperm. Even smaller components of life—genes and chromosomes—can be seen, organized, and compiled using new digital technologies



Microphotograph: Pre-embryo.

and, via their representation as DNA, selected and transformed for profit.⁵ Here, too, the medical industry and the military intertwine in their quest for perfect vision.⁶ The fact that DNA code is a representation makes it no less instrumental and potent as vision—for seeing has always been mediated, symbolized. In the hands of late capital, the digital, the analog, and matter itself are seamlessly welded. Or are they?

There is no doubt that the technologies of vision have the potential to further the cause of life. Lives have been saved, and enhanced, through medical application of microscopic, electronic, and cybernetic vision. Just as the same technologies, in the hands of the late capitalist state, have expanded the territories of death.

Is it only a matter of the map's completeness? So much depends on who is looking, who is looked at, and what kind of story is told about the looking.

HYPER/IN/VISIBLE (DEATH BELOW THE SIGHT-LINE OF POWER)

When U.S. bombs 'accidentally' destroyed the Chinese embassy during the U.S./NATO bombing of Yugoslavia, killing four and injuring many, the CIA took refuge first in non-identity of the analog. The maps were old and

inaccurate, they said. When reporters questioned how this could matter since the bombs have to be guided by laser/satellite technology, the state finally took refuge in silence.

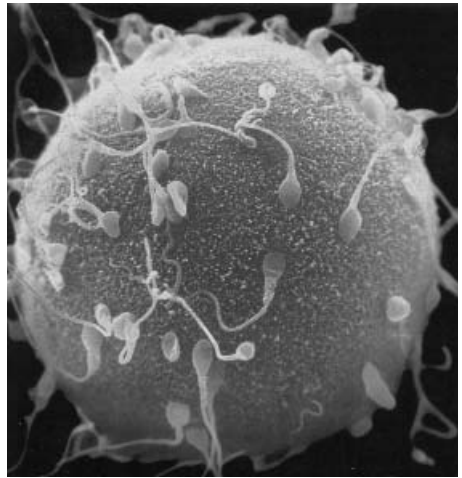
As if visibility were only a matter of technology, in any case.

As bombs rained down on Iraq in the 1991 war and after, Americans were treated to a cinematic spectacle of virtual war, complete with simulated targets and detailed dissections of warheads. As thousands of Iraqi civilians died then, and thousands every month since, as a result of the devastation and sanctions, their bodies are strangely invisible to the same media hyper-vision.

On March 3, 1991, three days after George Bush called a halt to the Gulf War, twenty-seven police officers surrounded African-American motorist Rodney King, four of them beating him with such intensity as to knock fillings from his teeth and cause permanent brain damage. Although the world watched this blow-by-blow assault captured on George Holliday's home video tape, witnessing more violence in the course of eighty-one seconds of video than in the entire Gulf War, the Los Angeles jury was able to return a verdict of 'not guilty'.

The global information economy and the revolution in biotechnologies are ceaselessly invoked and represented to the public as utopian promise. Yet as media spectacle, these representations are nearsighted: The very labor which makes information and biotechnologies possible—entire gendered and racialized economies—are not seen or represented as part of that world economy.⁷

Yet the paradoxical relation of the two bodies bracketing modernity's telescope: The digital Adam and the analog Venus—one immaculately conceived and composited at its end, one tortured to death at its beginning—reminds us that invisibility and hyper-visibility are not new to digital technologies, and



Microphotograph: Sperm and egg.

have never been a simple duality. Black and postcolonial writers have for some time now alerted us to the complex dialectics of in/visibility.⁸ bell hooks observes that, for example, whites “imagine that they are invisible to black people” and describes how disconcerted her white students are to discover that black people “watch white people with a critical ‘ethnographic’ gaze.”⁹ Radhika Mohanram has demonstrated that “...bodies become visible or invisible only through the vectors of power and economics and the meaning imputed to these within cultural knowledge systems...The proper, ideal subject is one with property but no body.”¹⁰

Indeed, the same vision technologies which are unable to see the unpaid or underpaid labor of postcolonial workers, are amazingly sensitive to raced and gendered bodies at policed boundaries such as airports and border crossings; how else to explain that Black women are the most frequently stopped, detained, or strip-searched of any group, while also being the least frequently engaged in the surveilled activities?

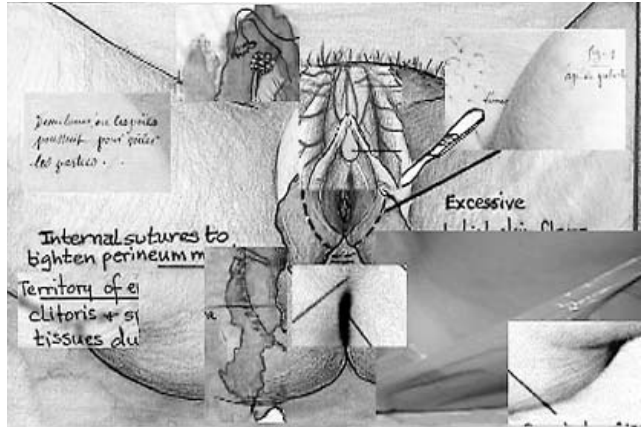
IN/VISIBLE (PLEASURE)

The question of pleasure may seem excessive, unproductive to some, now that vision’s machine is so efficient, instrumental, productive. Yet to miss understanding the role of the sight machine in producing both terror and pleasure would be to miss understanding either.

What does it mean to say that sometimes we imagine that the body’s pain, pleasure, desire itself, can be seen? Dr. Helen O’Connell, urological surgeon at Australia’s Royal Melbourne Hospital, was moved to ask such questions by the lack of knowledge about (so inconsequential a matter as) female sexual anatomy. If women’s bodies, from Saartjie on, have been hyper-visible, ubiquitous, in other ways they have been invisible. Although reprotch scientists can scrutinize the female reproductive system well enough to harvest, fertilize, and implant microscopic eggs and perform pre-natal surgery, Dr. O’Connell found a striking lack of accuracy in medical textbook representation of female sexual anatomy, not just in its fine-tuning, but overall.

After dissection studies and using 3-D photography, O’Connell found that, for

example, the clitoris was not only twice as large as normally depicted, but that it extended deep into the body. Even *Gray's Anatomy*, the medical bible, had it wrong, and failed to show the extensive network of



Video still from subRosa's "Vulva De/Reconstructa."

blood vessels and nerves connected to it. The study showed that the clitoris is connected to a pyramid of interior erectile tissue and two bulb-like structures on either side of the vaginal cavity. It has two arms up to nine centimeters long that flare backward into the body, lying just a few millimeters from the muscles that run up the insides of the thigh. "There is a lot of erectile tissue down there that is not shown in any anatomy textbook," O'Connell told *New Scientist Magazine*, "except perhaps a couple of really old dissections in French and German literature...Just because you can't see the rest does not mean that it is not there."¹¹

According to medical research, hysterectomies have been over-prescribed for women for years, but only recently have doctors in the United States begun to study the effects of hysterectomy on sexual pleasure.¹² New York University pelvic surgery expert Dr. Joy Saini and associates compared the effects of different types of hysterectomy. Using a specially developed anonymous questionnaire, she found worse sexual function in a total abdominal hysterectomy group than in a group given supra-cervical hysterectomy (where the cervix is spared). Researchers are beginning to speculate that a complex network of nerves surrounding both the uterus and cervix, and interwoven with those of the clitoris, play a significant part in orgasm. Her conclusions agreed with European researchers, whose research also demonstrates damage to sexual pleasure from removal of the uterus only: "This is a vital area of research for women's health that is not well studied and sadly under-funded," noted Dr. Saini.¹³

And although alternative medicine has developed methods for regaining sexual pleasure in cases of somatic or psychic injury, this information is seemingly not finding its way to women patients in mainstream medicine.

But not-seeing women's anatomy is hardly new to science: At least since Freud, there has been nothing there to see except a lack—and an “ugly” lack at that. Although blind to the beauty of the vulva, Freud and Lacan were productively obsessed with a female *jouissance* that threatened to undo patriarchal logoi. Their radical formulation failed to survive even the American reception of psychoanalysis, much less to influence the medical canon. American second wave feminism offered much in the way of correctives, both theoretical and practical. Yet, perhaps still owing to the tendency to channel the body's pleasures, and the inevitable difficulties presented by vision's (and language's) own territorializations, some of these correctives ended up offering a rather dualistic alternative to the valued vaginal orgasm. In its turn, the clitoris became the politically correct pleasure organ. French feminist theorists such as Luce Irigaray have unearthed and detoured the radical possibilities of women's *jouissance*,¹⁴ but have been suspicious of pleasure's sojourn through realms of visibility.

BODY IN/VISIBLE

In Borges' story, the cartographers' map eventually disintegrates with age, until only shreds remain, scattered across the desert. Finally, representation would be indistinguishable from the body of the desert itself.

Thus far, every image, every representation (or 'simulation') has been finite, in time if not in consequence. As with any image, the frame excludes, too. As with Borges's map, holes remain: Will we ever escape the mirror logic of seer and seen, visible and in/visible? Can difference and visual pleasure find a place outside that binary? Have we learned to challenge, as bell hooks has said, those “who think that by merely looking they can ‘see’?”¹⁵ Or, will digital communications and biotechnologies, in global pan-capital, merely increase the pace of a chronic and disastrous blindness?

We are far beyond a nostalgic quest for some mythically originary body—all

such quests in this century have been tied to fascist disasters. The contribution of critical theory has been to show that the body has always been mediated by the structured and structuring function of language, and, since the Enlightenment, by a particular form of Reason. One task before us now might be to collectively envision counter-bodies to the body of pan-capitalist spectacle. That is, we could imagine ways in which lived bodies could speak, could be represented, other than as commodities in an endless chain of equivalencies. ★



PHOTOGRAPH BY BILL STAMETS

**ACT UP Chicago's "Freedom Bed."
Street theatre, Chicago, IL. 1990.**

- 1 Francette Pacteau, "Dark Continent" in Lisa Bloom, ed., *With Other Eyes: Looking at Race and Gender in Visual Culture* (Minneapolis and London: University of Minnesota Press 1999), p. 90-91.
- 2 See Claudia Reiche, "Bio(r)Evolution™—On the Contemporary Military-Medical Complex," in *The Spectralization of Technology: From Elsewhere to Cyberfeminism and Back—Institutional Modes of the Cyberworld*, Marina Grzanic et al, eds. (Maribor, Slovenia: MKC Maribor (the Youth Cultural Center) 1999) <http://www.rrz.uni-hamburg.de/Koerperbilder/REICHE/BioRevolution_E.htm>
- 3 Ibid. As the conference program proclaimed, "The ability to manipulate genetic code presents the possibility of ending worry about diseases and defects which burden humankind. Physicians, researchers, entrepreneurs and investors can glimpse this future." Medical workers were treated to statistics such as the following to support this vision: "50 to 80 percent of all people who consult a doctor are in no need of medical help. 70 to 80 percent of all health problems can be treated at home, if one knows what to do. Not a lot remains to be treated."
- 4 Audre Lorde, "Eye to Eye," *Sister Outsider* (Freedom, CA: The Crossing Press, 1984), p. 174.
- 5 A handful of powerful biotech firms such as Monsanto are reaping enormous profit from their control, storage, and manipulation of genetic data, through its digital representation.
- 6 The U.S. Dept. of Energy is a primary investor in the Human Genome Project, while DARPA and other branches of the military conduct secret research in virtual surgery and biotechnologies.
- 7 See Maria Patricia Fernandez-Kelly, *For We Are Sold, I and My People: Women and Industry in Mexico's Frontier* (Albany: State University of New York Press, 1984); Armand Mattelart, *Transnationals and the Third World: Case Studies Of the Electronics Industry* (Westport, CT: Bergin & Garvey, 1986); Saskia Sassen, "Toward a Feminist Analytics of the Global Economy," *Globalization and Its Discontents* (New York: The New Press, 1994).

- 8 For example: Toni Morrison, *The Bluest Eye* (London: Penguin Books, 2000); Ralph Ellison, *Invisible Man* (New York: Vintage Books, 1995); Michelle Wallace, "Invisibility Blues," *Z Magazine*.
- 9 Radhika Mohanram, *Black Body: Women, Colonialism, and Space* (Minneapolis & London: University of Minnesota Press, 1999), p. 38.
- 10 bell hooks, in David Roediger, *Black on White: Black Writers on What It Means to Be White* (New York: Schocken Books, 1999).
- 11 Susan Williamson, "The Truth About Women," *New Scientist*, August 1, 1998, and Helen E. O'Connell et al., "Anatomical Relationship between Urethra and Clitoris," *Journal of Urology*, Vol. 159.
- 12 Sills E.S., Saini J., Steiner C.A., McGee M., Gretz H.F., "Abdominal hysterectomy practice patterns in the United States," *International Journal of Gynecology and Obstetrics* 63:277-283 (1998).
- 13 Sills E.S., Saini J., Applegate M.S., McGee M., Gretz H.F., "Supracervical and total abdominal hysterectomy trends in New York State: 1990-1996." *Bulletin of the New York Academy of Medicine* 75:903-910 (1998). Saini J., Sills E.S., Kuczynski E., Gretz H.F., "Supracervical hysterectomy vs. total abdominal hysterectomy: Perceived effects on sexual function," [abstract] 24th Annual Meeting, Society of Gynecologic Surgeons (1998).
- 14 Luce Irigaray, *Speculum of the Other Woman*, trans. Gillian C. Gill (Ithaca, NY: Cornell University Press, 1985).
- 15 bell hooks, "Altars of Sacrifice: Re-remembering Basquiat," *Art In America*, June, 1993, p. 69.
- Photographs of the AIDS actions are courtesy of Mary Patten and the ACT UP Chicago archive. See Mary Patten, "The Thrill is Gone: An ACT UP Post-mortem," in *The Passionate Camera*, ed. Deborah Bright (New York: Routledge, 1998).