

Digital Phantasmagoria:

Electronic Culture & Transformation of Eros

by David Rosen

*The world dominated by its phantasmagoria –
this, to make use of Baudelaire’s term, is “modernity.”*
Walter Benjamin¹

Eros & technie

It is a cold, rainy Saturday night, a week or so before the 2016 Consumer Electronics Show (CES), at the cramped offices of a hypothetical San Francisco high-tech startup. Located in an older building in the SoMa district, the ultra-hip space is marked by a studied informality that only partially camouflages the intense pressure to succeed. Employees want to go home, but a lot of money and personal dreams ride on what happens tonight.

Amidst the clutter sit a couple of young software engineers in rapt attention, intensely watching a coworker’s body very slowly writhe with mounting excitement. A breathless moan escapes the employee’s lips as his penis swells, climaxing in an involuntarily ejaculation. This fictitious company, like dozens of real ones operating around the globe, is working on a software program that will transform virtual reality (VR) technology into a mass-market consumer business. And VR porn seems a likely winner.

This company’s program builds on a user-determined “pleasure matrix” -- really nothing more than a personalized fantasy display pulling together a handful of pornographic stereotypes, including assorted depictions of women and men wearing “kinky” costumes, armed with various fetish objects and acting-out provocative s&m and b&d

scenes. The suggestive displays are made more powerfully by being fashioned into an immersive experience.

The user is fitted into a skin-tight latex bodysuit with datagloves that transmit low-level electronic stimulations. He wears a headset that displays images (both still and moving) with a very rich, 256-color pallet and up to 3072 x 2048 pixels with accompanying stereo audio clips (moans, heavy breathing and music sequences rendered at CD-Audio level). The outfit also releases a sample of aromatic scents, including body smells and perfumed fragrances. The confluence of powerful visual, auditory and aromatic impressions -- combined with subtly stimulations and mounting body heat -- is designed to culminate in sexual arousal and male



orgasm.

CES is the corporate high-tech gadget fest held in Las Vegas each January and VR (along with driverless cars) was this year’s hot product. More than 40 companies displayed their latest “immersive multimedia” or “3D environment” systems of device and programming. Among the big players showing off their latest stuff were Facebook’s Oculus Rift (for Microsoft’s Xbox); Sony’s Morpheus (for PlayStation 4); Samsung Gear VR (for its Galaxy smartphone); Microsoft’s HoloLens (half virtual and half augmented reality); and

Google's Cardboard VR headset (for only \$29.95). A host of other companies offered new headsets and other devices, including FOVE VR, Zeiss headset (the optics company), Avegant's Glyph, Razer's OSVR and Freefly's VR headset. In addition, an increasing number of software companies are entering the emerging VR porn business, some offering online VR programming. Among them are VRSexperience, MetaverseXXX, VRTube, VirtualRealPorn, Virtual Porn 360, VRGirlz, SexLikeReal, Czech VR, Vixen VR and AliceX.²

Journalists who've played with a VR system of headset device and pornographic program offer insights into what the next wave of artificial sexual experience might "feel" like.³ Raymond Wong, writing in Mashable, described a program from the VR porn company, Naughty America, that runs on Samsung smartphone:

I found myself transported into a bedroom. Kneeling before me was a female porn star who was seductively talking dirty to me. I looked down and saw some guy's muscular body. Well, that's not mine, I thought to myself. I was confused. Whose body was this? Then I realized, *I* was now this guy.

The porn star brought in another female friend, and the next thing I knew, they were both naked and performing oral sex on this VR guy, err, me, turning the party into a raunchy threesome.

Christopher Trout, writing in Engadget, reviewed "Fiera," which he calls "a sort of electronic female Viagra." It's from Nuelle, a Silicon Valley startup focused on "sexual wellness and intimate care products." He describes it as a "wearable device [that] uses suction and vibration to increase blood flow to the clitoris, thus increasing sexual desire." According to the company's Chief Scientific Officer, Leah Millheiser, MD, an ob-gyn doctor, the product is "focused on serving the 53 million

women in the US who have a 'sexual concern.'"

Mandy Stadtmiller, also writing for Mashable, reported that two VR tech companies, Lovense and VirtualRealPorn, were collaborated on a program that combines visual with physical stimulation:

"First, the user positions the Lovense device in their genital area and enables the Bluetooth wireless dongle. Second, he or she puts on the VR goggles. Third, he or she begins the VirtualRealPlayer (which recognizes the Bluetooth device) to enable the POV porno in 180-degree stereoscopic viewing. Finally, as the movie is playing, the Lovense sex toy synchronizes automatically with the video being watched."

No one knows the future, let alone those most closely involved trying to create it; it's a crap shoot. Whether VR catches on this time or will be yet another consumer electronics bubble like 3D TV is anyone's guess. But what's certain is that big companies and venture capitalists are throwing serious money at VR.

Social networking, video streaming and mobile apps are so yesterday; what about tomorrow? Silicon Valley handicappers are looking for the next, *next* thing. VR has long been a hot fantasy in the all-so-hot field of the new media and, for smart venture capitalists, immersive VR -- along with "intelligent agents" and "artificial life" -- may be the next big technological breakthrough. The market failure of 3D-TV, both TV sets and programming services, has given some venture capitalists pause.

VR seeks to combine representation with immersion, merging phantasy with physical experience. It seeks to fashion an historically unique experience, one all-enveloping and sexually fulfilling. Its taken two centuries for these two distinct dimensions of psycho-physical experience – imagination and pleasure -

- to be integrated into a singular technological practice. The goal of the current VR porn effort is to perfect a computer-generated immersive simulation that is as physically powerful as an actual sexual experience.

Phantasmagoria

In a 1967 *Partisan Review* essay, Susan Sontag introduced the concept, "the pornographic imagination."^{*} While speaking mostly of literature, she distinguished pornography from conventional literature in that it seeks to sexually arouse the reader. "Some certified masterpieces (from Chaucer to Lawrence)," she observed, "contain passages that do properly excite readers sexually." In addition, she identified a series of secondary attributes of pornography which, while applying to literature, also resonate in contemporary media, including sexting. Porn relies on a shallow if artificial narrative structure, often employing "ready-made conventions of character, setting, and action." It also employs dramatic archetypes, most notably "male lewdness" and "female virtue." Finally, porn relies on "a small crude vocabulary of feeling," thus avoiding emotional complexity to heighten voyeuristic titillation. Sontag argued that porn shares some of these conventions with other literary forms, including science fiction and religious tracks (i.e., "religious obsessions").⁴

Film historian Linda Williams clarified Sontag's argument, observing, "... [filmed] pornography is not one thing, but sexual fantasy, genre, culture, and erotic visibility all operating together."⁵ This has never been more the case than today. Following a century of printed or

^{*} Sontag's article originally appeared three years after Supreme Court Justice Potter Stewart famously declared, in *Jacobellis v. Ohio* (1964), "I know it when I see it," to distinguish "hard" from "soft" core pornography, obscenity from art.

drawn texts and analog electronic waves that defined the modern media experience, postmodern visual culture is completing the transition to a series of digital formats, of 1s and 0s. The digital palette fosters an historically new era of media communications and an unprecedented expansion of sexual experience.

VR was foreshadowed during the late-18th and early-19th centuries by the "magic lantern" show. The lantern was a pre-electric device employing candlelight and a series of lenses and mirrors to project an image from a painted glass slide onto a screen. Credit for its invention is attributed to two early media pioneers, the German Jesuit scholar, Athanasius Kircher, and the Dutch scientist, Christiaan Huygens. According to the OED, the term phantasmagoria emerged in the "[e]arly 19th century (originally the name of a London exhibition (1802) of optical illusions produced chiefly by magic lantern): probably from French *fantasmagorie*, from *fantasme* 'phantasm' + a fanciful suffix."⁶

The media historian Tom Gunning notes that early magic lantern performances "took place in darkness – a radical difference from most theatrical entertainments of the era." Traditionally, a public performance took place in a well-lit auditorium before a live audience. The magic lantern sought to invoke a different sensibility, one performed in a dark theatre and without a live performer. It sought to invoke the phantasy of magic that merged the rituals of mystical religion and what would come to be called "science fiction." These were the days in which secular rationality, i.e., scientific reasoning, began to finally tip the scale against religious belief. Nevertheless, as Mervyn Heard, a leading magic lantern scholar and practitioner, observed, "Science is behind all magic."⁷

Photography was invented during the magic lantern era. Nearly all early-modern-era media -- e.g., sculpture, painting, drawing, lithography, printed cards and books -- long offered erotic representations. Walter Benjamin noted that engraving and lithography were the first mechanical means of image capture and display. However, they were techniques applied to natural substances like leather, wood and stone. Benjamin recognized that the photography engendered the aesthetic sensibility of the modern age, extending image reproduction from the natural to "man-made" or manufactured substances, specifically chemical-based processes.⁸ Photography introduced a new way to capture and display an (initially stationary) image and thus a new category of art ... and artist, the photographer. It fashioned the modern aesthetic sensibility -- what John Berger called "ways of seeing" -- that shaped the pornographic imagination during the next two centuries.⁹

Steven Lubin speculates that "the first person to take a photograph was Joseph-Nicéphore Niépce, in 1824." In 1832, Louis Daguerre announced his innovative process to the French Academy of Science and, in 1837 (after forming a partnership with Niépce), introduced an improved process using a copper plate coated with silver iodide.¹⁰ This launched the age of analog media. Joseph Slade believes that the first pornographic photograph was introduced in 1846, "depicting a rather solemn man inserting his penis into the vagina of an equally solemn middle-aged woman."¹¹

Since its introduction, photography has been subject to repeated waves of industrialization. Innovative formats were developed; camera production was rationalized; costs rapidly declined; and a new visual sensibility was fashioned. In the early-1850s, new techniques sped up the photographic production process from several minutes to 20

seconds. The cost of a commercially-produced daguerreotype photograph rapidly dropped to 12.5¢ from 50¢ and the market for photographic images significantly expanded. As Williams found, "... [the] mid- to late-nineteenth century was a period in which a new porno-erotics of corporealized observation began."¹²

Projected film emerged in the late-19th century and the first storefront movie theatres opened at the turn of the new century. During the first few months of public display of moving imagery in the U.S., a New Jersey Senator, James Bradley, was shocked by the display of lewd behavior. The Senator, the founder of Asbury Park, was offended by a suggestive display on one of Thomas Edison's Kinetoscope. As reported in the July 17, 1894, *Newark Evening News*:

... The view was that of Carmencita in her famous butterfly dance, and the Senator watched the graceful gyrations of the lovely Spanish dancer with interest that was ill-concealed. But near the end of the series of pictures the Spanish beauty gives the least little bit of kick, which raises her silken draperies so that her well-turned ankles peep out and there is a background of white lace.

The kick settled it. The Senator left the peep-hole with a stern look on his face. ... While he was trying to collect his scattered thoughts sufficiently to give full swing to his wrath Mayor Ten Broeck applied his eye to the peep-hole. The Mayor was greatly shocked and agreed with the Founder that the picture was not fitted for the entertainment of the average summer boarder, and the exhibitor was told he would have to send for some new views or shut up shop.¹³

Ongoing skirmishes over the acceptability of the content of this new medium culminated in the founding of the National Board of Censorship in 1909.

One of the earliest picture shows at a Chicago penny arcade was *How Girls Undress*; it was displayed on a "mutascope" system and attracted many young boys.¹⁴ Movie theatres at that time were one of the few acceptable social spaces in which white men and women, often unchaperoned strangers, could share an intimate proximity and an exciting visual experience; African-Americans were barred from early New York movie houses. Other than the saloon, the dance hall or church-sanctioned gathering, young men and women (excluding prostitutes) had few public venues in which to socialize let alone flirt, touch or kiss. "The very darkness of the room," warned the social reformer Jane Addams in 1909, "is an added attraction to many young people, for whom the space is filled with the glamour of love making."¹⁵

The "vitascope" was a late-19th century advanced technology, one of the earliest moving-image projection systems. William Heise's classic vitascope film, *The Kiss*, which runs 16 to 51 seconds (depending on version), depicts a close-up of John Rice and May Irwin passionately kissing.¹⁶ It was first shown, projected onto a large screen, at the Koster & Bial's Music Hall in New York in 1896 and the performance excited many. The display of a larger-than-life sexual intimacy must have been thrilling, even overwhelming. Early movies must have felt like a cascade of images reinforcing the complexity, confusion and rawness of modern urban life. A newspaper critic of the day exclaimed: "Magnified to gargantuan proportions, it is absolutely disgusting. ... Such things call for police intervention."¹⁷

In 1923, Kodak targeted a new market for its moving-image equipment, the amateur filmmaker, and introduced comparatively lower-cost 16mm film equipment. Early porn film producers adopted the new technology and used it

to circumvent Comstock laws prohibiting "obscene" materials from the U.S. mail.* Amateur and semi-commercial pornographers screened stag films in noncommercial, semiprivate venues operating throughout the country, including as part of evening "smokers" or, as Williams calls them, "primitive genital shows."¹⁸ Often smuggled into small towns by travelling salesmen, stags were shown at a variety of private venues where groups of men gathered, including Elk's clubs, college fraternities, bachelor parties and military events.

The peepshow booth was another unique technological environment to experience pornographic imagery. Adapted from Edison's earliest peeps, post-WW-II peeps were mounted in wooden booths and outfitted with 16mm and 8mm film -- and, later, analog videotape -- image-projection systems. After the viewer placed a coin in the money slot, a "loop" -- a projected pornographic movie sequence -- was shown. Peep booths were often located in a darkened commercial venue that permitted, in addition to the viewing of porn shorts, engaging in other sexual activities, including masturbation and fellatio. They were popular in the '60s and '70s, most notably in New York's Times Square. There's much controversy as to who "invented" the peep-booth. Some claim it was Reuben Sturman, a Cleveland porn entrepreneur; others insist that it was Martin Hodus, of New York, whose initial loops consisted of two-minute movies featuring topless women.¹⁹

* Anthony Comstock (1844-1915) is the father of modern censorship -- of employing the power of the state to restrict the adult acquisition and consumption of allegedly "obscene" or "pornographic" materials, be they erotica, birth-control information or or medical contraceptive devices. His major accomplishment was passage of the 1873 federal censorship laws barring obscene materials from the U.S. mail; many features were in force until the 1960s.

The opening of telephone voice services to commercial porn (i.e., #900 numbers) added an often-unappreciated dimension to pornographic imagination – the live and/or prerecorded voice. In 1988, the Information Industry Bulletin estimated annual revenues for the dial-a-porn industry at \$54 million. That same year, the Associated Press (AP) reported that the Federal Communications Commission (FCC) imposed a \$50,000 fine on a Mill Valley, CA, firm for permitting underage children to use its porn service.²⁰ The adoption of digital technologies in the '90s transformed porn production and distribution. The digital camera and computer-based editing and graphics programs (e.g., Apple's Final Cut) remade video production; the compact disc, the Internet and wireless communications revolutionized distribution. A new media culture was born and, with it, a new generation of the pornographic imagination.

The early adoption of a nongraphic Internet led to the establishment of numerous online discussion groups, including Usenet and innumerable "alternative" groups, the most notorious was alt.sex. Usenet also hosted a wide variety of sex-related groups, including alt.sex.pictures, alt.sex.movies, alt.sex.voyeurism and alt.sex.masturbation. In the late-80s, the graphic artist Mike Saenz introduced "Virtual Valerie," an interactive erotic computer game on a floppy disk and then a CD-ROM; it allowed the (male) user to repeatedly insert a dildo into Valerie's vagina. In 1995, Danni Ashe, a former stripper and nude model, started "Danni's Hard Drive," one of the earliest online porn sites; CNN reported it had revenues of \$6.5 million in 2000.²¹ Online and stored commercial porn as well as amateur sites like YouPorn and PornoTube expanded the porn market. Sites like SuicideGirls and eroticBPM helped turn soft-core porn into a feature of Internet-driven goth

and punk aesthetics, further integrating porn into popular culture.

Kassia Wosick, a New Mexico State University sociologist, estimates the globally porn market at \$97 billion, with the U.S. accounting for between \$10 and \$12 billion of it.²² According to one estimate, there are nearly 25 million porn sites worldwide making up 12 percent of all websites. Sebastian Anthony, writing for *ExtremeTech*, reports that Xvideos is the biggest porn site on the web, receiving 4.4 billion page views (pvs) and 350 million unique visits per month. He claims porn accounts for 30 percent of all web traffic. Anthony estimates the average length of time spent on Xvideo at 15 minutes. From an aesthetic perspective, sadly, he notes that most people receive their digital video feeds using low-resolution streaming.²³

Eros electric

Each historical era is uniquely distinguished by its technologies of sexual representation and practice. Prior to wide-scale adoption of electricity for manufacturing and lighting, early electricity was used to power devices for conspicuous personal apparel. According to Carolyn Marvin, "flash" jewelry from Paris was all the rage when exhibited in New York in 1884. It "included hatpins and brooches studded with tiny, glittering electric lights mounted like jewelry."²⁴ Also available were electrical neckties, walking canes, watch chains and scarf pins.²⁵ Electrified jewelry sought to stimulate the body erotic in a way not dissimilar to that of immersive VR a century-plus later.

By 1900, many innovators were making claims that the new electrical technology could improve an individual's health, including sexual prowess. The fledgling branch of electro-medicine was garnering enthusiastic support among the middle- and upper-classes. A wide

assortment of products were introduced, including the "Medico Electric Jar" which claimed to cure neuralgia and asthma and "Ohio Electric Insoles" which claimed to revitalize the blood -- more than 3,750,000 were claimed to have been sold. This high-tech "medical" culture is wonderfully mocked by T. C. Boyle in his hilarious parody of the Kellogg sanitarium, *The Road to Wellville*.²⁶

The era achieved its most peculiar realization in its wide-range of electronic consumer sexual technologies. The venerable Sears, Roebuck catalog offered electrical belts to restore men's potency; there were also a host of competing belts available, some of the leaders being the "Ohio Electric Belt," the "Heiderlberg Electric Belt" and "Harness Electric Belt and Suspenders" manufactured by the Medical Battery Company of England (its ads promised "to restore impaired vigor"). In addition, electric corsets promoted by a "Dr. Scott" and others were marketed to women; but as Marvin notes, these devices were designed to control female sexuality: "If one of these articles is pressed by a lover's arm it at once admits a shriek like the whistle of a railway engine," she notes.²⁷ Most remarkable, these developments took place against a background of Christian moral sanction and Comstock obscenity convictions.

The *fin de siècle* era was a period in which new technologies were actively employed to address one of the most deeply troubling sexual "problems" facing the nation, male masturbation. Christian America long waged a war against the sin of the flesh. The Puritans of the 1640s saw it as a shame, a moral failure; in the 1750s, leaders of the then-fledgling medical community diagnosed it as harmful to the nervous system and brain. Industrialization offered a new means to discipline male sexuality and a host of masturbation restraining devices were

introduced. Among the "inventors" were Daniel Cook (the "Self Protector," 1870), Michael McCormick (an anti-erection device, 1896), Raphael Sonin (a "mechanical penis sheath" with key lock, 1906) and Albert Todd (in 1903, an "electrified anti-masturbation harness [that] included a bell that sounded in the event of an erection. ... It delivered electric shocks sufficient for 'burning the flesh' of determined masturbators.")²⁸

Advances in rubber manufacturing played a critical role in the development of a wide assortment of birth control technologies (e.g., condoms and vaginal barriers) and paraphernalia (e.g., dildos and costumes). A host of inventions were developed to treat male impotence, including "erection rings," penial splints and implants. These were complemented by a wide assortment of vacuum pumps to enlarge the male penis. In addition, a host of implements were developed for women, including clitoral stimulants, eroticized bras, and breasts implants, butt augmentation and tummy tucks.²⁹

Technology was also applied for more humane ends, especially to help free physical pleasure from the limits of the body. Improvements in eye-glasses, false teeth and hearing aids were invaluable; prosthetic arms and legs and breast implants, let alone heart valves, reconfigured the body; the pill and Viagra redefined sexuality. These innovations modified the body's appearance, functioning and practice, and, by extension, the sexual life of those who benefit from them. But what of such sexual "prosthesis" -- i.e., fetishes -- as the corset, high-heel shoe, whip or dildo?

The quarter century between the end of WW-I and the end of WW-II was tumultuous in terms of American sexual culture. The Roaring '20s was marked, as one historian notes, by "increasingly bold dressing, dancing, acting, writing,

and the public discussion of [sexual] issues that challenged or ignored previous taboos." American woman embraced the speakeasies, bathtub gin and the brassiere. In 1921, the U.S. Patent Office awarding of a patent to Jean Webb, Sr., for the "Vacuo Thermic Body Treatment Appliance," a penile erector.³⁰

The post-WW-II period witnessed the development of a wide assortment of medico-technical devices to serve the growing demand for improved sexual life. As Hoag Levins notes, "After World War II, new chemicals, new metals, new manufacturing techniques, and new consumer marketing possibilities came together ... " And he adds: "[The] armies of military physicians and technicians re-entered the civilian world of the 1950s with a radically changed sense of what was -- or might be -- possible." Many of the same issues that had been identified in the previous decades continued to motivate sex-device innovation, especially male impotence (e.g., penile implants, penile "pacemakers") and female breast size (e.g., electric nipple-stimulator bra). As Levins found, "The postwar advertising and sales colossus continued to promote breast imagery as one of the consumer culture's most potent totems." During this period, a host of "marital" aids were developed, including a "sex harness," "sex handles" for better gripping, the "Coital Couch" and a number of different "orgasm machines."³¹

In 1940, Wilhelm Reich, a German-born psychiatrist and sex researcher, constructed what he called an "accumulator" to try to measure a heretofore un-identified force of nature, "orgone" energy. It was, according to one of his colleagues who used it, a "boxlike apparatus ... had metal walls on the inside backed with organic material on the inside. ... One panel of the apparatus had an opening with a lens through which possible manifestations of the presumed energy could be

observed by the researcher from the outside." Using this research instrument, Reich believed he had discovered the life force, energy separate from matter. Over time, Reich fashioned a variety of orgone accumulators, ranging from the famous "box" to a blanket. The resulting orgone therapy would help treat a patient's "body armor," freeing him or her to better experiences the deeper bodily processes, most especially sexual orgasm. The patient would, therefore, be in touch with the body's processing of the life force, orgone energy. In 1957, Reich went on trial for selling the accumulator with FDA approval, was found guilty, imprisoned in a federal penitentiary, and died.³²

Nothing, however, contributed more to the "mainstreaming" of explicit sexual materials than homevideo. As James Lardner notes, "Pornography accounted for a large share of the business to begin with, in part because the producers of 'adult' movies -- unhindered by any prejudice against the new medium -- had been its first suppliers." By the 1980s it became a consumer-electronics industry "truism" that no new major programming-driven new-media entertainment product could be introduced without a strong "adult" component. This applied equally to computer software, CD-ROM titles, the Internet or DBS.³³

By the late '80s and early-90s, a series of new inventions attempted to address basic sex-related problems, especially male impotence. New-era, high-tech solutions included "a radio-controlled penis construction ring system [with] a tool for stretching the ring when it is put on. A battery-powered, hand-held transmitter releases the ring pressure as the touch of a button." (1989) In addition, "a penile stiffening sheath apparatus with an unusual pubic plate studded with hard rubber nubs" was patented. Nevertheless, impotence continued.

According to a 1993 federal study of male sexuality, half the men over 40 years old reported suffering from intermittent or permanent impotency. In a separate 1994 study of women, 16 percent of those 18 to 59 reported considering the use of a dildo or vibrator "somewhat appealing" while 4 percent reported have used a dildo or other sex toy within the previous year. Two decades later, the National Survey of Sexual Health and Behavior (NSSHB) found that more than half (52.5%) of American women had used a vibrator and three in four (76%) who used vibrators agreed or strongly agreed their use were part of a healthy sex life; nearly half (44.8%) percent of men had used a vibrator and 60 percent agreed that vibrators can make sex with a partner more exciting. Nevertheless, according to on study, in 2015 more than two-thirds (68%) of young men and nearly one-fifth (18%) of young women view porn at least once a week and those numbers are growing.³⁴

The mainstreaming of once-illicit sexuality was accompanied by a rise in the sex trade and an increased reliance on the electronic media. They forged a new form of sexual culture. Anthony Flint, in a series in the *Boston Globe* published a decade ago, estimates the size of the U.S. sex industry at \$10 billion, excluding "under-the-table" income. According to Flint, "The spectrum of materials and services that make up the sex trade includes magazines; cable, satellite and pay-per-view TV; videos; CD-ROMs; phone sex; sex on the Internet (including live, interactive stripping); strip clubs; private dancing; and escort services." The *Globe* estimates that the electronic media market segment accounts for nearly half of total annual revenues; the five principal business contribute as follows: videos (\$3.1 billion), phone sex (\$1 billion), CD-ROM (\$300 million), cable TV (\$150 million) and Internet-based (\$100 million).³⁵ A decade later,

the adult sex industry is estimated at \$50 billion.

Technology & erotic pleasure

Technology transforms the human experience, especially imagination and pleasure, representation and physicality. Freud saw technical innovation as a power that helped extend or augment "natural" human capabilities. In *Civilization & Its Discontents* (1929), he noted, "With every tool man is perfecting his own organs, whether motor or sensory, or is removing the limits of their functioning." Going further, he reflected on then-modern media:

In the photographic camera he [i.e., humanity] has created an instrument which retains the fleeting visual impressions, just as a gramophone disc retains the equally fleeting auditory ones; both are at bottom materialization of the power he possesses of recollection, his memory. With the help of the telephone he can hear at distances which would be respected as unattainable even in a fairy tale.

For Freud, "Man has, as it were, become a kind of prosthetic God."³⁶

A quarter-century later, in 1952, George Jorgensen, a 26 year-old former U.S. Army private living with his parents in the Bronx, traveled to Denmark to undergo a gender reassignment procedure, what was then known as a "sex change" operation. Returning to New York as Christine Jorgensen, her daring gained a famous New York *Daily News* headline: "Ex-GI Becomes Beauty."³⁷ If one could transform a person from a male to a female, what else was possible?

Postmodern media technologies are completing the conversion from an electronically-based "analog" to a "digital" communications culture; it is the transformation from a wave signal to an endless series of 1s and 0s. Digital processing of electronic signals,

be it for media, financial services, commerce or personal communications, is a defining feature of 21st century, postmodern capitalism. Claudia Springer, in *Electronic Eros: Bodies and Desire in the Postindustrial Age*, identifies perhaps the strongest appeal of the electronic media. "... [E]lectronic technology is erotic because it makes possible escape from both the confines of the body and the boundaries that separated organic from inorganic matter," she argues.³⁸

Springer published her study in 1996 and much has changed over the last two decades. The latest innovation in VR technology, especially immersive porn, may replace the drive to "escape" from the body that she identified by a "merging" of the body and imagination. These new innovations may fashion an immersive physicality that reduced – if not eliminates – the need, let alone desire, for the actual living other. Like some bad sci-fi flic, the "real" other may become an artistic memory of a world that was once but never more.

Whether VR catches on this time or will be yet another consumer electronics bubble is anyone's guess. "I think VR porn has the capacity to bring an entirely new side of porn to the masses," guesses Ela Darling, the queen of VR sex. She is the star, creative director and co-owner of VRtube.xxx, a fledgling VR porn company. "Porn is my livelihood, it's my everything," she blushes, "so when I come across emerging technologies I see it through the lens of porn." She's developing what's described as "holographic 3D porn" for Facebook's Oculus Rift system.³⁹ She's a 21st century Bettie Page.

Big tech companies and venture capitalists are throwing serious money at it. At the May 2015 Silicon Valley Virtual Reality (SVVR) expo, a number of speakers pointed to the porn industry as a key driver of the emerging market.

Amir Rubin, CEO of Sixense, noted that for "every medium in the past, porn is a key driver" and pointed to Japan where VR porn was taking off. SVVR's co-founder, Palmer Luckey, tried to minimize the role of porn in the fledgling VR industry. He noted that Oculus, which he developed and sold to Facebook for \$2 billion even before the product was launched, insisted: "The Rift is an open platform. We don't control what software can run on it."⁴⁰

Some VR enthusiasts are not as circumspect as Luckey. Ian Pearson, Ph. D., working with Bondara, a British sex-toy company, has made some bold predications:

- By 2025, some forms of robot sex will appear in high-income, very wealthy households.
- By 2030, most people will have some form of virtual sex as casually as they browse porn today.
- By 2035, the majority of people will own sex toys that will interact with virtual reality.
- By 2050, sex robots will be more popular than human-human sex.

Pearson's boldest predication -- and the questionable assumption upon which all the others are based -- is that "leisure spending could grow by up to 500% and the sex market in 20 years could be three times bigger than today and seven times bigger by 2050."⁴¹ One can only wonder if Pearson is spending too much time dwelling inside a 3D VR world? The immersive VR world envisioned by some high-tech porn entrepreneurs is designed to enhance both a user's imagination and his/her physicality, especially that erotically experienced, and achieve orgasm.

VR porn is the 21st century's digital phantasmagoria. It fulfills the promises of the first magic lantern shows and early electronic body gadgets as well as Jaron Lanier's multisensory DataGlove and goggles of the '80s; it will like realize Darling's next-wave

developments like “immersive multimedia” or “3D environment” systems. The desire to experience sexual fulfillment as a technologically-mediated, psycho-physical pleasure raises a host of question: how effective does it stimulate both the imagination and the body?; is this experience of

pleasure the same for men and women?; what is the downside of the experience (e.g., alleged VR porn “addiction”)?; and what about “real” sex with a physical other? Resolving these questions remains a fundamental social challenge.

Notes

Image = Wearable.com.

¹ Walter Benjamin, *The Arcades Project*, translated by Howard Eiland and Kevin McLaughlin (Cambridge, MA: Harvard University Press, 1999), p. 26.

² “VR Porn Sites List,” <http://vrpimp.com/vr-porn-sites-list/>

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