

Session 12
SEX, VIBES AND VIDEOTAPE:
SEXUALITY AND ELECTRICAL TECHNOLOGY
IN THE 20TH CENTURY

**The Role of the Pornography Industry
in the Development of Videotape and the Internet**

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Abstract: This paper examines the significant role of pornography in promoting the diffusion of new communication technologies and how these new technologies have altered the nature of pornography in the last few decades. These technologies include VCRs, camcorders, Minitel, computers, and the Internet. Pornographic products have served to stimulate initial interest in these new technologies, despite their higher initial costs. The attractions are greater perceived privacy and easier access. As each of these technologies matures and prices drop, the role of pornographic products diminishes relatively, but not absolutely. Another pattern is the elimination of the distinctions among producers, distributors and consumers as do-it-yourself video and computers have permitted a "democratization" of pornography.

Keywords: communications technology, pornography, videocassettes, Minitel, Internet, computer sex

1. Introduction

Imagine a product with apparently limitless demand and so desired that people eagerly pay premium prices and buy expensive equipment to gain access to it. Imagine a competitive market where the introduction of new technologies upsets the historical division of production, distribution, and consumption, resulting in an array of new products and services, the creation of hundreds of niche markets, and greatly expanded diffusion of the new technologies. The product, of course, is pornography, and the new technologies are communication technologies such as camcorders and the Internet. If it were not for the subject matter, pornography would be publicly

praised as an industry that has successfully and quickly developed, adopted, and diffused new technologies. But because the subject matter was pornography, silence and embarrassment have been the standard responses.

This article will not discuss the implications of pornography and censorship, morality, or the wider questions of sexuality - tasks done very well by others.¹ At the risk of appearing indifferent to moral issues, this paper will focus on pornography's importance in diffusing new technologies - VCRs, camcorders, Minitel, computers, and the Internet - and how these technologies have reshaped the nature of pornography.² Driving this transformation have been the great capitalist engines of innovation and the quest for profits. Like war, pornography has served as an agent of change for both, and similarly benefitted greatly.

In a sense, pornography is defined by technology, because its creation, transmission and diffusion are so intimately related to the development of communication technologies.³ But pornography is also defined by profits and it is important to recognize that for the last few decades, pornography has been a high-growth, high-profit market for producers, distributors and retailers.⁴

Wider social and legal changes lay in the background of this paper. The sexual revolution in the United States can be dated from the publication of *Playboy* in 1953 or the introduction of the birth control pill in 1960. For pornography the key date was 1957, when the Supreme Court in *Roth v. United States* ruled that

the First Amendment limited restrictions on pornography only to material "utterly without redeeming social importance." Regardless of the specific year, the decades following saw a vastly increased diffusion of sexually-oriented material in all media.

This article proposes two arguments. The first is simple: In the last two decades, consumers of pornography have accelerated the diffusion of new communication technologies like the VCR and CD-ROM by becoming early buyers and users, thereby providing a profitable market for newly introduced services. Their willingness to pay an initial premium increased early sales, thus reducing costs for later buyers who benefitted from the economies of larger markets for more mainstream services.

Furthermore, these customers gained experience which enabled them to use and promote, for example, electronic mail with greater skill and understanding. Providers and distributors gained experience which transferred to mainstream products and services. As mainstream products became more affordable and profitable, the relative share of pornography decreased even though its absolute volume and revenue continued to grow.

The second argument is that the waves of new communication technologies have affected pornography in ways as revolutionary as in any other area of society. These changes are part of the larger changes of globalization, "commodification" of goods and services, development of niche markets, and the information revolution affecting commerce and cultures worldwide.⁵

These new technologies have "democratized" the pornography market by greatly reducing barriers to entry and transaction costs. Not only have many new means of production and distribution appeared, but the distinction as between producers, distributors and consumers has become increasingly blurred. This democratization of pornography has radically changed patterns of production, distribution, marketing and consumption.

Consequently, the environment and nature of a pornographic experience has altered. As cost of access to pornography has decreased, usage has grown enormously. Some consequences of this expanded access are higher degrees of specialization, more innovation and experimentation, and easier development of geographically independent "communities of practitioners." Some media, such as the computer, offer two-way, interactive linkages, further radically changing the nature of pornography.

2. Video

Introduced in 1976, the video cassette recorder (VCR) was "the most significant event in adult-film history and, along with Deep Throat, the impetus for a revolution in hard-core pornography," according to John Heidenry, a historian of the sexual revolution.⁶ By drastically reducing the cost and ease of production as well as viewing, VCRs enabled a powerful expansion of audiences for pornography. One important reason was that it actually increased privacy in both production and consumption (providing you can obtain tapes without leaving a paper trail; not always an easy matter as one nominee for the U.S. Supreme Court discovered).⁷ The VCR, like the desktop computer has the ability to create, receive, or send information in privacy with minimum effort. The privacy may be more apparent than real, but the sense of safety from the oversight and opprobrium of others is undeniable.

Compared with film, making a videotape is faster, far less expensive, and easier to edit and reproduce.⁸ Like pornographic magazines and cable TV, profits were higher than mainstream videotapes.⁹ On the demand side, VCRs created a huge, potential audience of people who could view pornography in privacy. Instead of travelling to a disreputable store, viewers could watch films at their convenience at home. To maintain privacy, customers could order video-by-mail, visit a distant store, or browse the discreetly separated section of a local store.¹⁰ Starting in the late 1970s, advertisements for adult films filled hundreds of pages in new video magazines like Video Review and adult magazines like Penthouse, generating income for the publishers. Indicative of a growing market, specialized magazines sprouted in the 1980s to provide consumers with information.¹¹

The VCR is an excellent example of how a niche market can accelerate the diffusion of an expensive new technology. Pornography played a major role in the initial years of VCRs by providing customers with a product, and, at the same time, justification for acquiring costly equipment. VCR buyers in the late 1970s and early 1980s comprised a challenging market. Not only was the equipment very costly, but two incompatible formats, VHS and Beta, were jousting for market superiority so users had to risk buying a format that might soon disappear.¹² Early VCR buyers were an audience willing to pay a premium for equipment in exchange for the prestige of "cutting edge" techophilia and viewing privacy.

According to a 1986 Merrill Lynch study, X-rated tapes constituted over half of all sales of pre-recorded

tapes in the late 1970s. By the mid-1980s, that share had dropped to approximately 10-25%, reflecting the maturation and growth of the rest of the market, not a diminution in the demand for pornography. That percentage has held fairly steady since then, with pornography accounting for 13% of all video rentals and sales in 1995.¹³ Not surprisingly, pornographic videos proved a significant source of income for many stores, especially independents trying to compete with big chains which do not carry pornography. Approximately 25,000 of the 60,000 video retail outlets in 1995 carried pornography, which, because of their higher profit margins, accounted for 28% of their revenue.¹⁴

The nature of pornography changed in two ways. First, like any competitive, maturing market, producers strove to develop new niches and differentiate their products. For videoporn, that meant an increase in films about sexual activities not normally considered mainstream.¹⁵ The second change was the rise of the self-made videotape and a new class of amateur producers.

3. Do-It-Yourself (DIY) Pornography

As well as viewing professionally produced films, owners of VCRs and camcorders (nee video tape recorders) could -- and did -- produce their own pornography. In an example of the true democratization of technology, the camcorder allowed people to produce their own pornography without anyone else seeing their work. Standard photography, whether for stills or movies, depended on others to process the film. Eliminating this outside dependence greatly expanded people's privacy and their scope for action.

Camcorders eliminated the distinction between producers and consumers. In a sense, this technology can be seen as liberating and empowering, allowing individuals to actively create their own pornography, not just passively consume the work of someone else. Now, anyone with a modicum of skill could become a producer.

One tendency in the history of technology has been blackboxing, shifting skills from people into machines. Often a management tool to reduce dependence on skilled labor, blackboxing also enables more people to use equipment.¹⁶ For videotaping, the two major advances were auto-focus and low-light level capabilities. Reducing the level of skill needed to produce good pictures increased the market for this equipment.

Whether camcorder manufacturers were unaware of this unadvertised application is dubious. Such filming was among the first subjects tackled by many new owners.¹⁷ In 1978, *Forbes* writer James Cook stated that the manufacturers

"like to think that [camcorders] will be used to enable people to watch more cultural and sports events. They are only kidding themselves. It is an open secret that the biggest market is [visual sex]."¹⁸

Some entrepreneurs quickly capitalized on the potential of DIY video. In an early effort at 'value-added services', one New York brothel in the early 1980s offered customers 'fantasy rooms' with a VCR and camcorder. These features quickly diffused throughout that industry.¹⁹

Nor were entrepreneurship (and exhibitionism) confined to established businesses. More than a few people rented or sold their films, creating a cottage industry in its own right. Showing all the signs of voluntary self-organization that Alexander de Tocqueville so admired among Americans, DIY videosex even had its own journal (*Amateur Video Guide*) and conventions.

Although at least one distributor, Susan's Video, started buying and selling DIY videos in 1980, DIY pornography did not reach video stores in significant quantity until 1989, reflecting the introduction of better autofocusing and low-light-level camcorders in the late 1980s. While the 'less practiced, more realistic' look may be more enticing, the actual quality of a film is not incidental. Like other technologies, once standards rise, all competitors have to keep up, or face a loss of both status and market.²⁰

By 1991, DIY pornography comprised 30% of the thousands of new industry offerings, and amounted to several hundred thousand actual cassettes, numbers that have remained fairly consistent since then. The attraction for viewers was the greater realism and voyeurism of the films. Retailers were attracted by the significantly lower cost of purchasing an amateur film from a wholesaler - \$15 versus \$25 for a regular film.²¹

Videoporn embodies the paradox of technological deskilling and enfranchisement. By packaging the "smarts" in the camcorder instead of having to employ a technician and laboratory, millions of people have participated in an activity previously open only to those who had the necessary skills,

knowledge and expensive equipment. Improved technology has substituted for human skill and competence. Similar repackaging in computing is likewise transforming the world.

4. The Computer and the Internet

Pornography and computing have long been intertwined. In the era of punch cards and impact printers, some programmers posted computer printouts of pin-ups on their walls. The quality of the imagery was far, far less than that of a photograph, but it served as a visible testimony of the programmer's technical prowess. Such pin-ups also served to re-emphasize the questions of control and domination inherent in some pornography and the computer.²² As Claudia Springer has noted, there is more than a hint of technoeroticism, "the passionate celebration of technological objects of desire" in much of this activity.²³ The recent development of interactive computer games and customer-directed peep shows over the Internet strengthen this interpretation.

The computer revolution is reshaping the nature and environment of pornography at an accelerated pace in the same ways that other businesses are being altered. While much of the material on-line is fairly "traditional," cyberspace has the potential to change concepts of sex just as it is changing concepts of pornography.²⁴ Far more than DIY video, computer networks have destroyed the differences among production, distribution and consumption, while also greatly reducing barriers to the creation and support of geographically disparate communities of practitioners.

Like a light drawing moths, pornography has attracted users on line and provided producers with high-profit goods that sell. Pornography has given many people a reason to spend time surfing the Internet, increasing their knowledge of the system, spreading the word to others, and providing revenue to the service providers.²⁵

To focus exclusively on the Internet, however, would be to neglect the capacity of computer systems to communicate the written word. The first forms of cybersex²⁶ comprised written information and typed communications among consenting participants on chat lines and bulletin boards. The prime example is Minitel, heavily promoted by the French government as a means of rapidly accessing information and thereby stimulating its domestic telecommunications industry. Started in 1983 as an alternative to

telephone directories, Minitel grew to 2.5 million terminals in 1987 and 6 million in 1991. Although less interactive than the Internet and lacking graphics, Minitel was far less expensive and easier to operate.

Its success was partly due to 'one of the most conspicuous, popular and controversial' services, the messageries roses.²⁷ Mattias Duyves labelled these erotic advertisements a form of selbstfreie Kommunikation (anonymous communication), a perfect fit for the urban environments where most Minitel use occurred.²⁸ Such sexually oriented messages accounted for an estimated third to a half of all Minitel traffic in the early years and an even greater share of the publicity. In a pattern seen elsewhere, the relative pornographic share of Minitel traffic decreased as thousands of other services - 4,400 in 1987, over 16,000 in 1991 and nearly 25,000 in 1994 - developed.²⁹

Perhaps the greatest contribution of the Internet is the creation of community. Like home-made videoporn, cybersex has developed extensive grassroots links, albeit far more interconnected. The Internet fosters the creation of "virtual communities" by making it easy for people with common interests, whether flyfishing or spouse-swapping, to find each other and communicate.³⁰ These computer-based groups, such as alt.sex.fetish.startrek, are created by a geographically dispersed network of people. Most of these groups are not pornographic per se, but focal points for people interested in the same subject to converse - or learn.

In the last few years, the explosive growth of the Internet, World Wide Web, and computers in businesses and homes together with improved graphics and higher transmission speeds have moved cyberporn from the secretive habit of the few to the enjoyment of the many, removing "the biggest obstacles to selling pornography and sexual services: shame and ignorance."³¹ The Internet offers nearly free access to pornography uninhibited by previous barriers of time and space. Essentially, cyberporn has become an economist's ideal free good: pornography is easily accessible, incurs minimum transaction costs, and enjoys a large demand. The ease of creation, distribution and access to pornography has created an electronic version of Gresham's Law, except that the good information is still available - just not always pursued.³²

It is this availability that has attracted the greatest attention and fear. Numbers are revealing. Four of the ten most popular Usenet bulletin boards in December, 1994 were sexually oriented with an

estimated worldwide readership of 1.85 million people.³³ Perry Glasser's survey of people logging onto chat rooms on America On-line and Prodigy found an acute disparity between highly acclaimed "family values" and users' actual interests.³⁴ Source: Perry Glasser, "Love, Sex, & Power on the Cyber Frontier," North American Review September/October 1995, 46. On its first day of availability in March, 1995, Penthouse's Web site received 802,000 visits and Playboy averaged 620,000 daily visits, placing both sites in the ten most popular sites. By 1997, Playboy reported five million visits daily and, in January 1999 PornCity averaged nearly two million daily hits.³⁵ In a striking proof of the concept that the personal is indeed political, the Judiciary Committee of the House of Representatives placed the report of Independent Counsel Kenneth Starr on-line and reached an audience of millions.³⁶

Source: Katie Hafner, "News Watch," New York Times September 28, 1998, D3.

Some of the cybersex hoopla is promotional, like Playboy inviting women to e-mail their vital statistics to the magazine in the same way it earlier asked women to send pictures by fax.³⁷ Other activities are more practical. For example, modern versions of the nineteenth century guides to the illicit pleasures of Paris became available for cities worldwide.³⁸ Journalist and longtime computer industry observer T.R. Reid distinguished five categories of cybersex products:

- 'traditional' films on CD-ROM
- graphics programs, such as screen savers and calendars
- games like PornoPoker
- interactive films where the viewer chooses from menus of men and women and desired activities
- software with Internet links³⁹

The first two categories are simple extensions of pornography onto a computer system. Games, however, proved important in pushing the multimedia frontier and demonstrating the technological progress since the introduction of similar interactive video games in the early 1980s. Those games were not very successful, reflecting poor graphics and limited gameplaying options.⁴⁰ In contrast, the success in the 1990s of similar, but higher quality CD-ROM games shows that the basic concept was sound, the customers willing, but the technology weak.

Reid's last two categories have given new meaning to the concept of self-expression. Blaine R. Richards, the producer of "Bodacious Bodies", proclaimed, "You use the software to create your own fantasy. Then you upload it to the Net, so your buddies can

see what's on your mind."⁴¹ This is a radical change in the nature of a pornographic experience. Furthermore, since anyone can access a home page, the creator is broadcasting to the world, a significant extension of DIY pornography.

Unlike the VCR, where pornography accelerated the diffusion of a new technology without shaping it, the development of pornographic products has shaped computer technology. Reid considers the cybersex promoters "arguably one of the great pioneers of the multimedia industry."⁴² These producers in the late 1980s and early 1990s led the development and distribution of CD-ROM software. The "Penthouse Virtual Photo Shoot", for example, won praise for one of the most interactive games then manufactured.⁴³

The result of these activities by pornography providers is the development of new applications and solutions to the challenges encountered by businesses trying to commercialize the Internet. A "trailblazer in the economics of new technologies," pornography is helping the Web mature economically by testing technologies and concepts to attract customers and their money.⁴⁴ Many of these pornography providers were new arrivals, trying to catch a ride on the wave of computer technology, some of whom included the mythological poor students striking it rich.⁴⁵

One justification for their products is that they are pushing the technological - and commercial - envelope.⁴⁶ Some of these claims are undoubtedly designed to link their product with the socially appealing concept of technological progress, a long-standing theme in American history. But the underlying reality should not be denied.⁴⁷

Commercial interest in pornography is simple: It still is one of the few profitable on-line businesses. Estimates by market research firms of the revenues from on-line pornographic services and products in the United States ranged from \$50 million to \$150 million for 1996 and \$750 million to \$1 billion for 1998. The British market research firm Datamonitor claimed worldwide revenues of \$1 billion for 1998 of which the American market accounted for 84%, putting in the same ballpark as the American estimates.⁴⁸

Where does the money go? Basically, customers are paying for access, products, and services. Subscriptions to web sites provide some of the profits. Playboy introduced in 1997, for \$60 annually, its Cyber Club for customers who want to peruse its photographic archive or converse on-line

with its Playmates.⁴⁹ Seattle-based Internet Entertainment Group claimed 50,000 subscribers in 1997, equivalent to the Wall Street Journal's on-line edition.⁵⁰ Video Fantasy, which also offers videoconferenced customer-guided peep shows, claimed 20,000 subscribers.⁵¹

New technologies, support services, and operational concepts are emerging from on-line pornography. Some software to verify Internet financial transactions originated in systems devised to handle Dial-a-Pornography telephone and Internet accounts. More intriguingly, verification systems, by providing subscriptions covering multiple Web sites, may provide the archetype for reducing risk to users arising from the quality (or value) of unknown sites while offering providers higher visibility and income. In the realm of copyrighting, Playboy has become one of the first customers of digital watermarking to prevent - or at least announce - unauthorized use of its material on the Web, while WebPosse tracks down infringers.⁵²

Another potential market, computer-based videoconferencing, has been pioneered by Virtual Dreams, a firm offering a striptease peep show over telephone lines. Customers type or speak their requests and the woman or man at the other end complies while the meter ticks at \$5.99 a minute. Some of the firm's \$700,000 monthly income is reinvested in further developing this two-way technology which may benefit "medical, educational and a whole host of commercial and industrial transactions."⁵³

Technologically, cybersex is a trailblazer. In terms of content, however, most of the content has been directed at an audience of heterosexual males. That may change as the number of female visitors to pornographic sites increases. Nonetheless, even a study that showed almost 20% of female users logged onto a pornographic site in May, 1998 also claimed 45% of male users did so. And only in July, 1998 did Purve, "the first sexually explicit subscription site designed explicitly for heterosexual women," open.⁵⁴ By May, 1999, of twenty-nine books on computer sex offered by Amazon.com, only two explicitly targeted a female readership.⁵⁵

5. Conclusion

New communications and information technologies have revolutionized the worlds of politics, religion, commerce, and other areas.⁵⁶ Pornography is no exception. These technologies have greatly reduced

the economic and social transaction costs of creating and accessing pornography while providing greater privacy to users and profits to everyone else. By enabling consumers to become producers, pornography has become an active as well as a passive activity. Although people may not want to think about pornography, it has significantly affected the lives of everyone who has used a news-stand, VCR, telephone, or computer network.

The democratization of pornography is part of a larger decentralising trend in communications over the last few decades. The social consequences of the democratization of the production and distribution of information of all kinds promise to be as earthshaking as the "emocratization of consumption by the development and diffusion of the printing press half a millennium earlier."⁵⁷

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⁷ The Video Privacy Rental Act was passed as a result of the publicizing of U.S. Supreme Court nominee Robert Bork's video rentals.

⁸ In 1985, the average cost of a video was less than a fifth of a 16mm feature-length film (Department of Justice, Attorney General's Commission on Pornography. Final Report 2 vols. (Washington, DC, 1986), 1368-74).

⁹ Because video is easier to edit than film, producers can more

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³⁴ *Network-created Rooms (25 people maximum)*

Name	Number of people
Chess	0

Rush Limbaugh	0
Photography	1
Soap Operas	2

<u>User-created Rooms</u>	
<u>Name</u>	<u>Number of people (25 people maximum)</u>
Shareyourwifew/me	14
Married and Flirting	25
ULookPrettyTiedUp	25

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⁴⁵ Venus Interactive Cinema was founded by two Northwestern University students who claimed that, to pay their tuition, they dropped out, sold all their possessions and then made "Intimate Possibilities" for \$100,000. If they had \$100,000 of possessions, did they need to drop out? (Michael Jay Tucker, "How Pivotal Is Porn in Developing the Market for CD-ROM?" CD-ROM Professional November 1995 8, 11: 68).

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⁴⁷ Steven Levy, "David Does QuickTime," Macworld June 1993, 43-56; John Tierney, "Porn, the Low-Slung Engine of Progress," The New York Times January 9, 1994. For a broader perspective, see Leo Marx, The Machine in the Garden: Technology and the Pastoral Ideal in America (New York, 1964) and Howard P. Segal, Technological Utopianism in American Culture (Chicago, 1985).

⁴⁸ David Leonhardt, "The Meat and Potatoes of Online Shopping?" Business Week December 7, 1998, 46; Gareth Branwyn, "How the Porn Sites Do It," 36-38; "Adult Content Grabs Lion's Share of Revenue," www.avn.com/html/avn/news/nws/news311.html, May 26, 1999.

⁴⁹ "The case of the bouncing bunny," The Economist July 26, 1997, 58.

⁵⁰ "A Survey of Electronic Commerce," The Economist May 10, 1997, 15, 11.

⁵¹ Seth Schiesel, "A Father, a Friend, a Seller of Cyberporn," New York Times June 30, 1997, C1, 11.

⁵² "Cybersex," 64-6; "A Survey of Electronic Commerce," The Economist May 10, 1997, 15; Branwyn, "How the Porn Sites Do It," 34-40; Andrew Ross Sorkin, "Digital 'Watermarks' Assert Internet Copyright," New York Times June 30, 1997, C11.

⁵³ "Cybersex," 64-6.

⁵⁴ Pamela LiCalzi O'Connell, "Web Erotica Aims for New Female Customers," New York Times August 13, 1998, D2.

⁵⁵ Lisa Skriloff and Jodie Gould, Men Are from Cyberspace (New York, 1997) and Anne Semans, The Women's Guide to Sex on the Web (New York, 1999).

⁵⁶ E.g., Gerald Benjamin ed., The Communications Revolution in Politics (New York, 1982); Tom Forester ed., The Microelectronics Revolution: The Complete Guide to the New Technology and Its Impact on Society (Cambridge, MA, 1983); Robert G. Meadow ed., New Communication Technologies in Politics (Washington, DC, 1985); Jonathan Coopersmith, "Texas Politics and the Fax Revolution," Information Systems Research 7,1 (March 1996), 37-51.

⁵⁷ Elizabeth L. Eisenstein, The printing press as an agent of change 2 vols. (Cambridge, 1979).

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