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# The Social Construction of a Contraceptive Technology: An Investigation of the Meanings of Norplant

Elizabeth Siegel Watkins<sup>1</sup>

## Abstract

This essay looks at Norplant *qua* technology and uses analytic frameworks from the social construction of technology to explain the trajectory of its brief history. The author contend that there were multiple uses of Norplant, in terms of rhetorical strategies, symbolic representations, and contraceptive intentions, constructed by reproductive scientists, population control advocates, pharmaceutical manufacturers, doctors, birth control clinic staffers, government regulators, legislators, judges, women's health activists, potential users, and actual users. However, while relevant social groups shaped the discourse surrounding Norplant in the 1990s, its ultimate fate was determined by choices made by potential users. At the "consumption junction" of the late twentieth-century contraceptive marketplace, American women ignored the meanings constructed for Norplant by

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developers, producers, providers, and policy makers and made their decisions based on what Norplant meant to them. Individuals' decisions to choose other methods of preventing pregnancy coalesced into a collective rejection of this contraceptive technology.

### Keywords

Norplant, birth control, social construction of technology, women, United States

The long-term contraceptive called Norplant, a system of six silicone rods implanted in a woman's arm that slowly released a synthetic form of the hormone progesterone over a five-year period, was available in the United States from February 1991 to July 2002. Reproductive scientists working at the Population Council, which had recently pioneered the plastic intrauterine device (IUD), first proposed the idea of a long-term contraceptive implant in 1966. Clinical trials began in 1969 in Santiago, Chile; the first country to approve and market Norplant for general use was Finland in 1983 (Segal 1983; Croxatto et al. 1969).<sup>1</sup> Seventeen others soon followed suit, and in December 1990, the United States became the nineteenth nation to sanction the sale and use of Norplant, following authorization by the Food and Drug Administration (FDA). Over the next decade, Norplant was embroiled in transnational controversy about cost and access, ethics and coercive use, judicial mandates and legislative proposals, and side effects and health concerns. By 1996, some 50,000 American women had joined class action lawsuits against the manufacturer Wyeth-Ayerst claiming restitution for pain and suffering caused by Norplant, although no more than 2 percent of American women of reproductive age (about a million) ever used Norplant as their method of choice. In the summer of 2002, Wyeth announced that it would no longer sell Norplant in the United States. After a little more than eleven years, the contraceptive implant, initially hailed as the first major technological innovation in birth control since the pill and the IUD in the 1960s, quietly faded into oblivion.<sup>2</sup>

This essay looks at Norplant *qua* technology and uses analytic frameworks developed by scholars working in the social construction of technology to explain the trajectory of its brief history. First, I take up Ruth Schwartz Cowan's call for historians to ask why some artifacts fail. To answer the question of why Norplant fell short as a viable option on the contraceptive menu for American women, I focus on Cowan's "consumption junction:" the point at which consumers decide among competing

technologies (Cowan 1989). Second, I follow Judith McGaw's lead in studying what she calls feminine technologies, those "associated with women by virtue of their biology" (McGaw 2003, 15-6). McGaw argues that feminine technologies demonstrate the key role played by purchasers and users, rather than experts and professionals, in determining the outcome of a technological endeavor. Third, I rely on Trevor Pinch and Wiebe Bijker's concept of relevant social groups as an organizing principle for figuring out the multiple meanings constructed for Norplant. For Pinch and Bijker, a relevant social group is an organized or unorganized group of individuals who share in common the same meaning or set of meanings for a given artifact (Pinch and Bijker 1989). In the case of Norplant, reproductive scientists, population control advocates, pharmaceutical manufacturers, doctors, birth control clinic staffers, government regulators, legislators, judges, women's health activists, potential users, and actual users developed, modified, and negotiated different—and often conflicting—interpretations of this new contraceptive technology. These constructed meanings for the contraceptive implant did not remain static; they shifted in response to recent experiences, new information, or changed circumstances.

Pinch and Bijker are careful to point out that what appears to be a unified social group might in fact be a heterogeneous assemblage of homogenous subsets. In their study of late nineteenth-century bicyclists, they note that cycling enthusiasts can be further broken down into those who used bicycles for sport and those who used them as a means of transport, which necessitated different requirements for the technology. Women cyclists, too, required a slightly different functionality based on the meanings they constructed for their use of the bicycle (Pinch and Bijker 1989). In a similar fashion, communications scholar Sally Wyatt, in her study of the Internet, dissects the category of users into more nuanced groupings. She observes that there is a vast difference between "those who spend almost every waking hour online and those who check their e-mail once a week" (Wyatt 2005, 77). Among Norplant users, it is important to differentiate between, say, women who adopted the technology in their forties after having completed their families and women who chose the implant as teenagers. A colleague of mine cheerfully announced that she called Norplant the tenure-track contraceptive. She had it implanted as an assistant professor (with two young children) and then had it removed once she earned tenure (so she could have one more child). Her interpretation of Norplant surely differed enormously from that of women with substance abuse problems who accepted \$200 incentive payments from Children Requiring a Caring Community (CRACK) in return for using the contraceptive implant.

Norplant users were a heterogeneous group, in terms of age, marital and motherhood status, race and ethnicity, ability status, and educational and income levels, and they demonstrated a range of sentiments about using this method of contraception, from delighted acceptance to ambivalence to profound resentment. Lumping users into a single group can obscure these differences and discount the significance of diversity in individuals' decisions about and reactions to new technologies (Rose and Blume 2005).

Given the low rates of adoption of Norplant among women of reproductive age, I am also interested in non-users. Wyatt argues that there are important policy implications for including never users and former users in analyses of who uses (and does not use) technology. She identifies four types of non-users: (1) resisters, who have never used the technology because they choose not to, (2) rejecters, who stopped use of their own accord, (3) the excluded, who have never used the technology because they were denied access, and (4) the expelled, who were forced to stop using it (Wyatt 2005). By including consideration of women who would not or could not use Norplant, as well as those who gave up on it, we get a better understanding of why Norplant failed to win over more than a small percentage of American women.

Unlike other forms of consumer technology, Norplant could not be altered or "domesticated" to suit the user's own purposes. The elegant analysis by Ronald Kline and Trevor Pinch, for example, of how rural farmers came to use Model T automobiles not for transportation but as stationary generators cannot be applied to Norplant (Kline and Pinch 1996). It had but one technical application: the prevention of pregnancy. Perhaps, women could have had Norplant implanted in their arms as a form of bodily adornment, but there is no evidence to support this conjecture. Nevertheless, I contend that there were multiple uses of Norplant, in terms of rhetorical strategies, symbolic representations, and contraceptive intentions. Different social groups articulated their expectations for Norplant according to their own interests as well as those of the women for whom they presumed to speak. Mississippi state legislators who proposed bills to link Norplant use with receipt of Aid to Families with Dependent Children (AFDC) payments wanted to use Norplant as a tool to fight welfare abuse, but opponents objected to this proposal as nothing more than barely disguised eugenics. The Baltimore school administrators who advocated Norplant to provide teenaged mothers with "a second chance" were at odds with local clergymen who condemned the implant as "a license for promiscuity." In addition to its multiple rhetorical and symbolic usages, Norplant's use as a contraceptive served multiple intentions of individual birth control and societal

population control. In spite of the unyielding design of Norplant—six Silastic capsules, each 2.4 mm in diameter and 34 mm in length, and each filled with 36 mg of the progestin levonorgestrel—this “one-size-fits-all” contraceptive model was subject to a great degree of interpretive flexibility by the numerous groups and individuals who constructed its meanings and uses.

By situating Norplant at the nexus of the analytical frames developed by Pinch and his coauthors Bijker and Kline, Cowan, McGaw, and Wyatt, we can make good use of their overlapping and complementary approaches to the social construction of technology. In what follows, I illustrate the uses imagined and meaning constructed for Norplant by key relevant social groups over the course of its brief life. While relevant social groups shaped the discourse surrounding Norplant, its success, or lack thereof, was determined by choices made by potential users at Cowan’s consumption junction. In the adoption of this new technology, the non-users, Wyatt’s resisters and rejecters, had a greater influence than did the designers, McGaw’s professional technologists. The decisions made by the spectrum of users and non-users, I argue, mattered more than the best intentions of the developers, producers, and providers of Norplant in the ultimate fate of this contraceptive technology. To address the critical issue of power relationships among social groups engaged in the dissemination and adoption of new technology (Kline and Pinch 1996), I show how the female consumers who turned their backs on Norplant succeeded in resisting the efforts of population controllers and pharmaceutical manufacturers, and, in doing so, shifted the balance of power in decision making about fertility control at the end of the twentieth century.

The contraceptive implant was conceived in the laboratories of the Population Council. The location of the research helps explain the motivations for the development of Norplant. The Population Council was founded in 1952 by John D. Rockefeller III, who was concerned about overpopulation, especially in what was then called the Third World. It sponsored scientific research toward the development of technologies that could lead to new methods of birth control, which could then be deployed by local and international family planning programs (Watkins 1998). Norplant followed closely on the heels of the successful reinvention and reintroduction of the IUD in the mid-1960s, work that was also supported by the Population Council. Both the IUD and Norplant were long-term provider-controlled contraceptive devices; that is, they prevented pregnancy for several years, and they had to be inserted and removed by a trained health care professional. Although the oral contraceptive had been very popular among

women since its release onto the American market in 1960, population controllers had doubts that poorly educated low-income women would be able to remember to take a daily pill; they touted the IUD, and later, Norplant, as advantageous because users could forget about contraception after insertion of the device (Watkins 1998). For its developers, Norplant represented a technically superior delivery system for synthetic progestin that could be used by women in developing countries to limit their family size. These men assumed that women had lots of children because they did not have access to easy-to-use effective contraception; they ignored the complex web of social, cultural, political, and economic reasons for large families.

They also dismissed the side effects of Norplant as trivial relative to the effectiveness of the method in preventing pregnancy. That Norplant users experienced menstrual changes had been known, and expected, since the earliest clinical trials, because progestin-only oral contraceptives (unlike those that also contain an estrogen component) also disrupted bleeding patterns. Studies published in 1983 on Norplant trials in Indonesia, Thailand, and Egypt all reported that more than half of the users reported menstrual changes (Lubis et al. 1983; Satayapan, Kanchanasinith, and Varakamin 1983; Shaaban et al. 1983). Since the majority of women in these trials continued to use Norplant, investigators concluded that this side effect (as well as others such as headache and weight change) was relatively insignificant and did not detract from Norplant's "acceptability."

None of these so-called acceptability studies interviewed women about the impact of changed bleeding patterns on their everyday life. Feminists criticized the lack of cultural sensitivity to the importance of regular menstruation in many societies, which could affect marital relationships, work patterns, and participation in public celebrations (Hardon 1993). In 1993, the Women and Pharmaceuticals Project, a collaborative undertaking between Health Action International, a European network of consumer, health, and development groups, and WEMOS, a Dutch feminist nongovernmental organization, published a collection of reports on users' attitudes toward Norplant, including the results of three field studies—in Indonesia, Finland, and Brazil—specially commissioned to evaluate Norplant from the users' perspectives. By allowing women to speak about their own experiences, these reports revealed a more nuanced picture of how and why women chose to incorporate Norplant into their lives—or not.

The feminist-run investigations revealed a wide disconnect between the perspectives of users and providers of Norplant. The two groups had very different conceptions of what was "normal," as evidenced by the doctor who told a woman interviewed in the Brazil study that it was normal for her to

bleed for twenty days each month (Garcia and Dacach 1993). In Indonesia, too, health workers dismissed side effects as normal consequences of the contraceptive (Hanhart 1993). In Egypt, medical personnel subordinated adverse effects on women's health to the higher goal of effective contraception (Morsy 1993). The editors of the volume rebuked health care providers for their "professional attitude [that] they are the experts and believe that they know what is best for women" (Mintzes, Hardon, and Hanhart 1993, 116).

The scientific advisory committee charged with the evaluation of Norplant prior to FDA approval for marketing in the United States was well aware of the bleeding changes, metabolic effects, and removal issues associated with the implant. However, no side effect was deemed serious enough to hold up the approval of Norplant; the committee voted unanimously in its favor. "In view of the fact that we feel that it's a safe and effective means of contraception from the information we derive from third world countries," asserted one committee member, "then it should also stand that it would be a safe and effective means of contraception in the United States" (Fertility and Maternal Health Drugs Advisory Committee 1989, 181-2).

Although American health feminists warned that insufficient data existed on the long-term safety of Norplant, they were not wholly opposed to this new method of birth control. At the FDA advisory committee meeting, the representative from the National Women's Health Network (NWHN) testified, "I think that the population community and the feminist women's community are closer together than they have ever been before in discussion of a new contraceptive technology" (Fertility and Maternal Health Drugs Advisory Committee 1989, 19). Several months later, when *Network News*, the organization's bimonthly newsletter, announced that Norplant was very close to FDA approval, it also offered a cautious endorsement: "A new method which has been well-researched and is clearly very effective, such as Norplant, may fill the needs of at least certain segments of the population" (Anonymous 1989, 4-5).

Initially, that targeted population was located outside the United States. The Population Council applied for FDA approval so that the U.S. State Department's Agency for International Development could make Norplant available to population control programs in developing nations (Fertility and Maternal Health Drugs Advisory Committee 1989). Of the twenty-six countries that had approved the sale of Norplant by 1992, twenty-one were in Asia, Africa, and Latin America; most of these countries distributed the implant (and other contraceptives) through family planning programs with the explicit objective of reducing population growth (Mintzes, Hardon,



and Hanhart 1993). In the eyes of the developers at the Population Council, Norplant represented a technological solution to what they perceived as the international problem of overpopulation. “A wider choice of methods,” asserted the vice president of the Population Council, “will result in increased use of contraception by men and women,” and, by implication, a decrease in the birth rate (U.S. House of Representatives 1993, 26).

Wyeth-Ayerst, the pharmaceutical company licensed to distribute Norplant in the United States, also hoped to increase the use of contraception by individuals but not necessarily for the purpose of population control. The company was already in the business of selling birth control, with several different pill formulations. It predicted that the implant would capture an additional 1-2 percent of the private sector and 3-5 percent of the public sector in total contraceptive sales (Grubb 1992). Thus, the meaning of Norplant for this relevant social group was expressed in terms of revenue. Wyeth-Ayerst was interested in selling Norplant to doctors in private practice and in public clinics to broaden its presence in the contraceptive marketplace.

Wyeth’s decision to set the price for Norplant at \$365 caused outrage among clinic providers whose clientele consisted of low-income women. These clinics, many of which relied on Title X government funds, were accustomed to the reduced prices offered by manufacturers of oral contraceptives and IUDs. The ParaGard brand of IUD, for example, cost \$150 for private practitioners, but only \$75 for public clinics (Anonymous 1991a). Birth control pills were even more deeply discounted. In El Paso, Texas, hospital clinics could offer a month’s worth of birth control pills for fifteen cents, less than 1 percent of the retail cost (Anonymous 1991b). Clinic providers knew that their clients could not come up with \$365 (plus another \$150 up front to pay for the insertion) and their meager annual budgets could subsidize only a small number of women. Although Medicaid would cover the cost, women eligible for Medicaid comprised only 5 percent of the clientele at Title X clinics (Anonymous 1991b). A clinic director in Pittsburgh expressed his quandary:

Norplant sounds exciting and innovative . . . . But the problem is, it is quite expensive . . . . When you’re looking at spending public dollars, you’re looking at the cheapest way you can serve the most people. If you’re talking about a price that is this [high], then it’s certainly going to reduce the number of women it can be made available to (Anonymous 1991b, 50-1).

For these clinic providers, Norplant had two denotations: on one hand, a new contraceptive that appeared to be safe, effective, and appealing to the

women they served, and on the other hand, an overpriced commodity frustratingly out of their reach.

Because of its high price in America, Norplant became the subject of a congressional investigation in 1993. The House Subcommittee on Regulation, Business Opportunities, and Technology of the Committee on Small Business was three years into an inquiry into the pricing of drugs whose development had been either wholly or partially supported by taxpayers' money. According to Representative Ron Wyden, chair of the committee, "Federal taxpayers bought and paid for a significant portion of Norplant's development . . . This massive taxpayer investment ought to be reflected in a better deal for the U.S. consumer" (U.S. House of Representatives 1993, 1-2). He called for a reduction in the price of Norplant, plus an additional discount for nonprofit public clinics. For this Democratic congressman, Norplant represented the greed of Big Pharma. Like the clinic providers, he welcomed Norplant onto the menu of contraceptive options and lamented its inaccessibility for "many working Americans."

During the course of the hearings, the medical director of Wyeth-Ayerst testified that Norplant's price had been set to "maintain private sector interest in the product . . . If the product came to be seen as one for public sector clinics and low-income users, we knew it would not be well accepted broadly" (U.S. House of Representatives 1993, 30). Wyden condemned "this elitist school of pharmaceutical pricing" as "morally repugnant" (U.S. House of Representatives 1994, 3). This exchange revealed the class conflict that simmered just beneath the surface of the debate over Norplant. Cost was part of this debate, but the even more contentious dimension of the early Norplant controversy had to do with concern about coercion.

This controversy was sparked the day after Norplant won FDA approval, when the *Philadelphia Inquirer* published an editorial titled, "Can Contraception Reduce the Underclass?" (Anonymous 1990). The author reported the distressing statistic that almost half of the black children in America were living in poverty, and he suggested that welfare mothers be given incentives for using Norplant. The editorial touched a nerve—the newspaper was deluged with so many complaints from both readers and staff members that it published an apology and a retraction—but it was by no means out of step with sentiment across the country. A survey of readers of *Glamour* magazine found that 47 percent of respondents thought women on welfare should be offered financial incentives to use Norplant and 55 percent thought that women convicted of child abuse ought to be required to use Norplant (Anonymous 1991c). Although this self-selected sample was not representative of the general population, it does give some

indication of what white, high school and college educated women between the ages of eighteen and thirty-four were thinking (Arsenault and Fawzy 2001). Californians polled by the *Los Angeles Times* concurred: 60 percent approved of mandatory use of Norplant for drug-abusing women of child-bearing age, and a majority also approved of making the device available to teenagers (Skelton and Weintraub 1991).<sup>3</sup>

In the early 1990s, welfare reform sat atop the domestic political agenda in the United States. State legislators construed Norplant as one possible technological solution to the problem of an expansive and expensive welfare system; long-term contraception, they believed, would help women prevent pregnancy as they made their way off the welfare rolls and into the workforce. To this end, thirteen state legislatures considered twenty bills that incorporated Norplant in 1992; two years later, twenty-one Norplant-related bills were introduced in twelve states (Sollom 1993; Sollum 1995).<sup>4</sup> Some of these proposals tried to mandate Norplant use for women who received government assistance from the AFDC program. Others decoupled Norplant and welfare, targeting instead the poor, the convicted, or the addicted, by seeking (1) to give financial incentives to poor women to use the implant, (2) to require Norplant use for women in prison or as a condition of probation, or (3) to allow courts to order Norplant use by women who gave birth to babies with fetal alcohol syndrome or drug addiction. None of these measures was ever passed into law, but collectively they reveal the ways that Norplant was used as a rhetorical strategy, here, to demonstrate lawmakers' intentions to reduce their constituents' dependence on welfare and to encourage their own views of responsible motherhood.

Judges who incorporated Norplant use into their sentencing of women and school administrators who offered Norplant to their teenaged students also had their own ideas about responsible motherhood and how Norplant could and should be used to achieve that goal (Roberts 1997; Kantrowitz 1992; Collins 1999). The judicial mandate of Norplant was clearly punitive in its denial of a woman's right to decide whether and when to bear a child. In this regard, Norplant had more in common with an electronic ankle bracelet designed to confine a defendant or convict to house arrest than with other birth control methods. In contrast, the Baltimore City Health Department officials who added Norplant to the list of contraceptives available to teenaged mothers at a school-based health center valued the contraceptive implant *qua* a contraceptive, one that would help individual girls prevent further pregnancies.

Oponents did not see Norplant through the same lens. Abstinence-only advocates lumped Norplant with other contraceptives, only to condemn

them as a group for encouraging teenage sexual activity. Others objected to the distribution of Norplant to teenagers because they feared a decline in condom use to prevent the spread of sexually transmitted diseases. The largest body of opposition contested most intended applications of Norplant—legislative, judicial, and school-based—as coercive government intrusion into a woman’s right to make her own reproductive choices. Some expressed extreme discomfort with agents of the state making these decisions for individual women based on their group membership. “Once you prevent women who are addicted to drugs or abusing their children,” warned the national secretary of NOW, the National Organization for Women, “what’s next? Black women? Jewish women?” (Rees 1991, 17). Legal scholar Dorothy Roberts went even further, explicitly raising the specter of eugenics. She wrote:

I do fear, though, that punishing women for becoming pregnant prepares our society to accept a truly eugenic program. If the public grows accustomed to Black women being implanted with Norplant under the threat of imprisonment or jailed because they gave birth to a child who tested positive for drugs, will people be less quick to question a government program that uses these same techniques because it is believed that their children are genetically predisposed to crime and poverty? (Roberts 1997, 200)

For Roberts, Norplant was a powerful and pernicious symbol of the link between the regulation of black women’s reproduction and racial oppression in America.

Up to this point, I have said very little about women, the actual and potential users of Norplant. For evidence of their opinions of and experiences with this new contraceptive technology, I turn to the raft of studies done by physicians and public health researchers. From these surveys, we can begin to sketch a picture of women in the aggregate; the statistical presentation of the data tended to obscure individual variations, which can be gleaned only from anecdotal evidence. The picture of the aggregate depended in part on the group selected for study by the researchers. In a sense, the selection of subjects, and the questions posed to them, might in fact reveal more about the goals and intentions of the studiers than those of the studied themselves.

Nonetheless, certain patterns do emerge from these surveys, especially when considered along with data on contraceptive usage among American women. What is clear is that Norplant was never as popular as the pill or even the IUD. Five years after FDA approval, just 2 percent of sexually

active women aged fifteen to forty-four had tried Norplant; five years later, that percentage remained the same. By contrast, 26 percent of married women younger than forty-five had used the pill within its first five years (1960-1965), and by 1982, two decades after it became available, 76 percent of sexually active women aged fifteen to forty-four had used the pill at some point in their lives. The percentage of women using the IUD, while nowhere near as high as that for pill users, was still significantly greater than that for Norplant; by 1982, 18 percent had used an IUD (Watkins 1998; Mosher et al. 2004).

Social scientists tried to understand the demographics and rationales of Norplant use and non-use. The small numbers of women who did choose to use Norplant confounded researchers' efforts to parse their demographic make-up. While African American, Native American, and Hispanic women used Norplant at higher rates than did white and Asian American women, the implications of these variations were unclear and were further confounded by factors of age, marital status, parity, and education (Malat 2000). Non-users who, in Sally Wyatt's term, resisted the technology made up a much larger sample group. Researchers at the Battelle Memorial Institute's Centers for Public Health Research in Seattle queried about a thousand participants in each of the 1993 and 1995 National Surveys of Women about why they did not choose to use the contraceptive implant, and they published their findings in an article titled, "Why Are U. S. Women Not Using Long-Acting Contraceptives?" The main reasons were satisfaction with current method of birth control, insufficient information or misinformation about the implant, and fear of potential side effects (Tanfer, Wierzbicki, and Payn 2000).

In spite of concerns expressed in the early 1990s, neither cost nor coercion proved to be significant factors in women's acceptance or rejection of Norplant. According to the Battelle survey, very few American women listed the high cost as a reason for not choosing Norplant: just 3.5 percent of the sample in 1993 and 2.3 percent in 1995 (Tanfer, Wierzbicki, and Payn 2000). A Columbia University School of Public Health study of two thousand low-income women (interviewed as they made contraceptive decisions at family planning clinics in Dallas, Pittsburgh, and New York City) found that only three women reported that they felt pressured to use Norplant. Of these three, two did choose Norplant but they had to return to the clinic several times before they actually got the device. The investigators concluded from these reports that health care providers did not rush to insert the rods before the women were fully ready to receive them. The length of time it took to obtain Norplant, they argued further, was evidence

*against* any sort of coercion; doctors or nurses who wanted women to have Norplant would have acted more quickly. Their findings indicated that women who chose Norplant, as compared to those who opted for the pill, had to visit the clinic more often, received twice as much counseling, and perceived the process of getting Norplant to be far more difficult and time-consuming (Davidson and Kalmuss 1997). The Columbia researchers pointed out that the words and actions of well-meaning advocates might, in the United States, have been counterproductive to the needs and desires of the women they presumed to defend. “[W]e need to remember the voices of those who are concerned about the potential for coercion with long-acting contraceptives, as well as the voices of those who are calling for such methods to safely and effectively control their own fertility” (Davidson and Kalmuss 1997, 551).

A study of contraceptive decision making among teenagers in San Francisco revealed another divide, this one between the perspectives of family planners and of teenagers themselves. The researchers perceived a paradox:

The socioeconomic status and patterns of contraceptive use of the teenagers in our study make them, in the view of many family planning professionals, potentially ideal implant recipients. However, many of these young women seemed very unlikely to select the method (Kuiper et al. 1997, 171).

Contrary to the expectations of the professionals, the teenagers made their own decisions about Norplant based not on an objective calculus of their contraceptive needs but rather on their personal and social experiences, mediated by “oral networks” of information exchange with friends and family.

The information that these teens received by word-of-mouth often reflected what others had read in newspapers and magazines or heard on television. A comparative study of low-income women in southeast Texas in 1992 and 1995-1996 found that bad news had significantly affected their attitudes toward Norplant. The proportion of women who would consider using the implant dropped from more than half (59 percent of women with no children, 64 percent of women with children) in 1992 to less than a third (32 percent and 18 percent, respectively) three years later. The investigators blamed pervasive negative publicity in the media for turning women away from Norplant (Berenson et al. 1998).

Much of this negative publicity was generated by stories of women who stopped using Norplant—the rejecters, in Wyatt’s scheme. Forty percent of

Norplant users had it removed because of unpleasant side effects: 25 percent for bleeding irregularities and 15 percent for other problems such as headache and weight gain (Fraser et al. 1998). Still others opted for early removal to conceive. Of the almost one million American women who had had Norplant inserted since it came onto the market, about 20 percent requested early removal (Mestel 1994).<sup>5</sup> Although estimates of difficult removals varied, it was individual women's stories of pain and suffering that grabbed the attention of the media and their audiences. On May 12, 1994, for example, the CBS prime time news program, "Eye to Eye with Connie Chung," ran a segment on Norplant that featured two women who experienced "excruciating" removals, which took far longer than the fifteen to thirty minutes promised in the product literature and earned one woman a trip to the emergency room when she developed a serious infection (CBS News 1994). Stories like these may have been partly responsible for the steep decline in Norplant sales, from 800 units a day in early 1994 to just sixty a day in April 1995 (Klaisle and Darney 2000; Entwistle, Watt, and Johnson 2000).

They may also have been partly responsible for encouraging women to join class action suits against Norplant. The first lawsuit, filed in Illinois in 1993, claimed that Wyeth-Ayerst failed to warn women that lengthy surgery might be needed to remove the implant from under the skin, that the surgery might require a local or general anesthetic, and that the surgery might result in scarring. The suit was granted class action status in June 1994 and was soon followed by several others (Kolata 1995; Anonymous 1995). By 1996, Wyeth-Ayerst and its parent company, American Home Products, faced 180 lawsuits, of which 46 were class actions, representing some 50,000 women or 5 percent of the total number of Norplant users in the United States (Anonymous 1996; Klaisle and Darney 2000; Kolata 1995; Anonymous 1995). The litigants charged the pharmaceutical company with failure to properly inform users about removal problems and physiological side effects. These dissatisfied current and former users sought redress for the adverse health effects associated with Norplant.

Although Wyeth-Ayerst won three jury verdicts and twenty summary judgments (in which the judge made a decision without a full trial) and succeeded in getting 14,000 of the claims against Norplant dismissed, in 1999, American Home Products settled one of the largest lawsuits for \$54 million, to be paid out to the tens of thousands of litigants, thus effectively ending the stream of litigation. Women not directly involved in this case could receive payment in return for not pursuing further legal action. The following year, Wyeth-Ayerst shelved further shipments of Norplant,

when quality assurance tests indicated that certain lots made in 1999 might have had reduced contraceptive effectiveness (Wyeth-Ayerst 2000). Two years later, the company decided not to resume the sale and distribution of Norplant (Wyeth 2002). Annual sales, which peaked at \$120.7 million in 1992, had dropped to just \$4.4 million by 1997. In addition to the \$54 million class action settlement, the company had spent untold millions more on legal defense. When it became clear that Norplant was costing the company more money than it was earning, Wyeth terminated the product. In the end, Norplant remained, for Wyeth, a business venture, whose success or failure was measured in dollars and cents.

The Population Council, however, continued to believe in the technical merit of the implant method of birth control. It had already applied for and won regulatory approval of a two-rod implant in Finland, France, Iceland, Indonesia, Luxembourg, the Netherlands, Norway, Spain, Sweden, Thailand, and the United States. This updated version, called Jadelle, was supposed to be easier to insert and remove, but since it contained the same synthetic progestin as the original Norplant, the problems of irregular bleeding remained unaddressed. In contrast to Jessika van Kammen's observation, based on her study of immunocontraceptives, that "the 1990s witnessed a major shift in the field of contraceptive research and development, from the paradigm of population control to [a] new paradigm . . . [in which] the future users of contraceptives should be involved in the developmental process," the implant seemed stuck in the old paradigm of design (van Kammen 2005, 151).

The FDA approved Jadelle for three-year use in 1996 and for five-year use in 2003; and in 2006, Schering Oy won the competition to manufacture this implant for distribution by the U.S. Agency for International Development. As of early 2009, Jadelle was still not available to consumers in the United States, probably because no pharmaceutical company would agree to distribute it there. The meanings constructed for the implant by the Population Council and the pharmaceutical industry diverged, with the former focused on its technology and the latter focused on its economics.

Another implant, the single-rod Implanon from Organon, came onto the American market in 2006 with remarkably little fanfare. By this time, contraceptive options had expanded to include the vaginal ring and the skin patch, both approved in 2001.<sup>6</sup> The contraceptive injection had also slowly gained adherents, with the percentage of sexually active women between the ages of fifteen and forty-four currently using Depo-Provera increasing from 1.9 percent in 1995 to 3.3 percent in 2002 (the



percentage who had *ever* tried the method went from 4.5 percent in 1995 to 16.8 percent in 2002; Mosher et al. 2004).<sup>7</sup> The most popular methods in 2002 remained the pill (18.9 percent of *all* women aged fifteen to forty-four or 30.5 percent of those currently using birth control) and surgical sterilization (16.7 percent female, 5.7 percent male, or 27.0 percent and 9.2 percent, respectively, of the subset using birth control), with condoms a rather distant third (11.1 percent or 17.9 percent of the subset; Mosher et al. 2004).<sup>8</sup> Although new IUDs had come onto the market in the late 1980s, they did not attract users in the United States (1.3 percent in 2002; Mosher et al. 2004). However, IUDs continued to be widely used overseas, by 9 percent of married women in more developed countries and 15 percent of married women in less developed countries (Population Reference Bureau 2002). By contrast, the combined total for *both* implants and injectables worldwide was a paltry 3.2 percent (United Nations 2005). Among American women aged fifteen to forty-four in 2002, users of the implant were counted along with the patch (only recently approved) and a one-month injectable (Lunelle, approved in 2000 and recalled in 2003); together, these three methods accounted for just 0.8 percent (Mosher et al. 2004). Despite the initial high hopes among population controllers and family planners, these figures reveal that Norplant made barely a blip on the contraceptive radar screen across its decade-long career.

These figures also suggest that birth control has a lot in common with brassieres. According to Judith McGaw, when women are asked about their bra decisions, they “talk in terms of making the best of a limited array of choices or finding something less unsatisfactory than their previous choice” (McGaw 2003, 19). In similar fashion, women make the best of the limited array of contraceptives and choose the one that is least unsatisfactory. While cost and convenience are important factors, so is the possibility of adverse health effects. In the case of Norplant, women associated that method with a host of perceived problems. Although some potential users were encouraged to adopt Norplant by the positive experiences expressed by some users, many more were swayed in the opposite direction, away from Norplant, by negative stories told by dissatisfied users. At the consumption junction of the late twentieth-century contraceptive marketplace, American women ignored the multiple meanings constructed for Norplant by developers, producers, providers, and policy makers and made their decisions based on what Norplant meant to them. Individuals’ decisions to choose other methods of preventing pregnancy coalesced into a collective rejection of this contraceptive technology.

## Notes

1. For a chronological list of the countries that approved Norplant, see Mintzes, Hardon, and Hanhart 1993, 2.
2. In the early years of the twenty-first century, about seven million women worldwide used the implant for contraception (Jacobstein and Pile 2007). By comparison, 106 million women took the pill, 128 million used the IUD, and 222 million relied on surgical sterilization (Anonymous 2008; Finger and Best 2000; Anonymous 2002).
3. The 60 percent figure represented both whites and blacks; Latinos felt even more strongly, with 70 percent in favor. A greater proportion of whites and blacks than Latinos supported the use of Norplant by teens. The poll did not break down the participants and their responses by gender.
4. Legislative interest in mandating Norplant use was apparently short-lived; there were no bills on the issue in 1996 (Sollom 1997).
5. *The British Medical Journal* reports that 15 percent of 900,000 American users requested removal of the implant (Anonymous 1994).
6. On the meaning of expanding options in the “contraceptive cafeteria,” see Oudshoorn 1996.
7. Data are not yet available for the patch or the ring.
8. These figures are percentages of the *entire* population of women, fifteen to forty-four years old, who had ever had sexual intercourse. Of that population, 61.9 percent used birth control in 2002; the remaining 38.1 percent did not, because of sterility, pregnancy (being pregnant, postpartum, or trying to conceive), or abstinence.

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## References

- Anonymous. 1989. Norplant approval for US near: Surveillance study planned to investigate safety, delivery issues. *Network News: Newsletter of the National Women's Health Network*. (November/December):4-5.

- Anonymous. 1990. Poverty and Norplant: Can contraception reduce the underclass? *Philadelphia Inquirer* (12 December):A18.
- Anonymous. 1991a. Arrival of Norplant may be bittersweet for clinics. *Contraceptive Technology Update* 12:1-6.
- Anonymous. 1991b. Norplant's high cost may prohibit use in Title 10 clinics. *Contraceptive Technology Update* 12:49-52.
- Anonymous. 1991c. Should birth control ever be mandated by law? *Glamour* (July):101.
- Anonymous. 1994. Women in US sue makers of Norplant. *British Medical Journal* 309:145.
- Anonymous. 1995. Service delivery update: Norplant. *National Family Planning and Reproductive Health Association News* nv :9.
- Anonymous. 1996. Citizen's petition before the FDA requesting withdrawal for sale of Norplant. Docket #96P-0215. Records of the U.S. Food and Drug Administration, Rockville, MD.
- Anonymous. 2002. *Contraceptive sterilization: Global issues and trends*. New York: EngenderHealth.
- Anonymous. 2008. Using pills correctly. *Family Health International Fact Sheet*. Available from [www.fhi.org/en/RH/Pubs/factsheets/pillcorrect.htm](http://www.fhi.org/en/RH/Pubs/factsheets/pillcorrect.htm)
- Arsenault, D. J., and T. Fawzy. 2001. Just buy it: Nike advertising aimed at Glamour readers: A critical feminist analysis. *Tamara: Journal of Critical Postmodern Organization Science* 1:63-76.
- Berenson, A. B., C. M. Wiemann, S. L. McCombs, and A. Somma-Garcia. 1998. The rise and fall of levonorgestrel implants: 1992-1996. *Obstetrics & Gynecology* 92:790-4.
- CBS News. 1994. Under my skin: Norplant users find they were not fully informed about possible difficult removals. *Eye to Eye with Connie Chung*. Transcript, 12 May. [www.lexisnexis.com](http://www.lexisnexis.com). (accessed May 20, 2010).
- Collins, P. H. 1999. Will the 'real' mother please stand up? The logic of eugenics and American national family planning. In *Revisioning women, health, and healing: Feminist, cultural, and technoscience perspectives*, ed. A. E. Clarke, and V. L. Olesen, 266-82. New York: Routledge.
- Cowan, R. S. 1989. The consumption junction: A proposal for research strategies in the sociology of technology. In *The social construction of technological systems: New directions in the sociology and history of technology*, ed. W. E. Bijker, T. P. Hughes, and T. J. Pinch, 261-80. Cambridge, MA: MIT Press.
- Croxatto, H. B., S. Díaz, R. Vera, M. Etchart, and P. Atria. 1969. Fertility control in women with a progestin released in microquantities from subcutaneous capsules. *American Journal of Obstetrics & Gynecology* 105:1135-9.

- Davidson, A. R., and D. Kalmuss. 1997. Topics for our times: Norplant coercion—An overstated threat. *American Journal of Public Health* 87:550-1.
- Entwistle, V. A., I. S. Watt, and F. Johnson. 2000. The case of Norplant as an example of media coverage over the life of a new health technology. *The Lancet* 355:1633-6.
- Fertility and Maternal Health Drugs Advisory Committee. 1989. Transcript of Proceedings, 27 April. Records of the U.S. Food and Drug Administration, Rockville, MD.
- Finger, W.R., and K. Best. 2000. The copper IUD. *Network: The Quarterly Health Bulletin of Family Health International* 20. [www.fhi.org/en/RH/Pubs/Network/v20\\_1/NWvol20-1CopperIUD.htm](http://www.fhi.org/en/RH/Pubs/Network/v20_1/NWvol20-1CopperIUD.htm) (accessed May 20, 2010).
- Fraser, I. S., A. Tiitinen, B. Affandi, V. Brache, H. B. Croxatto, S. Diaz, J. Ginsburg, S. Gu, P. Holma, E. Johansson, O. Meirik, D. R. Mishell Jr, H. A. Nash, B. von Schoultz, and I. Sivin. 1998. Norplant consensus statement and background review. *Contraception* 57:1-9.
- Garcia, G., and S. Dacach. 1993. Norplant—Five years later [Brazil]. In *Norplant: Under her skin*, ed. B. Mintzes, A. Hardon, and J. Hanhart, 69-80. Delft: Eburon.
- Grubb, G. S. 1992. New contraceptive technologies. In *Norplant and poor women*, ed. S. E. Samuels, and M. D. Smith, 83-95. Menlo Park, CA: Henry J. Kaiser Foundation.
- Hanhart, J. 1993. Women's views on Norplant: A study from Lombok, Indonesia. In *Norplant: Under her skin*, ed. B. Mintzes, A. Hardon, and J. Hanhart, 27-46. Delft: Eburon.
- Hardon, A. 1993. Norplant: Conflicting views on its safety and acceptability. In *Norplant: Under her skin*, ed. B. Mintzes, A. Hardon, and J. Hanhart, 7-26. Delft: Eburon.
- Jacobstein, R., and J. Pile. 2007. Hormonal implants: New, improved, and potentially popular. *The Acquire Project/EngenderHealth*. [http://pdf.usaid.gov/pdf\\_docs/PNADK569.pdf](http://pdf.usaid.gov/pdf_docs/PNADK569.pdf) (accessed May 20, 2010).
- Kantrowitz, B. 1992. A "silver bullet" against teen pregnancies? *Newsweek* (14 December):43.
- Klaisle, C. M., and P. D. Darney. 2000. From launch to litigation: Norplant in America. *Contraception* 11:587-96.
- Kline, R., and T. J. Pinch. 1996. Users as agents of technological change: the social construction of the automobile in the rural United States. *Technology and Culture* 37:763-95.
- Kolata, G. 1995. Will the lawyers kill off Norplant? *New York Times* (28 May):F1.
- Kuiper, H., S. Miller, E. Martinez, L. Loeb, and P. Darney. 1997. Urban adolescent females' views on the implant and contraceptive decision-making: A double paradox. *Family Planning Perspectives* 29:167-72.

- Lubis, F., J. Prihartono, T. Agoestina, B. Affandi, and H. Sutedi. 1983. One-year experience with norplant implants in Indonesia. *Studies in Family Planning* 14:181-4.
- Malat, J. 2000. Racial differences in Norplant use in the United States. *Social Science and Medicine* 50:1297-308.
- McGaw, J. A. 2003. Why feminine technologies matter. In *Gender and technology: A reader*, ed. N. E. Lerman, R. Oldenzel, and A. P. Mohun, 13-36. Baltimore: Johns Hopkins University Press.
- Mestel, R. 1994. Women sue over painful implants. *New Scientist* (23 July):5.
- Mintzes, B., A. Hardon, and J. Hanhart. 1993. *Norplant: Under her skin*. Delft: Eburon.
- Morsy, S. A. 1993. Bodies of choice: Norplant experimental trials on Egyptian women. In *Norplant: Under her skin*, ed. B. Mintzes, A. Hardon, and J. Hanhart, 89-114. Delft: Eburon.
- Mosher, W.D., G. M. Martinez, A. Chandra, J. C. Abma, and S. J. Willson. 2004. Use of contraception and use of family planning services in the United States: 1982-2002. *Advance Data From Vital and Health Statistics* 350:1-36.
- Oudshoorn, N. 1996. The decline of the one-size-fits-all paradigm, or, how reproductive scientists try to cope with postmodernity. In *Between monsters, goddesses and cyborgs: Feminist confrontations with science, medicine, and cyberspace*, ed. N. Lykke, and R. Braidotti, 153-72. London: ZED Books.
- Pinch, T. J., and W. E. Bijker. 1989. The social construction of facts and artifacts: Or how the sociology of science and the sociology of technology might benefit each other. In *The social construction of technological systems: New directions in the sociology and history of technology*, ed. W. E. Bijker, T. P. Hughes, and T. J. Pinch, 17-50. Cambridge, MA: MIT Press.
- Population Reference Bureau. 2002. Family planning worldwide: 2002 data sheet. [www.prb.org/pdf/FamPlanWorldwide\\_Eng.pdf](http://www.prb.org/pdf/FamPlanWorldwide_Eng.pdf) (accessed May 20, 2010).
- Rees, M. 1991. Shot in the arm. *New Republic* (9 December):16-17.
- Roberts, D. 1997. *Killing the black body: Race, reproduction, and the meaning of liberty*. New York: Vintage.
- Rose, D., and S. Blume. 2005. Citizens as users of technology: An exploratory study of vaccines and vaccination. In *How users matter: The co-construction of users and technology*, ed. N. Oudshoorn, and T. J. Pinch, 103-33. Cambridge, MA: MIT Press.
- Satayapan, S., K. Kanchanasinith, and S. Varakamin. 1983. Perceptions and acceptability of Norplant implants in Thailand. *Studies in Family Planning* 14:170-6.
- Segal, S. J. 1983. The development of Norplant implants. *Studies in Family Planning* 14:159-63.
- Shaaban, M. M., M. Salah, A. Zarzour, and S. A. Abdullah. 1983. A prospective study of Norplant implants and the TCU 380Ag IUD in Assiut, Egypt. *Studies in Family Planning* 14:163-9.

- Skelton, G., and D. M. Weintraub. 1991. The Times poll: Most support Norplant for teens, drug addicts. *Los Angeles Times* (27 May):A1.
- Sollom, T. 1993. State legislation on reproductive health in 1992: What was proposed and enacted. *Family Planning Perspectives* 25:87-90.
- Sollom, T. 1995. State actions on reproductive health issues in 1994. *Family Planning Perspectives* 27:83-7.
- Sollom, T. 1997. State actions on reproductive health issues in 1996. *Family Planning Perspectives* 29:35-40.
- Tanfer, K., S. Wierzbicki, and B. Payn. 2000. Why are U. S. women not using long-acting contraceptives? *Family Planning Perspectives* 32:1176-83.
- U.S. House of Representatives. 1993. *Norplant and contraceptive pricing: Conflict of interest, protection of public ownership in drug development deals between tax-exempt, federally supported labs and the pharmaceutical industry, part 3*. Hearing before the Subcommittee on Regulation, Business Opportunities, and Technology of the Committee on Small Business, 103rd Congress, 1st Session. 10 November.
- U.S. House of Representatives. 1994. *Impact of the high-cost of long-term contraceptive products on federally sponsored family planning clinics, welfare reform efforts, and women's health initiatives*. Hearing before the Subcommittee on Regulation, Business Opportunities, and Technology of the Committee on Small Business, 103rd Congress, 2nd Session, 18 March.
- United Nations. 2005. World contraceptive use 2005. Available from [www.un.org/esa/population/publications/contraceptive2005/2005\\_World\\_Contraceptive\\_files/WallChart\\_WCU2005.pdf](http://www.un.org/esa/population/publications/contraceptive2005/2005_World_Contraceptive_files/WallChart_WCU2005.pdf) (accessed May 20, 2010).
- van Kammen, J. 2005. Who represents the users? Critical encounters between women's health advocates and scientists in contraceptive research. In *How users matter: The co-construction of users and technology*, ed. N. Oudshoorn, and T. J. Pinch, 151-71. Cambridge, MA: MIT Press.
- Watkins, E. S. 1998. *On the pill: A social history of oral contraceptives, 1950-1970*. Baltimore: Johns Hopkins University Press.
- Wyatt, S. 2005. Non-users also matter: The construction of users and non-users of the internet. In *How users matter: The co-construction of users and technology*, ed. N. Oudshoorn, and T. J. Pinch, 67-79. Cambridge, MA: MIT Press.
- Wyeth. 2002. Letter to health care professionals, 26 July. [www.fda.gov/Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/ucm171071.htm](http://www.fda.gov/Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/ucm171071.htm) (accessed May 20, 2010).
- Wyeth-Ayerst. 2000. Letter to health care professionals, 13 September. [www.fda.gov/Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/ucm174998.htm](http://www.fda.gov/Safety/MedWatch/SafetyInformation/SafetyAlertsforHumanMedicalProducts/ucm174998.htm) (accessed May 20, 2010).

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