

The Ideology of Addyi: Feminizing Medicine, or Medicalizing Femininity?

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Abstract

Sigmund Freud is famous for having asked, “What does a woman want?” In the context of therapeutic, interventional psychoanalysis, his unanswered question suggests another, even more unsettling one: “What *should* women want?” The so-called “female Viagra”, as flibanserin is so often called, is more polarizing than its manufacturer’s tagline, “the little pink pill,” suggests. While much attention has been paid to the advocacy surrounding Addyi, I wish to investigate how transformations of experimental techniques and diagnostic technologies have created this ideologically divisive medicalization of desire: that is, the material conditions for Addyi. Desire has been medicalized to accommodate historically contingent anxiety over female desire, and evolving diagnostic methods have attempted to reify desire into a medically treatable disorder; meanwhile, the trivialization of drugs like the Pill, Viagra, and Prozac has made Addyi viable, though still controversial.

Introduction

Medicine's special relationship with women has recently been making headlines. Psychiatrist Julie Holland's 2015 *New York Times* editorial "Medicating Women's Feelings" reported with alarm that at least one in four American women took a psychiatric medication, compared with one in seven American men. The title of her 2015 book, *Moody Bitches: The Truth About the Drugs You're Taking, the Sleep You're Missing, the Sex You're Not Having and What's Really Making You Crazy*, sets the tone for her argument. She posits that pharmacological companies drug women because our culture cannot tolerate their natural moodiness and dissatisfaction in the face of prejudice and stress. The editorial sparked waves of reaction across the Internet (Arend *et al.*, 2015). In 2013, journalist Jonathan Eig's popular science text *The Birth of the Pill: How Four Crusaders Reinvented Sex and Launched a Revolution* crafted a heroic tale of liberation, and reproductive health activist Holly Grigg-Spall's *Sweetening the Pill: How We Got Hooked on Hormonal Birth Control* began with an autobiographical account of an emotional breakdown while on Yaz (a birth control medication) before constructing a wider narrative of exploitation, coercion, and management of female sexuality.

The pharmaceutical industry often claims that 40% of women report some form of sexual dysfunction—among the most important of which are sexual desire disorders (Abdolrasulnia, 2010). Yet access to sexual therapies and sexual health services is limited in the US. In particular, desire disorders go largely untreated. As of 2013, only two FDA-approved treatments existed for female sexual disorders: a clitoral stimulator for sexual arousal disorder, and conjugated estrogen for moderate to severe painful sex. As of the same date, various treatments for sexual desire disorders were in the pipelines, including estrogen and dopamine antagonists and various forms of testosterone therapy (Krychman & Kingsberg, 2013). Of these, one was approved on August 18, 2015: flibanserin, a 5-HT_{1A} agonist/5-HT₂ antagonist known by the trade name of Addyi and manufactured by the start-up Sprout Pharmaceuticals.

With a familiar mechanism of action but a novel clinical application, Addyi is a lightning rod for debates over the pharmaceutical industry's sponsorship of research and efforts to define and manage sexual health (Gellad, Flynn, & Alexander, 2015). The FDA unanimously rejected flibanserin in 2010 over concerns of low efficacy and high incidence of side effects (Wilson, 2010). Subsequently, an advocacy group called Even the Score was founded with funding by Sprout Pharmaceuticals, Palatin Technologies, and Trimel Pharmaceuticals as well as staff from the public relations firm Blue Engine Message & Media (Karlin, 2015). Armed with the argument that men had Viagra, Cialis, and a host of other sexual dysfunction drugs, and that gender equity meant procuring women comparable drugs, Even the Score promoted FDA approval of female sexual dysfunction drugs (Even the Score, 2015). In 2015, studies

presented little new efficacy or safety information (Gellad, Flynn, & Alexander, 2015). In fact, the new evaluation criterion seems more prone to errors of memory: rather than recording their desire on a daily basis, investigators asked subjects to retroactively note their desire over the month-long testing period. Similarly, some criticize the new safety information: most subjects of the drug-interaction study presented as evidence were male (Schumaker, 2015). Thus, many judge the public relations campaign to have played a significant role in Addyi's approval. Indeed, Thea Cacchioni, a sociologist and assistant professor of Women's Studies at the University of Victoria, accused Even the Score of having "emotionally blackmailed" the FDA (Cassels, 2015).

Sigmund Freud is famous for having asked, "What does a woman want?" In the context of therapeutic, interventional psychoanalysis, his unanswered question suggests another, even more unsettling one: "What *should* women want?" Medicine has a long history of pathologizing female sexuality, from their cold, wet humors, to their melancholy, hysteria, frigidity, and hypersexuality. However, the transformations of discourses of psychiatry, sexuality, and gender equality have converged in Even the Score's message of gender equality through pharmacological intervention in female sexuality. Messages like theirs may grow even more potent in the coming years; the American Medical Association increasingly orients medical training toward both critical analysis of scientific sources and knowledge of sociology, psychology, and the cultural context of treatment (Kirch, Mitchell, & Ast, 2013), and the FDA proposes increased attention to patient testimony through the "Voice of the Patient" reports (US Food and Drug Administration, 2015). Controversy over the use of a public relations firm and Sprout's start-up, single-product structure underscores the question of the FDA's supposed integrity, empirical judgment, and isolation from social influence. This image is precarious in an environment of politicized sexual healthcare.

The media has amply covered the women surrounding Addyi. A long *Washington Post* lifestyles feature profiled a slim, sleek enthusiast in pearls reeling from an oophorectomy (surgical removal of the ovaries) (Schulte, 2015). A *New York Times* "Women in the World" post (Arter, 2015) begins with an alluring photograph of Sprout's now-former CEO, Cindy Whitehead, flashing a Colgate-white smile, clad in her uniform of hot pink, silky fabrics and bright lipstick. In a *TIME* magazine article, a clinical trial participant complains about losing the "oomph" in her marriage, despite grueling rereads of *Fifty Shades of Grey*. On *TIME* online, the reader can scroll down from this piece to the listicle "What Twenty Famous Women Think of Feminism" (Parrish, 2015). What is missing in these personalized accounts is the materiality of Addyi: the rodents at the German lab in Milan, the clinicians measuring the lag time of serotonin receptors, and the pill itself—small, bubblegum pink, and the product of decades of pharmaceutical investigation. The DSM-V recommends that clinicians include cross-cultural variables in their

diagnoses. Nevertheless, Addyi illustrates how, within American society, pharmacological possibilities both define and are defined by normal sexuality. The serendipitous discovery of a somewhat effective treatment for Female Hypoactive Sexual Desire Disorder, a hot-off-the-press clinical diagnosis, has ignited debate over the nature of female sexual desire itself: how can it be mysterious, ethereal, and mythical if it responds to a little pink pill? Yet this pill is only the latest installment in centuries of medical intervention in female sexuality. The shifting fields of sexual medicine frame symptoms into socially and medically comprehensible diseases. I investigate how developing technologies and experimental methods, from Galenic vulvar massage through 19th century spas and vibrators and Nixon-era couples therapy, have combined with changing definitions of normal female sexuality to create the conditions for Addyi.

Creating the Disease

Theoretical Frameworks: Sex and Sexuality

In 1976, Michel Foucault argued that modern discourse on sex was not defined by repression or the law but by power and the will to knowledge—“la volonté de savoir” (*Histoire*, 1976, p. 121). Rejecting the repressive hypothesis, he argued that institutions of power invented a supposedly normal sexuality to classify a set of socially acceptable attitudes (Dits, 1994, p. 137). In this framework, sex is neither natural nor *a priori*; it is a cultural creation. Seemingly free and open discussion of sex does not unveil and empower a repressed, squelched, and punished natural sex drive; on the contrary, discussion of sex by medical, religious, and social authorities turns even pleasure into a tool of power. Within this framework, Addyi is not a sudden deviation. Rather, it is the last installation in a long history of discourses of sex.

According to Stephanie E. Libbon, phallocentrism has been inherent to Western medicine, persisting from the antique Greek one-sex model through the two-sex model that emerged contemporaneously with the French Revolution. This binary model continued to portray women as a negative counterpoint of the man, physically and intellectually inferior and better suited to the domestic sphere. Part of her claim to moral superiority was limited sexual desire. According to Libbon, the 19th century pathologization of women through sexology was a reaction to the New Woman’s insistence on her own sexual desire. Threatened by a blurring of the lines between female and male roles, experts deployed a virile, Baconian science to justify the patriarchal sexual binary. Divergent in claims but cohesive in goal, sexologists either claimed that women naturally had no desire or naturally overflowed with lascivious impulses; either way, it was the role of the physician to bring them into line (Libbon, 2007).

As I document in more detail in the following sections, emerging discourses of sexology suffered from methodological and interpretive androcentrism: male sexuality has been the normal, default point of

reference. Beginning in the late 19th century, psychology, psychiatry, and sexology emerged, attempting to codify deviant sexualities into scientifically rigorous and treatable disorders. However, many critics have identified persistent androcentrism inherent in even supposedly objective and neutral science. In the case of female sexuality, this encompasses both male-centered normative models, use of male scientific subjects, and insistence on female behavior convenient for heterosexual, patriarchal gender relations. Psychology undermined its humanistic mission by soliciting empirical findings from sources including classical literature and hysterics' husbands, and medicalizing deviations from a model of female chastity and heterosexual, patriarchal marriage. Freudian psychoanalysis insisted on a phallogocentric model of female sexuality as well, condemning clitoral sexuality, insisting on satisfaction from vaginal penetration, and claiming the existence of penis envy. The 20th century birth of statistical sexology with Kinsey, Masters and Johnson, and more, had its own pitfalls, notably Masters and Johnson's exclusion of women that did not orgasm from penetration from their sample population. Both sexology and social biology have imposed male models for female sexuality; furthermore, their physiological focus and use of animal models may obfuscate the influence of social factors, eliminating gender from sex and naturalizing current sexual dynamics.

The origin of Addyi is demonstrably androcentric: researchers attempted to duplicate the success of Viagra by copying its cardiovascular mechanism of action, before branching into testosterone treatments. Finally, having discovered Addyi, which has a psychiatric mechanism of action, advocates straddled discourses about the psychological nature of female desire and the need for biological, scientific interventions. On the level of its goal, the drug attempts to bring female sexual desire to the level of men's; tested on heterosexual women in monogamous relationships, it responded to the problem of "Viagra wives" overwhelmed by their husbands' newly revved-up libidos. On a methodological level, Dr. Carolyn M. Mazure, Director of Women's Health Research at Yale, criticized the safety trials for Addyi's interaction with alcohol, which enrolled a 92% male population of subjects for a drug directed exclusively toward women. "Once again we are through the looking glass," she complained, highlighting the well-documented differences in female and male metabolism of alcohol and the need for more female subjects in clinical trials (Harrison, 2015).

"We Other Victorians": The Beginnings of a Scientific Sexuality

Medical history bears out Foucault's thesis. Female Hypoactive Sexual Desire Disorder was officially codified in recent years, but female sexual drive has long been subject to medical intervention. The historical disease paradigm of female sexuality is confusing and contradictory. Hysteria is a diffused set of symptoms adapted to shifting societal anxieties (Maines, 1998, p. 22). Sexual inappropriateness defined the vague disorder from the

Hippocratics, Galen, Evicenna, the Renaissance, and William Harvey, to the 19th century (Maines, 1998, pp. 22–31). However, social norms defined inappropriateness. Consequently, physicians defined hysteria as hypersexuality, hyposexuality, or both. The symptoms of hysteria in antiquity and the Middle Ages included distaste “for sex with the approved male partner,” illustrating the social function of the pathology (Maines, 1998, p. 23). Hysteria’s wide range of symptoms were generally said to especially afflict passionate women, the widowed, and virgins. A usually unidentified “hysterical paroxysm” (orgasm) was the cure (Maines, 1998, pp. 23–24, 32–33, 44). Hysteria thus granted scientific validity to social pressure for women to marry (Maines, 1998, p. 42).

By the beginning of the 19th century, the paradigm of hysteria was unable to accommodate empirical data and variation. Thus, it fragmented into a cluster of three related diseases: hysteria, chlorosis or greensickness, and neurasthenia. By the end of the 19th century, neurasthenia was lumped with the other two disorders, forming “hysteroneurasthentic disorders” (Maines, 1998, p. 34). Meanwhile, the emerging specialties of hydrotherapy, electrotherapy, and gynecology made use of new access to indoor plumbing and electricity (Maines, 1998, p. 44). Equipped with these technologies, these new medical professionals attempted to cure hysterics. Broadly diagnosed, the diseases proved lucrative; an American doctor associated with the hydropathic school wrote in 1873 that “more than three fourths of all the practice of the profession are devoted to the treatment of diseases peculiar to women,” and consequently that doctors “must thank frail woman for” three-quarters of their income (Maines, 1998, p. 38).

Interest erupted in more physical therapeutic and diagnostic techniques: the French neurological community investigated the hysteric’s “muqueuse vulvovaginale”, and the American gynecologist William Goodell, electrotherapist Franklin Martin, and European Friedrich Bilz also obsessed over hysterics’ vaginal secretions and lubricity (Maines, 1998, p. 40). With Sigmund Freud came a shift from genital to neurological explanations of hysteria. Rebellious against the treatments he learned at the Salpêtrière clinic, he argued in 1896 that childhood trauma caused “lesions” in the hysteric, preventing her from enjoying coitus (Maines, 1998, p. 44). Maines observes that Freud’s mentor, Jean-Martin Charcot, had implored husbands of hysteric women to learn how to touch their wives. With Freud’s psychoanalytic approach, men no longer bore the burden of sexually satisfying women (Maines, 1998, p. 43). The etiological change thus had a social function.

It is amnesic to claim that women’s sexuality was squelched until the sexual revolution. Until the turn of the century, the diagnosis of hysteria, which combined hypersexuality and hyposexuality, was in vogue. Then it gave way to frigidity and sexual anesthesia. Frigidity, or inability to attain vaginal orgasm, became “a normal, even desirable, feminine trait” in popular, medical, and even feminist discourse (Maines, 1998, p. 60–61).

Physicians such as German Richard von Krafft-Ebing and Frenchmen Jules Philippe Falret and Gilles de la Tourette wrote of sexual “anesthesia” or dissatisfaction with the conjugal act. They condemned these frigid women, imagining that they had other, nefarious desires (Maines, 1998, p. 23–43). The causes for this shift have provoked academic debate. Tyler posits that the early 20th century “first sexual revolution[’s]” emphasis on female sexual enjoyment, as well as a need to police women into heterosexual marriage, gave fruit to this obsession with female sexual desire (Tyler, 2011, p. 113). Krafft-Ebing’s 1894 *Psychopathia Sexualis* was the first major study of human sexuality. Intended for lawyers and forensic psychiatrists, it became an unexpected bestseller. It harshly pathologizes so-called anesthetics, calling them physically and psychically degenerate (Krafft-Ebing, 1894, p. 41). Based on talks with anesthetics’ husbands—not the most objective sources—he concludes they are “neuropathic *ab origine*” and sometimes hysterical. He states that the causes of anesthesia are “organic and functional, psychical and somatic, central and peripheral,” but cites little empirical evidence (Krafft-Ebing, 1894, pp. 47–49).

As with today’s Addyi debates, this early text uneasily straddled medicalization and sympathetic progressivism. Krafft-Ebing, the leading forensic psychiatrist in Central Europe, worked in a context in which sexual pathology was either conflated with insanity and moralized, or interpreted by new, evolutionary-theory-influenced determinists as intrinsic. Relatively progressive, he instead sought to codify pathologies through hygiene education and psychiatric care, not punishment. Contrary to Foucault’s claims that Krafft-Ebing’s psychiatry was a form of medical colonization, many saw his work as understanding and relatively non-judgmental. He amply included voluntary letters and testimony from so-called perverts. Those personal testimonies butted heads with poorly theorized judgment, introducing a contrary and more understanding view. The autobiographies of cases undercut the biomedical approach. Even his seemingly brutal view of sexual anesthesia is part of a socially innovative view of sexuality as socially constructive, not just destructive, and pleasurable, not just procreative. This medical thinking emerged out of both a bourgeois climate of romance and geographical and social mobility, which undercut traditional, purely utilitarian views of deviant sexuality (Oosterhuis, 2012). Additionally, ample literary allusions complicate the rigorous approach of the emerging science. Indeed, literary circles reacted with heady debates about subjects like lesbianism (Bauer, 2015, p. 108–109).

English essayist and physician Havelock Ellis is a similarly ambivalent figure. The third volume of his *Essays on the Psychology of Sex* explores the female sexual impulse from a more constructivist point of view. He opens with the primitive view of woman as a sacred force punished for concupiscence and praised for chastity. He ends with the 19th century English, German, and Italian view of sexual anesthesia as the

default (Ellis, 1903, pp. 155–159). Originally a novelist, Ellis was fascinated by Darwin and the reductionist view of sex as a product of physiological process and evolutionary pressure. A social reformer, he also attempted to demystify sexual myths and objectively describe unsavory subjects (Nottingham, 1999, pp. 144–146). Citing examples from across the globe, many literary and historical, he contextualized Victorian notions. According to his research, there were two main opinions on the sexual impulse of women. The first, that women had a stronger impulse, was “of worldwide existence and almost universally accepted in those ages and centers in which life is lived most nakedly” (Ellis, 1903, p. 162). The second, that women had a low or absent sexual impulse, was of recent invention and confined to a few European countries (Ellis, 1903, p. 162). According to Ellis, women were victims of societal prejudice and unable to choose their partners. Women forced into austerity often rebelled with promiscuity, so men called the still inhibited “frigid”. Furthermore, women felt social pressure to meet the “passionless ideal” and suffered at the hands of men indifferent to their sexual desires (Ellis, 1903, p. 164). Ellis continued that even the best-informed and most objective clinical observers were liable to make “unguarded assertions” tainted by “ethical or pseudoethical prejudices” (Ellis, 1903, p. 165). He went on to cite a few small patient surveys by practitioners, including his own, showing the prevalence of sexual anesthesia. Ellis mined eclectic sources from Homer to the *Arabian Nights* to gynecological research. He concluded that the female sexual impulse was more passive, complex, and variable than men’s, and solidified along with relationships (Ellis, 1903, p. 180–190). Yet despite his breadth of references and progressive bent, he condemned sexual anesthesia as “abnormal” and appealed to “normal conditions” in which the “supreme fact and symbol of love and the supreme creative act” is pleasurable (Ellis, 1903, p. 173). For Ellis, anesthesia was “in violent opposition to all that we find in Nature” (Ellis, 1903, p. 173).

Sexology and the Burdens of Empiricism

The burgeoning science of sexology took little heed of desire. In the mid-20th century, a more rigorously statistical sexology emerged, perpetuating this neglect. In *Sexual Behavior in the Female* (1953), Kinsey, with a background as a biologist and a distaste for psychoanalysis, nevertheless evinced certain social constructivist ideas more common in later decades (Jackson and Scott, 2012, p. 7). However, the volume has no index entry for libido or even arousal. Apart from brief mentions that conflate frequency of fantasy and coitus with desire, female desire is simply not a subject of inquiry (Kinsey, 1953, p. 192, 536). Ford and Beach’s 1951 *Patterns of Sexual Behavior* features an intensely physiological chapter on female sexual desire and responsiveness, both human and animal. Despite their interest in menstruation, pregnancy, and childbirth’s effects, they concluded from case histories that “the vast majority of ‘frigid’ or sexually

unresponsive women are products of adverse emotional conditioning” (Ford & Beach, 1951, p. 224). Poor results of estrogen therapy in postmenopausal women suggested that endocrinological preparations have limited effect on increasing female sexual responsiveness (Ford & Beach, 1951, p. 225).

Though presented as scientific, these results are far from objective. Despite moving from a deviance to dysfunction model, sexology still diagnosed dysfunction within a social context of reprobation. By appealing to scientific purity and rigor, sexology can conflate the biological and social. Masters and Johnson framed sexuality as “a drive of biologic origin deeply integrated into the condition of human existence” (Jutel, 2010, p. 1085). Tiefer of the New View campaign argues that this led them to create “alleged universal, biological, sexual norms” (Jutel, 2010, p. 1085). Masters and Johnson’s model also framed male and female sexual response as symmetrical. However, some posit that the female pattern of arousal-desire is fundamentally distinct from the male pattern (Tyler, 2010, p. 132). Meana argues that sexology “has promoted the existence of a mythical standard of female sexuality against which women measure themselves.” Furthermore, sexological research assumes that “we like what we want and we want what we like.” This view overly simplifies desire into a motivational, goal-oriented phenomenon (Meana, 2010, p. 105).

The sexologists’ methods are similarly problem-ridden. Case studies and literary examples do little to elucidate etiologies. Indeed, the effort to develop a science of sexuality skewed inquiry away from desire. Furthermore, case histories are products of hierarchical patient-doctor interactions that necessarily cast certain sexualities as treatable pathologies. Use of animal models of sexual behavior eliminates sociocultural factors. Davidson and Layder criticize Kinsey’s inability to measure non-response. And, while he viewed his research as “‘a-theoretical,’ a simple search for plain facts about human sexual behavior uncontaminated by normative or moral values,” they posit that “the very idea that it is possible to investigate sexual behavior without considering the meaning people attach to it is, in itself, a theoretical assumption” (Davidson and Layder, 1994, p. 113). This is particularly relevant to sexual desire. In fact, the extrapolation of coital frequency to desire suggests an absence of social powers of coercion, an overly physical view that assumes rational sexual behavior. Masters and Johnson observed in laboratories, which introduces a second social relationship into behavior. Furthermore, the artificiality and pressure of the laboratory environment likely make all behavior less pleasurable (Davidson and Layder, 1994, p. 163). Laboratory observation assumes that behavior does not change with social setting.

Sexologists rarely mentioned sexual desire, and when they did, they equated it to sexual responsiveness. Between Wilhelm Reich’s discovery of “the true character of orgasmic power” and Kinsey’s first great work in

1948, per Bejin, “sexology marked out and defined its central problem, the orgasm” (Bejin, 1985, p.182). Meana posits, “As the most subjective and acutely amorphous component of sexuality, it is hardly surprising that desire was bypassed by Masters and Johnson (1966) in their quest to operationalize and measure the sexual response. Yet, without the construct of desire, ill-defined though it may be, the sexual response seems incomplete and automatic” (Meana, 2010, p. 104). This criticism applies to the other researchers we have seen. Their work remains torn between epidemiological, observational findings, and more theoretical, and therefore bias-prone, interpretation.

The Turn to Desire

Some of the first dedicated sexological inquiry into desire was by Kaplan and Lief in 1977. The 1970s sexual liberation movement and opening of discussion about sex may have spurred this exploration (Bejin, 1985, p. 183). According to Donna Drucker, sexological technology increasingly investigated women’s sexual response in reaction to second wave feminism and other identity politics of the 1970s (Drucker, 2014, p. 2). This optimistic perspective treats sexual behavior as something natural and unfairly censored before the sexual revolution; it ignores how sexual liberation created its own ideal female sexuality, one skewered in second-wave feminist texts like *Our Bodies, Ourselves* (1973) and *A Women’s History of Sex* (1987). In any case, in 1952 the American Psychiatric Association’s first Diagnostic Statistical Manual of Psychiatric Disorders officially removed hysteroneuaresthenic disorders from the medical canon (Maine, 1998, p. 11). “Inhibited sexual desire,” reported as more common in women, did not appear until 1980; in 1987, it was renamed “hypoactive sexual desire disorder” (Jutel, 2010, p. 1085). However, the disappearance of the term “frigidity” in sexology was not justified on feminist grounds but rather on scientific ones: it was not specific enough (Tyler, 2011, p. 117).

Masters and Johnson began investigating desire in the 1970s. In their reader-directed summary of their findings in *Human Sexuality* (1980), they wrote that since the mid-1970s, sex therapists had become more aware of “disorders of sexual desire,” which were not *per se* dysfunctions. In inhibited sexual desire, the lack of interest was a source of personal or relationship distress; there was both a low rate of activity and desire, including dreams, wishes, attention, and frustration. Anecdotally, they cited authors claiming ISD accounted for up to three out of ten cases in certain sex clinics. Masters and Johnson claimed that causes were both organic and psychosocial, but that the majority of cases appeared psychosocial in origin, reflecting “depression, prior sexual trauma, poor body image or self-esteem, interpersonal hostility, and relationship power struggles,” or a need to cope with a comorbid dysfunction. The authors encouraged sexual therapy—such as their own—to treat such sexual

problems, instead of psychiatry (Masters and Johnson, 1988, p. 514–516). Women’s ISD was not specifically highlighted.

The second wave feminism of the 1970s promoted women-centered intervention in health. In 1974, Sheila Hite of the National Organization for Women distributed her own questionnaire. In 1976, she compiled her results in *The Hite Report*. This text presents itself as a rejoinder to chauvinistic sexology that normatively prescribes what women should feel (Hite, 1981, p. xi). For instance, she criticized Masters and Johnson for only studying the minority of women who orgasm from penetrative sex, and then generalizing that coital orgasm is normal and the lack of it is evidence of “primary sexual dysfunction” (Hite, 1981, p. 167). Like the Boston Women’s Health Collective in *Our Bodies, Ourselves* (1974), Hite shifted from the dysfunction model to an experiential, testimony-based survey of the diversity of female sexual experience. However, the Hite survey still failed to ask how often women are aroused or how often they desire sex. She only asked women indirect questions: what is the effect of marriage on sex, whether the best sex is genital, how desire changes with age, whether men understand their sexual desires and body, and what they long for in relationships (Hite, 1981, p. xiii–xviii).

Social Biology: From Pathogenesis to Prescription

Neuropsychology would be hailed as the missing link for the quantitative study of desire. In 1977, *TIME* ran a cover story on sociobiology and the increasingly popular notion of sexuality as a struggle of evolutionary fitness (Lancaster, 2003, p. 12). Director of the Kinsey Institute John Bancroft’s 1988 paper “Sexual desire and the brain” was instrumental in this shift. Emerging from sociobiology, Bancroft proposed “central arousal” as a combination of central nervous system and attentional factors producing arousal. In the early 1990s, emerging interest in the neurological structures involved in sexual behavior led to studies involving functional brain imaging. Subjects have included animals, neurological patients, and post-mortem examination. The growth of noninvasive imaging techniques, particularly Positron Emission Tomography and Functional Magnetic Resonance Imagery, allowed study of healthy volunteers. Researchers have used these techniques to study hypoactive sexual desire disorder. For instance, one 2000 study of men with HSDD showed that their left frontal premotor cortexes did not respond to visual sexual stimuli (Stoleru *et al.*, 2003, p. 67).

However, in his 2010 article “Sexual desire and the brain revisited,” Bancroft stated that emerging scientific evidence and concepts of brain and sexual function fail to explain female sexual desire (Bancroft, 2010). The difference between arousal and desire remains especially fuzzy. In men, arousal and desire appear to be experienced simultaneously. But measurement of vaginal pulse amplitude has shown that women have a vaginal response even when exposed to sexual stimuli they dislike or find terrifying; it appears that women’s genital response prepares them for

penetration, even undesired penetration, and that there is no equivalent response in men. Bancroft concluded from such laboratory results that the female “basic pattern” is “desire to be desired,” that is, “motivation to be desired by a male partner,” therefore entailing “pain reducing mechanisms,” in stark contrast to male erectile response (Bancroft, 2010, p. 1450–1467). Bancroft does not, however, hypothesize about the cultural specificity of such a response. Vaginal photoplethysmography was invented in 1967 and improved by vaginal probe in 1975 (Sintchak and Geer, 1975, p. 113–115). However, there is low correspondence between vaginal vasocongestion and self-reported arousal (Meana, 2010, p. 105). Therefore, efforts have been made to develop clitoral photoplethysmography. Despite some evidence that clitoral blood amplitude is a more accurate measure of genital arousal, there are significant methodological constraints to CPP (Gerritsen *et al.*, 2009, p. 1678–1687).

But such a search for a physical pathology may be misguided. Clinical anecdotal evidence shows women reporting lubrication, vasocongestion, and orgasm without sexual desire or even during unwanted or coercive sex. Meana argues that despite ample experimental research, sexual desire, particularly in women, has “few reliable cognitive, physiological, or behavioral referents” (Meana, 2010, p. 106). Cognitively, there is no empirical evidence for the distinction between arousal and desire that the literature continues to draw. It appears that desire or arousal cue women to recognize physical measures, not the other way around. With regards to treatment, this mismatch between blood flow and arousal has hampered efforts to develop a Viagra-analogue for women. Diagnostically, with such unclear pathophysiology, Meana points out that “the closer one gets to operationalizing, the more behavioral the definition” of desire becomes (Meana, 2010, p. 106). HSDD’s definition is almost completely tautological. Desire for desire, though seemingly common in women, remains a black box and therefore unaddressed in clinical diagnostic criteria, which assume that desire responds to stimuli (Meana, 2010, p. 105–118). Male models define the horizons of hormonal and physiological research, pushing investigators toward the Viagra-model and testosterone replacement.

Contemporary research defines itself as objective, though the level of sexual desire expected of women is historically contingent. Since the 1998 launch of Viagra, efforts have been made to develop a new and lucrative female market for similar drugs. Pharmaceutical companies have funded conferences, consultants, and scientists. A milestone article, two of whose authors belatedly disclosed connections to Pfizer, produced the often-criticized 43% prevalence figure commonly cited in advertising and business intelligence. Such researchers nevertheless claim purity. Their technologies include hormonal profiling, vaginal pH, genital vibratory perception thresholds, and ultrasonography of vaginal, urethral, labial, uterine, and clitoral blood flow to determine “normal physiologic

responses for women.” They have made some nods to the importance of emotion and the “mind-body relationship,” but still dismiss the question of whether marketing campaigns amplify certain views and therapies of sexual dysfunction. Indeed, one scoffed at this, saying, “I’m an academic clinical doctor. That’s a question for some philosopher” (Moynihan, 2003, p. 45–47). Jutel argues that diagnostic technologies funded by drug companies have developed to give FHSDD an epidemiological existence. These diagnostic criteria are highly socially defined. As Jutel points out, the first questions of the Decreased Sexual Desire Screener tool—whether the woman’s passion and desire have subsided—would have been nonsense in 1814, when marriage manuals explained that tumultuous passion naturally declined. Moreover, the diagnosis of FHSDD enshrines androcentric, heterosexual notions of goal-driven sexuality, which invalidates practices like the sexless, romantic, lesbian “Boston Marriage” (Jutel, 2010, 1087–1089). Pursuit of chemical and structural evidence of FHSDD’s reality seems designed to provide proof of a disorder still identifiable through a simple and subjective questionnaire.

Developing the Drug

The Birth of Hysteria

Treatments for female hyposexuality have also depended on technological and social circumstance. The role of the doctor has changed dramatically in the field of female sexuality. Even in global folkways, female aphrodisiacs are far less common than male ones (Shamloul, 2010, p. 40). It is through hysteria that female libido entered the medical field. Maines has extensively documented treatments for hysteria, which occasionally encompassed hypoactive desire. From antiquity to the modern era, physicians performed manual vulvar massage, often with scented oils, although a few suggested midwives do the task.

By the late 18th century, hydrotherapeutic appliances in spas treated “female disorders.” The high-pressure douche applied to the pelvic region was particularly popular, though in the absence of pervasive household plumbing these therapies were expensive and centralizing. First steam-powered and later electromechanical vibrators emerged in the 19th century amidst a craze for electricity. The vibration tables and hefty appliances of the physician’s theater eventually translated into handheld, battery-powered household versions (Maines, 1998, p. 10–20). By charging physicians with producing orgasm in women, men were spared what was seen as an unnatural burden. Unlike prostitutes, physicians did not lose status by producing orgasm. Instead, they cast an “aura of respectability” over the medicalized paroxysm (Maines, 1998, p. 112–113). Producing orgasm treated hysteria, the pathophysiology of which was poorly understood.

1970s treatment of “frigidity” included classic psychoanalysis, behavioral therapy, desensitization treatment, exposure to pornography, masturbation to pornography, hypnotherapy, and most publicized, Masters

and Johnson's two-week retraining and reeducation program (Munjack and Kanno, 1976, p. 401–413). The switch from psychoanalytic to behavioral therapy reflects changing conceptions of the cause of low female libido. Therapists concentrated on proximate, relationship-related problems instead of distant childhood trauma. But such therapy was notoriously ineffective for desire disorders (Tyler, 2011, p. 120).

Viagra and Other "Magic Pills"

Though changing focus, the therapeutic approach still did not reduce low libido to a problem of chemical imbalance. The search for a chemical solution to low libido began in earnest with the discovery of sildenafil, or Viagra. In 1992, Pfizer patented sildenafil for treatment of cardiovascular diseases (Pfizer Inc., 1993); in 1994, it patented sildenafil for treatment of erectile dysfunction (Pfizer Inc., 2002). From 1998 through 2005, Pfizer attempted to develop a similar drug for women that would stimulate vasocongestion and facilitate lubrication and orgasm. In the 2000s, testosterone was prescribed off-label, and male Viagra was tested on women. A synthetic hormone developed to prevent skin cancer by artificially tanning skin was seen to have mild aphrodisiac powers but "embarrassing side effects" (Fahs, 2011, p. 126). Doctors have prescribed the anti-anxiety drug Buspirone off-label, though according to Fahs doctors have considered central nervous system drugs a "last resort" (Fahs, 2011, p. 127).

On the contrary, experience with drug development proves that psychopharmaceuticals have a certain appeal. To some patients, pills seem more medically legitimate than physical therapies. In 2000, a battery-operated vacuum pump for the clitoris was approved for treatment of female sexual arousal disorder (Josefson, 2010, p. 1427). However, patients reported discomfort with using a mechanical aid, and others dismissed it as a "glorified vibrator" (Mosher, James, & Akins, 2007, p. 163). Their denigration of vibrators as non-medical, in contrast to the flurry of physician-prescribed or administered vibrators in the early 20th century, illustrates the shifting meaning of medical technology. Additionally, these comments reflect a fear of mechanical apparatuses. Despite advantages including greater convenience and fewer side effects, implants, injections, vaginal rings, and patches have failed to capture significant portions of the hormonal contraceptive market (Watkins, 2012, p. 1467). Pills appear to have a mythic transparency—one simply pops something clean, simple, and professional.

With the popularization of oral contraception, taking pills became a normal, accepted part of being a woman; by the end of the 20th century, over 70 million women worldwide took it daily (Marks, 2001, p. 3). Ample testimony from the *National Observer* showcases women who used to think birth control was "too messy, too personal" or "distasteful" to talk about, for whom "oral contraception has made birth control respectable—like taking an aspirin," constructing a popular journalistic

narrative (Ostermann and Arnold, 1967, p. 21). Margaret Sanger famously longed for a “magic pill” to take care of birth control (Watkins, 2012, p. 1462–1472). Along with Librium, thalidomide, and other drugs prescribed to reproductive-aged women in the 1960s, the Pill normalized the social perception of medication. In the case of sexual therapy, Masters and Johnson’s emphasis on the physiological etiology of sexual behavior bore full fruit in sexual pharmacology (Tyler, 2011, p.121).

Furthermore, in the 1990s, insurance companies became more likely to reimburse short-term medical care rather than less easily quantifiable and long-term sex therapy. Combined with pharmaceutical initiatives, this preference skewed treatment of sexual dysfunction toward drugs. Additionally, clients preferred a medical diagnosis to a psychological one, and saw medication as less socially stigmatizing than therapy (Bradley & Fine, 2009, p. 80). Irwin Goldstein, a consultant for the manufacturer of flibanserin and president of the Institute for Sexual Health, boasted to industry site *MedCity News* after its FDA approval that “if you have a broken leg, a broken toe, or a broken libido, you can now go to a doctor and get help,” whereas before there was only talk therapy (Redden, 2015). His first implication is that a pharmaceutical is more medically legitimate and therefore more helpful than therapy. His second is that libido is either correct or simply broken: there is no room for alternatives.

According to Marks, the Pill can be considered the first lifestyle drug (Marks, 2001, p. 2). Direct-to-consumer drug advertising was only permitted beginning in the mid-1980s, intensifying the diverse, consumerist tactics of birth control manufacturers (Watkins, 2012, p. 1463). Even before this, patients began asking their doctors for birth control pills in the mid-1960s, whereas prior patients were expected to passively accept diagnoses and prescriptions (Marks, 2001, p. 7). This popularized the notion of patients actively seeking out drugs, which informs drug companies’ awareness campaigns for FHSDD. As a lifestyle drug, the Pill falls into a category with antidepressants and Viagra (Watkins, 2012, p. 1470). It is also intimately related to these. So-called “Viagra wives” annoyed by their newly rowdy husbands could feel pathological (Barnett, Robleda-Gomez, and Pachana, 2012). “Female Viagra” sought to capitalize on such women (Fahs, 2011, p. 122). With the popularization of Prozac, the first huge selective serotonin reuptake inhibitor (SSRI), in the 1990s, psychiatrists went from being healers to “gatekeepers of Prozac,” and, according to Shorter, mental illness was immensely destigmatized (Shorter, 1997, p. 325). In Shorter’s view, this culminated in a return to biology that fever treatments, shock treatments, and lobotomies foreshadowed (Shorter, 1997, p. 323–325). Women have a special place in this neuro-pharmacological explosion. In fact, as Julie Holland complained, almost twice as many American women as men take a psychiatric drug (Holland, 2015).

From Serotonin to Sex

The German pharmaceutical giant Boehringer Ingelheim developed flibanserin as an antidepressant. Scientists had noted the effect of serotonin (5-HT) on female sexual drive since the 1960s, but investigation of the two different types of serotonin receptors—5-HT₁ and 5-HT₂—took off in the 1980s and 1990s. Such investigations were generally rodent studies. This experimental model insists on the biological source of symptoms and is ideologically potent when adapted into sexuality treatment (Uphouse, 2014). Prozac prevents reuptake of serotonin (5-HT)_{1A}. However, SSRIs have a substantial time-lag in efficacy. Therefore, serotonin (5-HT)_{1A} receptor agonists were developed; however, they still have a two-to-three-week lag. Some believe this is due to initial action of serotonin agonists at the somatodendritic serotonin autoreceptors located on the serotonergic neurons. One potential way to prevent this lag was to bypass autoreceptors and create drugs with preference for postsynaptic serotonin receptors. Flibanserin was such a drug (D'Aquili *et al.*, 1997). In one trial, flibanserin failed to reduce depression but appeared to increase sex drive (Gellad, Glynn, & Alexander, 2015). Four randomized control trials failed to show the primary desired outcome of increase in daily reports of desire but did show a decrease in secondary outcome assessments of desire and reduced distress over low desire (Rao, Sathyanarayana, & Andrade, 2015).

Despite belonging to an entirely different drug class, flibanserin has almost always been touted in the media as “female Viagra.” Evoking Viagra’s tagline as “the little blue pill,” the Addyi information hotline is 1-844-PINK-PILL (Addyi, 2015). The birth control pill was first issued as a plain tablet in a drab, brown bottle before eventually erupting into an array of pills in shades of mauve, pink, peach, and rose; post-1997, it was even marketed as a beauty aid (Marks, 2001, pp. 1–6). Yet Addyi has from inception been marketed as a feminine, pink, sexy medication: decidedly, a lifestyle drug for the post-liberation age. Indeed, even the aforementioned random control trials had stereotypically feminine names: DAISY, VIOLET, BEGONIA, and SNOWDROP (Rao, Sathyanarayana, & Andrade, 2015). Writing four years before its release, Fahs went so far as to assert that flibanserin had been “purposefully kept enshrouded in secrecy about its chemical makeup and direct side effects” so that the public would accept it more easily (Fahs, 2011, p. 128). Data was openly available on flibanserin, albeit for those with access to scientific journals and the ability to read them. But Addyi’s website answers the query “What is Addyi?” with “Addyi is a non-hormonal prescription pill used for treating FHSDD,” with no further explanation of its mechanism of action. Perhaps this is part of the appeal of the “little pink pill”: it simply works, and you don’t need to know how.

Reactions: Better Living through Chemistry?

Therapeutic possibilities for libido inevitably influence deep conceptions of who people are, what is meaningful or sacred in their lives, and what the individuals in relationships can or cannot change about each other and themselves. Thus, a medical diagnosis is developed to allow for drug development, and drug development feeds back into a framing of one's situation as syndrome. From a social framing perspective, the development of Female Hypoactive Sexual Desire Disorder as a medical disorder means that women can see their experience as medical in nature; the diagnosis reifies symptoms into a treatable disease (Jutel, 2010, p. 1087). Yet the diagnostic criterion of distress occurs in a social, relational context. Furthermore, the perceived potential impact of treatments, as well as the attitude of clinicians and their inclination to suggest therapy, lifestyle change, or prescription medication, influence one's own perception of their condition as either a disorder necessitating intervention or a personal, intrinsic attribute necessitating adaptation. Pharmaceutical companies and researchers have toiled to find a physical reality for the condition of low sexual desire, in an attempt to empirically reify a socially constructed dysfunction that exists in counterpoint to correct sexuality. With our best current scientific knowledge, there is neither a physiological diagnostic tool for the disorder nor a clear pathology for it apart from flibanserin's creators' *post hoc* theory that serotonin is involved in excitatory processes. Even the effort to objectively define a desire disorder betrays a positivistic faith in ideologically neutral psychiatry.

Perhaps due to public outcry over its low efficacy and side effects, perhaps due to its high cost, and perhaps due to lingering discomfort with the idea of a female libido pill, Addyi's sales have thus far been hugely disappointing. Amid excited comparisons to Viagra following Addyi's FDA approval, pharmaceutical company Valeant acquired Sprout the same week for a billion dollars (Ramsey, 2015). But whereas Viagra sold more than half a million prescriptions in its first month, only 227 women received Addyi prescriptions in its first weeks (Edney and Colby, 2015). Fueled by a cultural climate of female empowerment and sex positive feminism, and by the mushrooming proliferation of health culture, its creators saw the possibility of a transformation of low female libido. For them, the personal would not become political; it would become a prescription. With soon-to-step-down CEO Cindy Whitehead portraying herself as a pioneer, her company attempted to create and capitalize on a sea change in the medical treatment of female desire. Epidemiological and experimental data and pharmaceutical discoveries have redefined low desire as a treatable disease. This diagnosis hopes to overtake explanations including the discontents of lifelong monogamy or pre-menopausal drops in libido. The discovery of flibanserin's limited efficacy discredits softer therapies and redefines desire as chemical. In sexology, an inability to quantify desire led research to orgasm. However, in recent years, technologies like clitoral photoplethysmography and drugs like Viagra

have driven scientific energies to desire. Additionally, direct-to-consumer advertising and popular medical literature emphasize patient choice of treatment, regardless of motivation. Appeals to the sanctity of science undergirded the venture, with Whitehead insisting that her goal “was really to prove the science” (Ramsey, 2015).

It is important to note that outrage at the creation of FHSDD with drug company dollars may be shortsighted. In fact, pharmaceutical companies’ interest groups erase the history of medical promotion of women’s libidos in order to frame themselves as fearless, feminist pioneers (Tyler, 2011, p. 123). These interventions are quite transparently avaricious. But there has never been an objective or disinterested science of desire. From massage to hydrotherapy to electrotherapy to psychotherapy to relationship therapy to Addyi, treatment has evolved. Materially, these shifts reflect changing etiological, experimental, and diagnostic technologies. Ideologically, they reflect changes in the roles of medical professionals and the women they treat. The ideal libido has changed with the social tides, but there has been one constant: medicine’s obsession with what women want.

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