
ARTICLES

Precipitating Pharmacologies and Capital Entrapments: Narcolepsy and the Strange Cases of Provigil and Xyrem

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Since the mid-1990s, Americans have been made more aware of chronic sleep deprivation and sleep disorders exacerbated by dominant temporal regimes of work, school, and family life, primarily through increased medical and media attention. Concomitantly, Americans have turned to medical treatments and pharmaceutical cocktails to achieve normalcy rather than attending to the social and cultural causes of sleep sickness. This turn toward pharmaceuticalization is aided in part by the proliferation of medical disorders and the pharmaceuticals marketed to treat them (e.g., “excessive daytime sleepiness” requires treatment once reserved for narcoleptics). These cocktails have explicit and implicit components: the former consist of pharmaceuticals, the latter of capital dependencies, including ties to medical insurance companies, stable employment, and familial networks. In this article, I examine the proliferation of pharmaceutical cocktails through the concept of the *pharmakon*—something simultaneously remedy and cause—to illuminate the causes and effects of such pharmaceutical regimens in contemporary American

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society, specifically those relating to sleepiness. Specific cases of this struggle between chemical dependence and normalcy are offered from my ethnographic work with patients who suffer from sleep disorders.

Key Words: biopolitics; pharmaceuticals; pharmakon; sleep

PHARMAKOLOGICAL TENSIONS

Throughout the 1990s and early 2000s, through medical outreach programs and various popular media, Americans have been made more aware of chronic sleep deprivation and sleep disorders exacerbated by dominant temporal regimes of work, school, and family life. Increasingly, Americans turned to medical treatments and pharmaceutical cocktails to achieve normalcy rather than attending to the social and cultural causes of sleep sickness. The proliferation of medical disorders and the pharmaceuticals marketed to treat them aided part of this turn toward pharmaceuticalization. For example, “excessive daytime sleepiness” (EDS) required treatment once reserved for narcoleptics, and most Americans could test positive for EDS based on new, looser criteria (Kroll-Smith 2003). These cocktails had explicit and implicit components: the former consist of pharmaceuticals, the latter of capital dependencies, including ties to medical insurance companies, stable employment, and familial networks. Similar to the increased pharmaceutical treatment of depression in the 1990s (Healy 1998; Oldani 2006), I argue that it was through proliferating ideas of abnormal sleep and excessive sleepiness that Americans became increasingly entrapped in chemical and social dependencies, new biopolitical regimes which took as their unit of control not whole bodies but particular natural and cultural behaviors through which patients increasingly understood themselves (Agamben 1998 [1995]; Fehér and Heller 1994; Foucault 1990 [1976]; Rose 2006). In pursuing this line of anthropological inquiry, I am building on a wide variety and growing literature in the ethnography of biopolitics from interests in the medical and social use of genetics (Fujimura 1996; Heath et al. 2005; Rabinow 1999; Rajan 2006; Rapp et al. 2001; Taussig 2008; Taussig, et al. 2003) to critiques of the place of biological knowledge in politics more generally (Petryna 2002). In this article, I draw on interviews conducted with sleep disorder sufferers¹—in this case narcoleptics—and pharmaceutical industry techniques in the recasting of medications for more popular ends to show how, at the turn of the 21st century in American society, sleep and its alterations had become central to the politics of everyday life and the contestations of individuals and their place in society (Strathern 1992).

In this article, narcolepsy is taken as a model of “non life” to which individuals are asked to respond with medication. As this model of non life

becomes exported from narcolepsy, it becomes a dominant way of thinking about contemporary social life in general, necessitating the medication of larger and larger portions of the populations as sleep disorder sufferers. Narcoleptics provide an ideal model of the sleep deprived American because they suffer from spontaneous sleep throughout the day and fragmented sleep at night, embodying both extremes of sleep disruption, and their treatment at the hands of physicians and pharmaceutical companies offers a glimpse of one possible (pharmaceutical) future of sleep. Sleep and sleep disorders are a particularly interesting phenomenon through which to examine the mutual constitution of bodies, treatments, and the economy because sleeping is an inevitable aspect of animal life, and sleep disorders are generally judged against a set of normative ideals regarding human physiology and behavior. As a variety of scholars have pointed out, sleep and its social management are integral to the foundation of society (Aubert and White 1959a, 1959b; Schwartz 1970; Steger and Brunt 2003; Taylor 1993; Williams 2005). The need to regularize sleep, producing inevitable rhythms of social life, is critical at the level of producing individuals as actants (Latour 1999, 2005), and also at the level of social management itself—controlling the rhythms of sleep and wakefulness produces an order to everyday life (Lefebvre 2003 [1970], 2004). In the case of the former, such management is often personalized as a habitual concern; in the case of the latter, it is often implicit and only becomes necessary to manage when individuals make difficult the workings of institutions (cf. Brown 2004), resulting, at times, in widespread “public health” movements. Sleep disorders are social disorders, and the management of sleep is the management of society itself.

In this article, I first turn to three patient narratives of pharmaceuticalization to show how themes of temporality and deferral figure prominently in their relationship to medical treatments of their disorders. I then discuss recent attempts by pharmaceutical companies to popularize sleep disorders and their treatments, having targeted sleep deprivation and sleep disorders as an area for commercial growth. I conclude with further claims for the need to understand the economy as an always embodied practice that is both its own remedy and cause and which depends on the production of everyday life as a natural, inevitable force that renders pharmaceutical decisions as muddled *pharmakological* obligations (Derrida 1981 [1972]). I focus on the case of a patient named Sam who refused treatment for his narcolepsy, although he recognized that fixing his sleep disability was central to his health and social (re)integration. I follow Sam’s case by discussing two briefer cases of patients who more easily accepted a new pharmacological ordering of their lives. Taken as a set, these cases evidence very different means by which narcoleptics have resolved their sleeping complaints in American society, sometimes turning to pharmaceuticals and other times turning toward less medically conventional therapeutics.

A middle class white American, Sam was in his early 40s at the time of his interview and had become aware of his sleeping problems—narcolepsy with cataplexy (a sudden loss of muscle tone)—in his mid-teens, which was understood at the time as hypoglycemia by his family doctor. As Sam described it, he “had a very sketchy parenting situation as a youth, so it was not really pursued as a problem then and nobody worried about it too much.” He went on to explain that throughout his youth, the school nurse would treat his cataplexy events with naps supplemented with candy. As he aged, his cataplexy abated, but it was replaced with “excessive daytime sleepiness,” which plagued his high school years and life thereafter. In Sam’s words, “My father noticed my sleepiness and directly accused me of smoking pot or using pills . . . he did not understand and there was absolutely no way he would believe that it was not pot or drugs that made me sleep in class and during the daytime. No one could be that sleepy, or so he thought.” Sam further explained that it was in his early 30s that his narcolepsy began to fully express itself, affecting his “ability to work and play.” He sought medical help, and was first diagnosed with depression. After a few years of treatment without the cessation of his symptoms, he sought new doctors. In Sam’s words, “the new doctors were just like the old doctors and they started all over barking up the depression tree. I went through all the steps again—shrinks, new meds, sleep hygiene,² etc.—before I decided that the doctors maybe couldn’t help me with this, so if I was going to get better I was going to have to figure this out on my own.” Sam then quit his job to tend to his health full time. He went from doctor to doctor, from one specialist to another, until he was eventually diagnosed with narcolepsy 20 years after his symptoms started. In his words, he was then prescribed “Dexadrine as well as a few other types of speed, and knockout drugs, but they all seemed to make me really sick.” At the time of our interview, Sam had decided to stop taking medication for his narcolepsy, which he explained as:

choosing not to get on the drug grind that most narcolepsy patients are on. Most of the meds are not yet tested long term, they make me ill, and I do not know any old speed users. I may sleep a lot, but I am *me* when I am awake, and not under the influence of meds. . . . I may have to use them again one day to function. But for now the challenge is for me and my narcolepsy doctor to figure out how to maximize my “good” time.

What Sam referred to as “the drug grind” I think of as a pharmacological predicament, a pharmacological form of life. The pharmacological brings together the social, the biological, the economic, and the chemical to produce not only treatments for health complaints but also new

complaints; the pharmacological both depends on old cultural expectations of normal bodies and behaviors and produces new normative ideals of health. To clarify this, one might consider the interval between the objective foundations of sleep medicine—the consolidated eight hours of sleep—and the actual sleep patterns of sleep disability sufferers. For all sleep disorder sufferers or their bedpartners, a lack of sleep is of primary concern. Over the course of the 1990s and 2000s, medical insurance agencies in the United States recognized the need to cover sleep studies and pharmaceuticals to normalize sleep. And to ensure that capital flows were properly directed, the American Academy of Sleep Medicine required accreditation of sleep professionals and their clinics, working to insinuate their authority between medical professionals, medical insurance policies, and patients. Insurance plans covered some treatments and not others; clinicians provided some diagnoses and treatments and not others; and, most importantly, individual sufferers responded to some treatments and not others. Between what was and could be provided and what was responded to positively by sufferers, there were almost invariably gaps, and it was in this abyss that most patients found themselves caught between their sleep disorders and their social obligations, trapped between pharmaceutical solutions and pharmacological predicaments.

Sam was not atypical among narcoleptics. At the turn of the 21st century only a handful of pharmaceutical treatments exist for the disease, and many sufferers reacted negatively to their treatment. Similarly, insomniacs often needed to shift from one drug to another due to increased resistance to drug effects, and quickly moved from over-the-counter drugs to prescription medications. Beyond pharmaceuticals, doctors treated some sleep disorder sufferers with bright light treatments, melatonin supplements, and enforced bedtimes; as a last resort, physicians may have recommended changing their social obligations. That alterations in social life was the last resort of treatment for any of these disorders should come as no surprise. The temporal regimes of American society had come to be naturalized over the 20th century so that the goal of medical treatment was adjusting the aberrant nature of individual patients to meet the inevitable nature of everyday life, with its rhythms of work, school, and family life, founded on an artifact of the industrial consolidation of sleeping and work time. Sam's choice should not be misconstrued as resistance to medicalization; it was, rather, an attempt to live outside the machine of contemporary medicine. The side effect of this was that he was forced to live outside society too. At the time of his interview, he had never finished college and had spent the previous seven years unemployed due to his need for naps and inability to be at work when required. He lived abiding by only his own rhythm, and although this overlapped at times with the dominant temporal regimes of

American society, it failed to be so synchronized as to qualify him as a normal sleeper.

In contradistinction to Sam was Kate, a woman in her mid-50s at the time of interview. Her narcolepsy symptoms had begun around the age of 51, and she struggled through her local medical community during the ensuing two years attempting to be properly diagnosed. In addition to the excessive daytime sleepiness often associated with narcolepsy, she also suffered from hallucinations at sleep onset and frequent insomnia. It was in part this latter symptom which led her to first having been diagnosed with depression, but when the symptoms failed to resolve themselves after being placed on antidepressants, she sought further help. After being diagnosed with narcolepsy, she was first placed on Provigil and Adderall, but developed what appeared to her to be Restless Legs Syndrome (RLS) as a side effect of the drugs. In consultation with her doctor, she was placed on Xyrem, which resolved her narcolepsy symptoms; the side effect of the Xyrem, as she explained, was that it “structured” her daily life because she needed to ensure that regardless of what she was doing that she was able to take her required medication. Her RLS seemed to resolve itself on the Xyrem, as did her narcolepsy complaints. The difficulty she faced with her initial Xyrem prescription was that it originated from Jazz Pharmaceuticals. Unfamiliar with the drug, her doctor depended on the authorities at Jazz to guide his prescription of Xyrem to Kate; unfortunately, they started her at a much higher dosage than her body could handle, and she quickly became uncomfortable with the force of the drug’s effects. This led her doctor to lower the dosage and gradually work his way back to near the expected dosage ceiling. Despite her problems with Xyrem, Kate referred to it as a “godsend.”

The model pharmacological subject was Martin, 21 years old at the time of interview, who had suffered from narcolepsy symptoms since around his 16th birthday, including frequent attacks of cataplexy, which is the sudden loss of muscle tone. In addition to carrying prescriptions for both Xyrem and Provigil, Martin had also been diagnosed with bipolar disorder, which was medicated with Lamictal; ADHD, which was treated with Focalin XR; and persistent panic attacks, which were managed with Paxil CR and Xanax XR. To improve his daytime alertness, Martin was also prescribed Adderall XR, which was more often used for ADHD. He also reported that when needed, he would supplement this array of drugs with additional Focalin and Xanax tablets. In conversation, Martin estimated that the cost of his monthly prescriptions ran upwards of \$3,000, a cost that was offset by his parents’ medical insurance plan. As he discussed his future employment possibilities, Martin was certain that he needed to find an employer with a comprehensive health care plan. Amazingly, with his multiple prescriptions,

Martin experienced no side effects, a feat that he ascribed to his primary sleep physician, a psychiatrist who specialized in sleep disorder patients who carried multiple diagnoses. Also rather exceptional was Martin's susceptibility to the many drugs—each of them seemed to have exactly the effect desired. Because of this efficacy, he was thoroughly ensconced in the pharmacological network that comprised the pharmaceutical, economic, and social obligations and commitments that maintained his treatments. Where his narcolepsy seemed to be a continued source of tension was his love life; he was unable to keep a steady girlfriend, and his most recent relationship ended because his girlfriend could not cope with his narcolepsy despite his pharmaceutical normalization.

What these three cases evidence are the varying degrees to which bodies tolerate medication, the degrees to which individuals are willing to resolve their sleep complaints by becoming pharmacological subjects, and the degrees to which they are willing to accept pharmaceutical answers to their experimentations with sleep and social obligations. At either extreme, Sam and Martin tolerated the pharmaceutical treatments and their pharmacological obligations in inverse proportion. Neither resolution was entirely satisfactory, as the side effects of Martin's pharmacological predicament also circumscribed his dating life and his possible employment paths. For Sam, opting out of the pharmaceutical prescriptions for his narcolepsy entailed similar social impacts. Kate, however, seemed to be able to negotiate some middle ground in her pharmaceutical and pharmacological investments. Kate's negotiation of both the medical system and attempts to medicalize her symptoms eventually led to the correct diagnosis, but even then she needed to further negotiate the prescriptions given by her sleep doctor. With the right drug—Xyrem—Kate was able to return to her everyday social obligations, fully reinsinuating herself into her pharmacological network. The drawback to Xyrem, as she noted, was the force the drug's regular intake exerted on her daily life, which required her to take the drug at specific intervals. Pharmaceutical treatments for narcoleptics are, unfortunately for some, necessary for integration into mainstream social life, particularly in terms of modern work and school schedules and family life. For those who exempt themselves from the pharmaceutical lifestyle, and even for some who do not, napping treatments only prove marginally effective and often require social sanctions for their exercise. In the face of increased pharmaceuticalization of sleep and its disorders in American society, napping tolerance might decrease as expectations that sufferers seek pharmaceutical help rather than negotiate social allowances for napping or flexible work schedules might increase. With the concomitant increased persuasiveness of the medicalization of sleep in American society affected by pharmaceutical

companies, the choice to decline medical treatment, as in Sam's case, may become increasingly rare and perceived as dangerously antisocial.

PHARMACEUTICALIZING SLEEP

Since the early 1990s there has been an expansion of the American pharmaceutical industry specifically targeted at sleep and sleep related disorders. In 2005, Sepracor launched an expensive and extensive advertising campaign in the United States to promote a sleep aid, Lunesta, reportedly spending up to \$215 million in one year.³ Sepracor developed Lunesta as a commercial competitor to extant sleep aids that already had the support of health insurance companies, most of whom lacked the ability or wherewithal to commit similar capital investments to advertising. As most patients required some financial aid to defray the costs of medical treatment and pharmaceuticals, releasing new drugs, which can be on the market for years before being accepted by medical insurance companies as legitimate treatments, was risky business. In the past, most pharmaceutical companies had released drugs and only after years of little commercial attention—other than through drug representatives, who broker with physicians to prescribe their wares (Oldani 2006)—did they attempt to fully market their products. This depended on sometimes waiting for new markets to emerge and other times producing a market for a drug through the coding of a new medical disorder (Kroll-Smith 2003). What changed this dynamic was the success of multiple antidepressants in the early 1990s, followed by the wild rise of erectile dysfunction treatments in the late 1990s and early 2000s, both of which relied heavily on direct-to-consumer marketing, allowed by loosened Food and Drug Administration regulations. Pharmaceutical companies, having come to the collective realization that humans sleep a third of their lives (with the corroboration of the National Sleep Foundation's recurrent polls), were primed at the turn of the 21st century to turn sleep disorders and deprivation into the next erectile dysfunction. This resulted in a number of pharmaceuticals being recast as over-the-counter prescriptions for new sleep concerns, like "excessive daytime sleepiness" (Kroll-Smith 2003). These same drugs were formally intended for severe sleep disabilities, such as narcolepsy. In other words, "excessive daytime sleepiness" was once considered only as a symptom of narcolepsy; by the early 2000s, however, it was understood as a sleep disorder in its own right, and necessitated treatment as such. This was the case with Provigil (modafinil), which Cephalon produced and marketed. The company had hoped to achieve some success with marketing the drug as an over-the-counter, "non-addictive" (no claims were made about it being non-habit forming) stimulant for patients suffering from

excessive daytime sleepiness (and narcolepsy). Similarly, Jazz Pharmaceuticals and Orphan Medical transformed sodium oxybate or gamma hydroxybutyrate (or GHB, known more broadly in American society as a date rape drug⁴) into a benign treatment for narcolepsy, renamed Xyrem. In this section, I review the strange histories of these two drugs and their possible futures. They are sympathetic drugs in that they are commonly both prescribed to narcoleptics; Xyrem induces sleep and is also known to reduce the number of cataplexy events of a sufferer, while Provigil maintains wakefulness in narcoleptics during the day. By using both drugs, narcoleptics are able to produce a facsimile of normal sleep and wakefulness, although the narratives provided above challenge such easy pharmaceutical fixes.

In Cephalon's 2004 product monograph for Provigil, the company asserts that the drug is intended "to improve wakefulness in patients with excessive daytime sleepiness associated with narcolepsy, obstructive sleep apnea/hypopnea syndrome (OSAHS), and shift work sleep disorder." Of these three disabilities, narcolepsy was traditionally treated with pharmaceutical treatments, as discussed above. Sleep apnea, however, was either treated with invasive surgery (which was usually quite minimal in its effectiveness) or a Continuous Positive Airway Pressure (CPAP) or Bi-level Positive Airway Pressure (BiPAP) machine (a small forced-air machine that a patient slept with until the apnea resolves itself, which may be never). Shift work sleep disorder was rarely if ever cured, but depended on the continual dependence on prescription stimulants (usually employed by patients in addition to caffeine and other commonly available stimulants). With each of these sleep disorders, sufferers complained regularly of tiredness or fatigue during the day, which was recast under the umbrella of "excessive daytime sleepiness." Based on the physiology of these disorders, use of Provigil is justified in the case of narcolepsy and shift work sleep disorder, but is questionable in the case of sleep apnea, as once patients become used to their CPAP or BiPAP machines, they often sleep more fully through the night and decreased their complaints of sleepiness during the day. It should also be noted, however, that because of its declassification as a drug solely used for narcoleptics, Provigil was reclassified as a medical stimulant and could be prescribed at the whim of attending physicians for any number of "drowsy" conditions, from depression to chronic fatigue syndrome. Additionally, in the case of shift work sleep disorder, Provigil only managed symptoms rather than causes, since, from its inception, physicians recognized shift work sleep disorder as a problem of the workplace and its relation to the sleep patterns of workers or, rather, individual worker's inabilities to cope with the rhythms demanded by work.

Cephalon's strategy, it seemed, was to elaborate both new needs for the drugs that it produced as well as more inclusive means for producing new

sleep disorder suffers. Throughout the Provigil literature, excessive daytime sleepiness was referred to simply as excessive sleepiness or ES, subtly broadening the times that people might complain of unwanted or unexpected sleepiness. On their Web site for patients, Cephalon stated that “People with excessive sleepiness may feel as if they just don’t have the energy to do the things they need to on a daily basis, such as spending time with their family or performing duties at work.” Other symptoms included tiredness, fatigue, difficulty concentrating or paying attention, and low motivation.⁵ One might notice in these symptoms the very conditions of modern working life—and working life as it has been lived for centuries. Who, it is reasonable to ask, was exempt from these symptoms? Who had time and energy to spend with their family, to perform duties at work? As Juliet Schor has shown (1991), Americans were increasingly beset by work demands during time formerly reserved for family and recreation, meaning that when individuals had time to tend to social life outside of work, they were already tired. This was corroborated by the National Sleep Foundation, which forwarded evidence of the increasing time poverty of Americans. The National Sleep Foundation offered no cure; instead, one might turn to the powers of Provigil.

To evidence Provigil’s life-changing effects, Cephalon’s Web site featured a number of testimonials from patients, one each from sufferers of narcolepsy, sleep apnea, and shift work sleep disorder, as well as a director of a sleep clinic. Each testimony was relatively interchangeable since each speaker explained how her or his life was previous to the medication and life’s new vitality with Provigil; each testimony was offered both in video form (so one can see for oneself, as if the spoken form carries more weight) and in text. The following is Donna’s testimony, a pharmacist and narcoleptic “who struggled with ES:”

[Before Provigil] My life was uh, basically a non life. It was basically uh working and sleeping—that’s all I did. I got up on the morning that I had to work and went to work and barely made it through the day and uh, people heard “I’m so tired” come out of my mouth probably about 50 times during the day.... [After Provigil] Well, since I’ve start taking Provigil, I don’t have the excessive sleepiness so I’m able to do things like eat healthier instead of fast food all the time cause I’m too tired to cook.⁶

Like the description of excessive sleepiness symptoms, Donna’s claims evoke a certain universality: Could many Americans have claimed to do much more with their lives than “working and sleeping”? Moreover, could many Americans have claimed to have time to cook meals rather than eat “fast food all the time”? Even for those who could answer positively to these

questions and those posed above, there was always the possibility of having even more time for family and friends, eating and leisure, and while Provigil might not have been able to increase the amount of time in one's life, it may have ensured that one was able to fully use one's time. In so doing, Provigil, or the time that it allowed, might become a habitual practice. This extended beyond the possible chemical addiction that an individual might have developed and could have become a properly pharmacological form of life, something that Cephalon was aware of but buried in the fine print of Provigil's fact sheet (made available to physicians and in much of the patient literature): "In addition to its wakefulness-promoting effect and increased locomotor activity in animals, in humans, Provigil produces psychoactive and euphoric effects, alternations in mood, perception, thinking and feeling typical of other [central nervous system] stimulants. . . . Modafinil is reinforcing, as evidenced by its self-administration in monkeys previously trained to self-administer cocaine."⁷ Not only may individuals have become addicted to the "quality" time that the drug provided, but also the neurochemical effects of the drug as well. Untangling these two effects is impossible, the feelings—"euphoric effects, alternations in mood," etc—are equally social and chemical, economic and biological, a potent pharmacological chemistry.

The drug Xyrem proved equally pharmacologically potent. When taken regularly and for an extended period of time (sometimes taking as long as two months), it reduced the number of cataplexy events of narcoleptics and consolidated nighttime sleep. Like Provigil, the manufacturers of Xyrem had to make the case for its administration. And, just as with Cephalon, Jazz Pharmaceuticals was aware of the broader pharmacological necessities and desires for the drug. The Xyrem Physician's Reference Guide states that "By impairing primary functions like talking, eating, standing, walking or driving, [cataplexy] can prevent patients from experiencing important activities such as holding a grandchild, interviewing for a job, participating in a meeting, going to a movie, attending a party, or working out at the gym." Although not every American desired each of these activities in his or her life, their universality is not unlike those outlined by Cephalon for potential Provigil users. Noting that cataplexy affects the most basic functions of human social life—"talking, eating, standing, walking or driving"—how could a cataplexy sufferer go without the drug? Like any pharmaceutical, however, and as discussed in the Xyrem Medication Guide, Xyrem has a number of side effects, "including trouble breathing while asleep, confusion, abnormal thinking, depression, and loss of consciousness"; it also promotes enuresis and parasomnias, especially in those who were already predisposed for such sleep-related activities. As reported in Xyrem's expansive literature, about 10 percent of users decided to

eventually forego the drug, stating that its side effects outweigh the positive benefits. However, this addresses primarily the physiological side effects, and with a drug like Xyrem broader social considerations also exist.

The fraught social landscape that Xyrem existed within, in which it was probably used as often for illicit reasons as for treating narcolepsy, necessitated a stern approach with patients. For instance, Martin confessed that he hid his various prescription medications in a locked safe, although he lived with his parents and kept his narcolepsy largely a secret from his friends. In being prescribed Xyrem, physicians and Jazz Pharmaceuticals expected patients to watch an instructional video, ostensibly directing the preparation of the two nightly doses required for patients. A middle-aged white woman with greying hair, whose affect varied between motherly and threatening, hosted the video. She warned the viewer that "Careful adherence to the procedures and precautions presented in this video will ensure that Xyrem will continue to be available to you and patients like you now and in the years to come." In the seven minute video, nearly half of which belabors the actual production of the nightly doses of the medication (three to nine milligrams of Xyrem with two ounces of water, sealed in childproof containers, placed near the bed), the hostess constantly makes refrains to legal themes:

When controlled substances are used for medical purposes, they can provide improvements in a person's quality of life, and for the many people with debilitating diseases like yours. However, if these medications are illegally diverted from the legitimate distribution system, the non-medical use of controlled substances can lead to public health problems. As a controlled medication, if you, with criminal intent, knowingly divert, distribute, or sell Xyrem to others, you'll be subject to criminal prosecution.

Unlike Provigil, for which an unlimited field of possible prescriptions was desired by Cephalon, Xyrem was constrained by the history of abuse and the persistent potential that it could be used on others without their knowledge. Orphan Medical, the distributors of Xyrem, had to develop a means to ensure that the potential for illicit uses of Xyrem were curtailed, and to that end established a central pharmacy and a tracking system for both patients and prescribers. This failed to actually account for how patients use the drug between receiving their shipments, but ensured that there was a chain of accountability. Unless these mechanisms dissolved, it would continue to ensure that the spread of Xyrem use, unless what it can be prescribed for was widened, was circumscribed.

Whereas Provigil might have allowed one's life to be maximized, Xyrem had a constraining effect on patients since they needed to structure their

lives around the dose intakes, a frustration previously mentioned by Kate. Like many drugs, food intake reduces the efficacy of Xyrem, and patients needed to ensure that they had digested the evening meal before taking their first dose at bedtime. More complicated was that patients required two doses of Xyrem for it to be effective; the drug had a short half life, and the consolidated sleep that it provided for narcoleptics (who often suffered from very disrupted sleep) quickly dissipated. To reap further consolidated sleep, patients needed to take a second dose of Xyrem in the middle of the night: “The second dose is often necessary for the patient to return to sleep for the second half of the night; however, the need to awaken for a second dose of sodium oxybate is usually not an inconvenience, as patients often awaken spontaneously 2–4 h[ours] after the first dose” (Thorpy 2005: 333). Xyrem both consolidated sleep and reduced the occurrences of cataplexy events; the former effect was spontaneous, the latter only slowly began to take effect. No one, at the turn of the 21st century, could explain the secondary function of Xyrem, nor could they explain why narcoleptics failed to suffer from withdrawal from the drug when its use was restricted.

As mentioned above, doctors often prescribed Provigil and Xyrem together to narcoleptics because they combined to treat all of the primary symptoms of the disease. But bodies tolerate the drugs differently, and while some patients respond well to one of the drugs, at times other drugs are required for the consolidation of sleep or the promoting of wakefulness during the day, as was the case with Martin and his long list of medications. And, for some, the benefits of the drugs are outweighed by the negative side effects. Medically, narcolepsy patients who choose to live without drugs are advised that they “should live a regular life, go to bed at the same hour each night, and get up at the same time each morning. Scheduled naps or short naps just before activities demanding a high degree of attention alleviate sleepiness in most patients. The optimal frequency, duration, and time of these naps has to be established” (Overeem et al. 2001: 86). Such habitual sleep restriction ensures that sleep is both temporally and spatially localized, something that can otherwise be guaranteed through the use of pharmaceuticals. Without the powers of regulation that pharmaceuticals deploy on the bodies of their consumers, these same regulations are necessitated by the sufferer through behavioral and habitual means—they need to impose a rhythm, with an “optimal frequency, duration, and time.” If patients fear cataplexy events, they need to regulate their affect, as cataplexy events are tied to extreme emotions. This very social, very pharmacological concern is addressed in the product monograph for Xyrem, a publication intended for physicians: “Substantial evidence exists suggesting that, without effective treatment, narcoleptics attempt to manage their cataplexy by controlling or suppressing their emotions (adopting a flat affect) or simply avoiding social

or other situations known to precipitate attacks. As a result, narcoleptics may be mislabeled as bored, disinterested or unintelligent.” It is not simply normal times of sleep and work that narcolepsy sufferers are foreclosed from when they chose to circumscribe pharmaceuticals, but emotional investment in social interactions as a whole. To legitimate the use of Xyrem and other narcolepsy drugs, it behooves the pharmaceutical manufacturers and marketers to expand the pharmaceutical to the pharmacological, bringing to the attention of physicians, patients, and their families, the chemical, social, and economic needs of sufferers. The questions of chemical toleration and need are perverted by the presence of social expectations, obligations and desires, as patients are enticed to balance the side effects of drugs to the social and economic effects of temporal estrangement through abnormal sleep.

PHARMACEUTICALS OF DOUBT

In *Dissemination*, Jacques Derrida discussed Plato’s use of the term “pharmakon” (Derrida 1981 [1972]: 97). In ancient Greek, “pharmakon” is a somewhat precarious word and depends on its contextual usage much more than most words. When it comes to translation into modern language—whether French or English—translators are required to translate the word as they see fit based upon its context. The problem, and this is Derrida’s curiosity with the word, is that its two meanings are diametrically opposed: “Pharmakon” can be translated as either “cure” or “cause.” It can either be a solution or a problem. Derrida’s purpose in *Dissemination* is to show how the initial translations of Plato’s use of “pharmakon” may have been just the opposite of what Plato had meant; Plato was speaking of the ways speech related to the practice of philosophy, troubling whether speech was indeed a “cure” for thought. As evocative as the term is, and the problem that Plato was outlining, thinking about “pharmakons” has been quite limited (Dagognet 2000; Lovell 2006: 153). I use this doubtful figuration of the pharmakon to discuss contemporary medical practice, pharmaceutical regimens, and the entrapment of patients’ bodies in wider networks of capital because I am interested in bringing together the processes of capital—one of the causal agents in this ongoing practice of “pharmakology”—and the intervals that capital produces between individuals and institutions and the ways in which these intervals become sites for the articulation of individual and social agencies (Derrida 1998 [1967]; Latour 1999; Strathern 1992). Understanding the relations between capital and patients’ bodies depends on attending to the ways these intervals are socially and individually generated and invested in, because, in so doing, cultural expectations are produced and appealed to by individuals, against which widespread cultural

rationales for (medical) practice are propped by actors throughout society (Derrida 1993).

As I hope the preceding evidences, the body becomes increasingly legible to institutions and individuals through capital and social investments. The forms of investment have changed over time, as have the networks through which the body becomes an object and subject of legibility-making, or “writing,” in the broadest Derridian sense of the term (Derrida 1998 [1967]). This is not to say that bodies do not exist or that there is no reality outside of “writing” or mediation, but rather that investment simultaneously provides bodies with institutional intelligibility and a subjectivizing node from which individuals can understand themselves as discrete entities and part of society, as actants (Kirby 1997; Latour 1999). This claim is on some level a straightforwardly Foucaultian one; however, what I would like to stress—and append to Foucault, and later Judith Butler—is that subjectivization processes imbue subjects with compulsions, an anticipation for the future. The production of individuals as actants—as subjects with a sense of agency—necessitates the installation of a temporal inclination toward the future, a sense of the historical contingencies and future possibilities of agency. These compulsions depend on the production of and resolution of intervals, of a difference between agency-in-the-present and agency-to-come; to borrow language from Bernard Stiegler, these intervals are “technic” (Stiegler 1994). This is to say that rather than depending on historical processes (e.g., as embodied in Freudian psychoanalysis and its successors), producing actants is a process of falling forward, of, in Deleuzian language, becoming (Deleuze and Guattari 1987 [1980]). Employing economic language like “investment”—and I should stress that this is not a use of language that is solely metaphoric, which Martin’s need for insurance makes clear—draws attention to the ways in which embodiment and subjectivity, like the economy, depends on accruing interest, both individually and socially. This also stresses how the production of individuals as actants is a strategic process, and how it depends on temporally specific tactical choices to be made which are produced by and impact the compulsions of individuals, choices that bring the future into being. The body is produced not solely through these medical and social practices, as any number of theorists would argue (Martin 1992 [1987], 1994; Mol 2002; Scheper-Hughes and Lock 1987; Taylor 2005), but as an expression of technicity—the body is always *to be* rather than a stable object. By making such a claim, what I hope to place in a position of parity are the economy and the body, as both are objects of constant deferral. Thus the feeling of one’s body should be understood as the after-effect of an imminent future rather than a primordial past (Cf. Butler 1997; Scheper-Hughes and Lock 1987), as the result of negotiations between individuals and society (Strathern 1992).

Sleep disorders are disorders in the strictest sense; they erupt into the otherwise orderly progression of everyday life, and can, at times, expose the unproblematized façade of the category of the everyday, exposing, simultaneously, the precarious dependence of society on the normalization of sleep. For each sleep disorder sufferer, normative expectations of the inevitable are put into question—narcoleptics who spontaneously fall asleep, insomniacs who fail to sleep through the night and insist on naps, delayed sleep phase sufferers who fail to align their circadian rhythms with those expected by society. All of them, in more or less discrete ways, are subject to the designs of governmental control, and some strain against the attempts of these technologies to fully capture them, to move them from the abnormal to the pharmaceuticalized or fully pharmacological subject. As the case of Provigil shows, the diagnosis of new sleep disorders (or rather “waking disorders”) renders a forthcoming expansion of the field in which such models of subjectivity circulate, which, in turn, induces the very category of the inevitable to change; Americans are moving steadily away from the possibility of taking a daytime nap and more deeply into the inevitable requirement to remain ever vigilant (through pharmaceutical or chemical means) throughout the day. With the intensifying of the rhythmic nature of everyday life, bodies, as signified objects, are becoming more akin to the economy as object—bodies become necessary to be able to anticipate, and constant alertness means that subjects are prepared whenever they are called upon, by work, family life, schooling or any other social ends.

In the course of a few short years, excessive sleepiness—if Cephalon and their compatriots in the pharmaceuticalization of American society have their way—will become the new erectile dysfunction, the new depression. It will move from the realm of the undiagnosed to the overdetermined; rather than one drug, sold only through prescription, it will become relegated to over-the-counter, direct-to-consumer diagnosis. The result of this may be that rather than accommodating lifestyles to biological rhythms, rather than simply becoming sleepy, new biologics will be bootstrapped into being, and new diagnoses will be made available to sufferers and physicians alike.

Rather than creating more stimulating environments or allowing flexibility for daytime sleep, like caffeine before them, pharmaceuticals will be taken in order to maintain vigilance in increasingly quotidian workspaces, and in regimes of increasingly taxing demands on time (both in and out of the workplace). Stemming from this will be a tacit acceptance of these banal spaces, leading, inevitably, into orderings of everyday life that are devoid of “experience,” which was enacted by Donna through her claim to having lived only a “non life” before Provigil—replaced, as it is, with pharmacological obligations. The logic of the body, the biological,

is replaced with the logic of the pharmacy, with increasing dependence of capital flows. Governmental strategies thus capture the body more fully, producing dependencies that, in turn, help to circulate capital: the inevitability of the body and its biological demands becomes supplanted by the inevitability of capital and its flows. In the process, the body as material, as biopower, becomes replaced by the sign of the body, and is entered into the domain of biopolitics as the only form of politics. The necessary politics in this biopolitical order is to realign the everyday with the capacities of the body, reasserting the potentiality of the biological against the machine of capital, of resisting the imposition of the inevitability of the everyday with the material resistances of which the human body and biology's variability are inherently comprised.

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NOTES

1. My primary fieldsite was a sleep clinic, which I refer to as the Midwest Sleep Disorder Center (MSDC), where I conducted two years of fieldwork. As a group, the physicians at MSDC had become interested in the social and cultural dimensions of sleep, and my working with them often entailed reporting on my ethnographic, ethnologic, and archival research for their edification. Over the two years, I attended weekly staff meetings, local support groups for sleep disorder sufferers, and national professional meetings; each of these sites also served as a mechanism to recruit interviewees, including patients, their bedpartners, clinicians, researchers, and support group facilitators. This, in turn, was succeeded by a year of research in the Chicago area, primarily with sleep disability support groups, and sustained archival research in the Nathaniel Kleitman archive at the University of Chicago (Kleitman was the father of 20th century sleep science and medicine). The interviews which are analyzed in this article are drawn from narcoleptics who participated in an internet support group, Talk About Sleep, and the Narcolepsy Network, a national support group with local chapters.
2. "Sleep hygiene" is a term that commonly refers to culturally-proscribed sleep-inducing behaviors, e.g. not consuming sugar, caffeine or alcohol 4–6 hours before bedtime, exercising regularly, not napping, employing comfortable bedding, and sleeping with one's alarm clock

- turned away from the sleeper. See, for example, the website of renowned sleep physician William Dement, <http://www.stanford.edu/~dement/howto.html>, accessed 11/3/2008.
3. http://www.forbes.com/home/forbes/2006/0508/094a_3.html, accessed 4/24/2007
 4. See, for example, www.4woman.gov/faq/rohypnol.htm and <http://www.fda.gov/bbs/topics/ANSWERS/2002/ANS01157.html>, accessed 11/23/2006
 5. <http://www.provigil.com/patient/sleepiness/definition.aspx>, accessed 11/23/2006
 6. http://provigil.com/inrhythm/inrhythm_newsletter.aspx?t=5; <http://www.provigil.com/patient/testimonials/testimonials.aspx>, accessed 11/23/2006. Notice her hesitations—the “uh”—have disappeared in her confession about the drug.
 7. PROVIGIL (modafinil) drug fact sheet. West Chester, PA: Cephalon, 2004.

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