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Addiction markets: the case of high-dose buprenorphine in France¹

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In 1996, France became the first nation to introduce high-dose buprenorphine, a synthetic opiate, as the major modality for the long-term treatment of problem opiate use. In a novel set-up, the national commission on medicine authorized high-dose buprenorphine (HDB) as a medicine that could be prescribed in general medical practice – an almost unheard-of practice for a treatment usually provided in very regulated specialized centers or hospitals. Currently, high-dose buprenorphine dominates treatment for heroin dependency and problem heroin users in France, although medicalized treatment of such users in other Western countries primarily involves methadone². Yet until the mid 1990s, the notion of a pharmaceutical drug to treat addiction met vehement opposition in France. How did an addiction pharmaceutical come to be marketed there and to constitute the main source of revenues in that country for a major pharmaceutical multinational?³

During that same year, 1996, drug users in Indian cities like Calcutta, Chandigarh, and Chennai, their heroin supplies cut off by the Tamil rebellion, shifted to injecting buprenorphine commercialized for the treatment of severe pain (Kumar, et al. 1998) . And across the Indian border, drug users in Nepalese cities like Pokhara and Kathmandu, consumed buprenorphine purchased in India (Dixon 1999). But buprenorphine remained

² The French Center for Surveillance of Drugs and Addiction (OFDT) puts the number of patients prescribed high dose buprenorphine at between 72 000 and 84 000, compared to 11 000 to 17 000 on methadone. (Cadet-Taïrou, A., et al. 2004 Quel est le nombre d'usagers d'opiacés sous BHD? Tendances (37):1-2.) In the European community, the tendency is the opposite, with methadone being the most widely used form of medically assisted drug treatment. In the newer European states, however, drug-free treatment continues to be the major modality available (EMCDDA, European Monitoring Center for Drugs and Drug Addiction 2004 The State of the Drugs Problem in the European Union and Norway. Annual Report 2004. Luxemburg: Office for Official Publications of the European Communities.)

³ Schering-Plough-France. Until recently, Schering Plough, present in 135 countries, was what financial analysts call "a major player" in the pharma sector. While still in the top ten pharmaceutical industries ranked by Fortune in 2003, its inability to gain revenues in the last year separated it from better performers such as Merck, Johnson and Johnson, Abbott Laboratories and an "up-and-coming" player like Amgen.

outside the realm of treatment for opiate addiction, except for an occasional experimental use for withdrawal.

To analyze what I call *addiction pharmaceuticals* in a global context, one must examine two addiction markets simultaneously. The status of an opiate antagonist and partial agonist like high-dose buprenorphine changes as it travels from one market to the other. In the doctor's office or hospital, it may be a full-fledged medication (to alleviate pain or to treat opiate dependency), or merely a chemical tool, a commodity or gift in the form of samples from the pharmaceutical company's *visiteur médical*. As it moves along the networks constituted through everyday drug use, the addiction pharmaceutical changes into an object of desire and danger, and into a commodity of another type, loosened from formal market regulations and state control, and bound up in flows outside those of pharma sector. As I will suggest shortly, these two markets are necessarily intertwined.

Addiction markets and the particularity of addiction pharmaceuticals

It is by now well-known that the *pharmaceutical market* is one of the most profitable sectors in the global economy. The movement from development (whether bio pirating, lab experimentation, testing), through marketing, acquisition and consumption of pharmaceutical products, however, involves various relationships to numerous locals. By following buprenorphine, I would like to suggest ways in which *pharmaceuticals used in addiction treatment* constitute particular global-local⁴ configurations, particular compared to other pharmaceuticals, including the psychotropic medications with which it is sometimes classed. To analyze addiction pharmaceuticals, it is thus necessary to examine the two types of market just introduced and how they are linked.

⁴ By global-local, I do not intend Western/non-Western, modern/traditional, developed/developing or other such dichotomies.

Using the example of France, I will examine, where and how a global addiction pharmaceutical industry intersects with local practices and illness etiologies, pre-existing concerns and dispositions. A different side of globalization creates the demand for addiction pharmaceuticals or justifies their existence: the illegal flows of drugs, one of the largest markets globally, and one that mimics in many ways the economic logic and organizational structures of multinational corporations. Wars, economic development and economic crises, institutionalized forms of inequality, drug enforcement policies, government health and welfare policy both halt and hasten the flow of opiates from world region to world region, affecting local drug consumption practices, health consequences, and hence the justification for one type of addictive treatment as opposed to another.

These two global addiction markets are joined together through the process of pharmaceutical leakage, or the movement of an addiction pharmaceutical from the site that legitimizes it (the treatment context, in which its commodity status is downplayed before its status as a pharmaceutical tool or a medicine, see below) to an informal, illicit network (the drug economy, where it morphs into a symbolically charged commodity, a "dirty" commodity that escapes market and state regulatory mechanisms). Through this process, the pharmaceutical object transforms itself from one type of commodity into another one, of a radically different rationality and symbolic nature, yet one not normally discussed in the "social lives" of pharmaceuticals⁵. In keeping with the biographical metaphor, I would suggest that pharmaceutical leakage and diversion marks the *secret life* of addiction pharmaceuticals.

⁵ For example, the commodification I discuss is absent in the Annual Review by van der Geest and his colleagues (Geest, D. van der, S. Reynolds Whyte, and A. Hardon 1996 The Anthropology of Pharmaceuticals : A Biographical Approach. Annual Review of Anthropology 25:153-178), which applies Kopytoff's biographical metaphor to pharmaceuticals (Kopytoff, I. 1986 The cultural biography of things. *In* The social life of things : Commodities in cultural perspective. A. Appadurai, ed. Pp. 64-91. Cambridge, UK: Cambridge University Press.)

The history of buprenorphine, like that of psychotropics more generally, is a narrative of effects in search of an application. Buprenorphine, a synthetic molecule derived from one of the active alkaloids in opium, blocks two of the three opioid receptors in the brain, the *kappa* and *mu* receptors, hence deactivating the effect of other opiates, like heroin. As a partial agonist, it has a ceiling effect; that is, an increase in dose only increases effects up to a finite level. Thus, unlike heroin, it is less addictive and less likely to depress the respiratory system (a major safety issue with opiates). It is considered less toxic and less likely to cause mortality from overdose (unless combined with benzodiazepines and/or alcohol) when compared to full antagonists like methadone,.

Like methadone, buprenorphine was an "old" drug originally developed as an analgesic⁶, but eventually recognized as potentially useful in the treatment of addiction. But like all pharmaceuticals used to treat opiate addiction or alcoholism, it presents the paradox of being applicable to a large potential patient population but having only a small potential market. For example, persons diagnosed as dependent or as problem drug or alcohol users are over four times as numerous as persons diagnosed with schizophrenia⁷. And within the neuroscientific paradigm that currently serves as the basis for developing psychotropic medications, addiction mechanisms are better understood than depression or schizophrenia (LaPiazza 2002). Yet, sales of all anti-addiction drugs are much smaller than those of even a single pharmaceutical

⁶ World War II spurred the development of opiate-like analgesics, but only in the 1970s was their application to treatment of opiate addiction fully explored. Buprenorphine was "discovered" by John Lewis, a chemist at a British company, Reckitt Colman, best known for its dry mustard product. Reckitt-Colman, which mostly produces home care products, contracted with Schering-Plough for the commercialization of high dose buprenorphine. (Through merger, Reckitt-Colman is now Reckitt Benckiser).

⁷A diagnosis of severe psychiatric illness, however, does not necessarily imply treatment, including with psychotropic medication. For example, in the United States almost half of the patients with schizophrenia are not in any type of treatment for their illness at any one point in time (Lovell, Anne M. 1993 Evaluation des interventions et estimation des besoins en santé mentale: tendances actuelles. Revue d'Epidemiologie et de Santé Publique 41:284-291.) A business report evaluates drug dependency at seven times that of schizophrenia and twice that of cancer (Moukheiber, Zina 2001 March . Drug Warrior. Forbes Magazine.)

for schizophrenia⁸. A high dropout rate from clinical trials and the social stigma associated with the figure of the addict are cited as reasons why the pharmaceutical industry prefers to keep away from addiction medicine⁹. At the same time, once identified as a synthetic opiate, the drug may be difficult to market outside of drug treatment or pain control, as may have been the case when buprenorphine was recognized as possibly useful in treating drug-refractory depression¹⁰.

Interestingly, buprenorphine in the form commercialized in France (Buprenorphine hydrochloride, or Subutex®) is designated an orphan drug (CDER 2002)¹¹, although it does not meet the definitional criteria for this status: the U.S. Department of Health and Human Services reported a “currently untapped population of at least 610,000 people with untreated or under-treated opioid problems”¹². In practical terms, this means that the pharmaceutical company receives direct and indirect government subsidies and other incentives for

⁸ A drug for treating bipolar depression, such as Zyprexa (Lilly) could earn \$2 billion in sales in 2000. All anti-addiction drugs made only \$170 million, mostly from naltrexone for heroin and alcohol dependence, buprenorphine for heroin, and acamprosate for alcohol (Moukheiber, Zina 2001 March. Drug Warrior. Forbes Magazine.)

⁹ "Treating crackheads doesn't quite fit the wholesome image pharmaceutical companies want to project", according to an article in Forbes magazine (Ibid.)

¹⁰ According to an editorial published in *Biological Psychiatry*: « One handicap BPN [buprenorphine] has had as an antidepressant was the absence of any interest in that application on the part of the manufacturer. The idea of selling BPN as an OTC analgesic was not an unreasonable one, but it did not lead R&C [Reckitt & Colman] to pursue work on the psychotropic properties of their drug. ... BPN's use in treating addicts, plus the ominous "-orphine" suffix in its name, have been even more of a deterrent to BPN's exploitation as an antidepressant than has R&C's narrow focus on its analgesic applications" (Callaway, Enoch 1996 Buprenorphine for depression: the un-adoptable orphan. *Biological Psychiatry* 39(12):989-90.)

¹¹ As is Buprenorphine hydrochloride and naloxone hydrochloride dihydrate (Suboxone), the combination available for office-based physician prescription in the United States, as of March 2004.

¹² An orphan drug is defined as a product that treats rare disease affecting fewer than 200,000 Americans. The Orphan Drug Act, signed into law in the US in 1983, is intended to stimulate research, development, and approval of products that treat rare diseases. Various financial mechanisms, mentioned above, are used to this end. A US government health report case study criticized the seven-year exclusivity as too short, arguing numerous market barriers for LAAM (levo-alpha-acetylmethadol), a synthetic opioid analgesic marketed under the trade name Orlaam by Roxane Laboratories. Although an expensive antipsychotic medication such as clozapine also encountered market barriers, for the addiction drug they were more formidable, ranging from the oft-mentioned noncompliance of the patients, provider resistance to change and competition from methadone. (www.aspe.hhs.gov/health/reports/cocaine/4cases.htm)

developing the drugs: seven-year marketing exclusivity, tax credit for the product-associated clinical research, research design assistance by FDA and grants of up to \$200,000 per year. Such government-sponsored inducements indicate not so much the rarity of the disease (opiate abuse isn't) but the disincentives from a market perspective for developing it. The particularities of addiction pharmaceuticals suggest why a European country like France might become a stake in the development of such a product. Hence, while French HBD comprised only about 6% of total global revenues for Schering-Plough at the moment when Subutex® was its best-selling product in France, the French experience with commercializing this high dose buprenorphine through private, general health care delivery, generated symbolic capital and either a model or a trial-by-error experiment for future addiction pharmaceutical markets.

In this paper, I will show how the marketing of buprenorphine required not only the collaboration of the pharmaceutical industry and local actors, but also a shift in the way problem heroin use was conceptualized. While the introduction of high-dose buprenorphine has shaped the way French think about and treat problem heroin use as an illness, certain transformations were necessary before that could happen: the conceptual and practical shift from toxicomania to addiction, the embeddedness of toxicomania-addiction treatment within a social-medical framework of harm reduction, and the travel of buprenorphine, before and after its commercialization of HDB, through the everyday practices of drug users that I have called the pharmaco-associative. Then I will show how the French experience is being re-interpreted to promote the same pharmaceutical product in the United States, in an inversion of position each country held in relation to the other in addiction medicine.

From toxicomania to addiction pharmaceuticals

Before addiction

Until the mid-1990s, addictive drugs did not exist 'in and of themselves' in France (Bergeron 2001). Drugs, synthetic or natural substances compulsively consumed, constituted a particular kind of illness. To understand this we must trace the ways in which drugs and problematic drug consumption were – and to a great extent, still are -- conceptualized in contemporary France. At least three movements constitute this history: the development of a specialized sector for drug treatment, the centralization of regulation and management of this sector, and the dichotomization of drug treatment into a dominant psychoanalytically oriented approach and a secondary somatic one.

The preferred designation for problematic drug use in French is a late nineteenth psychiatric category, toxicomania (*toxicomanie*). The two national drug agencies (the Interministerial Mission to Fight Drugs and Toxicomania and the National Observatory on Drugs and Toxicomania)¹³ designate their mission by the term. Not only ordinary people, but drug users, health care providers and policymakers still use the term. Even neuroscientists are prone to slippage between "addiction" and *toxicomanie*.

The attribution of the "mania" suffix to the name of a mind-altering substance first appears in French medical writings in 1885. It refers to a "modality" (the use of the intoxicating substance - morphine in morphinomania, opium for opiomania, etc.) in response to an

¹³ Respectively, the Mission Interministérielle de Lutte contre la Drogue et la Toxicomanie (MILDT) and Observatoire Nationale des Drogues et de la Toxicomanie (OFDT).

underlying illness, the "more or less irresistible" need for artificial excitement, for sensations that range from simple euphoria to dreams, hallucinations, and "artificial paradises". The term "mania" implies at once mental aberration and obsessive passion. (Yvorel 1992).

The term has long resisted attempts to replace it (for example, with the DSM language of "substance abuse" or with the category "addiction" more common to contemporary neurosciences¹⁴). The reason lies less in the original positive meaning of toxicomania, largely forgotten¹⁵, than in the assumption that alternate terms imply a biological model. In contemporary France, drug treatment emerged as a particularly French specialty, in opposition to biologically based treatments.

While problematic drug users had long been treated in psychiatric hospitals, only in 1970 did drugs emerge as a felt social problem. It entered the public sphere through the dramatization of heroin (the widely publicized death of a young woman from an overdose in the hip resort of Saint Tropez). (Lovell 1993). The "Law of 1970" that resulted from public outcry reformed earlier legislation from the turn of the century, by continuing the criminalization of drug use (though broadening the criteria from use in public to any use). But it also added a new option: court-ordered treatment instead of imprisonment. (Lovell 1993) . However, most drug users whom service providers were to encounter in those first fervent years were not *héroïinomanes*, but "soft" drug users, middle class or temporary drop-outs.

¹⁴ As substance abuse became incorporated into the "brain diseases" . (See the article by the National Institute of Drug Abuse's then director Alan Leshner). (Leshner, A.1999 "Addiction is a brain disease, and it matters". Nature 398:45-47.).

¹⁵ Yet various other manias populate everyday French language, from the passionate forms of the *mélomane* (*music lover*) to pathological ones of the *érotomanes* , *dromomanes* (compulsive walkers), etc.

The first drug treatment services emerged in the wake of the post May '68 "libertarian ethic" (Bergeron 1998)¹⁶. Influenced by French antipsychiatry, radical Lacanianism, the new political and counter-cultural values of May 1968 (Lovell 1980) and public intellectuals like Michel Foucault, the social workers and psychiatrists who set up these street outreach and drop-in centers for drug users mistrusted much drug treatment as being instruments of medical oppression or the normalization of forms of deviancy that threatened public order. They opposed medicalized approaches, whether with psychotropic medication or methadone, as simply another form of social control. Like radical Lacanianism and following the more general tenants of psychoanalysis, dominant in France at the time ((Turkle 1978)), the early drug treatment movement focused on the "Subject who hides behind the drug". Treatment providers, they claimed, should aim to restore to the subject the freedom to cure him or herself.

By the 1980s, this social movement had crystallized into a highly professionalized sector. The loosely-defined treatment approaches, characterized largely by street work, short-lived encounters, the staff's "good intentions" and empathy with the *toxicomanes* (using drugs together was not unheard of) gave way to longer-term, one-on-one treatment provided at specialized drug treatment centers (CSST's), codified treatment techniques based on psychoanalytic tenants and a professional society, the ANIT (the Association Nationale d'Intervenants en Toxicomanie). The romantic rebel was replaced by the *toxicomane* patient, spontaneous interventions by psychoanalytic knowledge production about *toxicomanie*. Drug dependence was acknowledged as the real problem, abstinence as the treatment goal, and psychoanalytical psychotherapy the ideal modality. While addiction does appear as a category

¹⁶ This section draws in large part on Bergeron's excellent analysis of the constitution of a specialized drug treatment sector in France (Bergeron, Henri 1999 L'Etat de la toxicomanie. Histoire d'une singularité française. Paris: Presses Universitaires de France.) Given the constraints of space, I cannot do justice to the conflicts and complexities behind the its making. My purpose is to discern possible relationships between this larger process and the buprenorphine narrative.

at this time, it provides only one theoretical approach. For most of the specialized drug treatment sector, the compulsion to use drugs was understood as the symptom of an underlying psychopathological structure rooted in childhood trauma. Drug abuse could be likened to any other defense mechanism. If the *toxicomane* had become a patient, s/he was now normalized and destigmatized by being redefined as neurotic (and, more rarely, psychotic). This view allowed the libertarian ethic of the post-1968 social movement to survive, by giving the *toxicomane* the same status as other "sufferers" (suicidals, anorexics, etc.), whose freely-expressed demand for treatment was the only guarantee against the pressures of the outside world (Bergeron 1999). Thus, until the introduction of high dose buprenorphine in 1996, drug treatment in France was dominated by psychiatry and psychology.

The slow uptake of medicalized treatment

Two alternative approaches, widely diffused in North America, Great Britain and, later, other parts of Europe, existed at the time. And both -- the therapeutic community and methadone substitution -- were rejected, often with vehemence, by the French specialized drug treatment sector. The reasons for this rejection lie in the structure and ideology of the French public health sector and, one might hypothesize, in professional interests of the drug treatment sector service providers.

Alongside professionalisation, the drug treatment sector was consolidated, through the establishment of a toxicomania bureau in the national General Health Department (DGS) of the Ministry of Health. (Drug treatment policy, like that for all epidemics, is the mandate of

the French state rather than of local or regional government¹⁷). In fact, these are co-terminous processes, as major professionals from the sector were named to the bureau. Centralized management of the entire drug treatment sector, based on a singular model, the CSST, replaced local experimentation. In the years that followed, innovations designed in response to the changing population of *toxicomanes* were rejected, as was local control of the drug treatment issue. Thus DGS essentially rejected any projects other than the by-then familiar CSST.

Neither was the drug treatment sector open to these alternatives. With one exception, therapeutic communities were not tolerated¹⁸. French psychiatrists, after visiting Synanon, Phoenix House, and similar "ideal small societies" in the United States, critiqued them for their behavioral conditioning and authoritarian, prison-like social organization. And just as, years earlier, Jacques Lacan had lambasted American ego-psychology as part of a psychological Marshall Plan, French psychiatrists and psychologists criticized methadone as uncritical American pragmatism. Methadone not only depended on a biological explanation of opiate dependency as a metabolic deficiency in the endorphine system due to long-term use of external morphine substances. It actually replaced one drug with another. Major figures among treatment providers considered methadone a form of social control which prevents all possible critical reflection on the relationship of the subject to the chemotherapeutic object¹⁹. Dependence on such drug that would do the work for the patient also flew in the face of a cultural stance towards pain management. French had physicians refused to treat pain

¹⁷ On the centralized model of French public health, see Ramsey, Matthew 1994 *Public health in France. In The History of Public Health and the Modern State*. D. Porter, ed. Pp. 45-118. London: Wellcome Institute Series.

¹⁸ For many years, a major drug treatment modality was the chain of state-approved and funded therapeutic communities run by a charismatic figure, Lucien Engelmayer, known as *le Patriarch*. But after an initial enthusiasm, the specialized drug treatment sector demonized both the centers and their leader. These survived through private funds and Engelmayer's strategical genius until accusations of embezzlement of funds, and, probably, a general public and political reaction against "cults" (loosely defined) did them in.

¹⁹ In 1992, President Jacques Chirac called substitution the first step to decriminalization of drugs (Ehrenberg 1995: 112).

adequately for many years, often well below WHO standards for diseases like cancer, until the legitimization of pain management in French medicine (see (Baszanger 1995)²⁰.

Given the widespread use of methadone in drug treatment in other countries, the Ministry of Health did eventually fund two research teams, both in Paris, to test the substance on *héroïnomanes*. Contrary to both the libertarian ethic and the characteristics of methadone *à l'Américaine*, the French experimental patients were under strict surveillance and highly selected. Only those who had been heavy heroin users for at least five years and had unsuccessfully tried every other available treatment were eligible. In her comparison of two emblematic clinical trials of methadone, Dole and Nyswander's in New York, and the one at St. Anne's Hospital in Paris, Gomart argues that for the latter, methadone came to be conceived of not as a *medication* for treating addiction, but rather a *tool* that allowed the clinician to determine whether the "apathy" of the drug user is indeed a symptom of a psychiatric diagnosis or defective personality or, alternately, the temporary effect of long term narcotic use (Gomart 2002). Methadone, that is, was administered only for a short period. If, at the end, the patient still showed a compulsion to use drugs, then there was an underlying pathological psychic structure that had to be addressed²¹.

For fifteen years both centers remained isolated from the mainstream drug treatment sector, which was reticent to use any medication. At any one time, the two centers never held more than twenty patient beds. The Pelletier Report mandated by President Valéry Giscard

²⁰ In 1995, the Code of Medical Ethics allowed the Order of Physicians to sanction doctors who do not provide pain management. This French stance towards pathos needs to be explored in relation to its rate of medicine consumption, the highest in the world.

²¹ This critical view of methadone's utility did not prevent the St. Anne group from using psychotropic medication to treat the underlying psychiatric disorder, as contradictory as that may seem. The French methadone experiments were in fact conducted by the forerunners of French biological medicine.

d'Estaing in 1978 decreed the experiment a failure, while legitimizing the French psychotherapeutic model²². The centers continued to operate. The center researchers themselves never really pushed their modality (Bergeron 1998) . But they rejected "American methadone" as a biological modality for a non-biological illness; and as a mass-produced, sloppily administered treatment that resulted in diversion of methadone to street use (Gomart 2002).

The local invention of substitution treatment

The missing pieces in this analysis of the pre-buprenorphine era are the general practitioners. Buprenorphine's irony is that it existed as an object of pharmaceutical leakage long before it was marketed as a treatment for drug addiction in France in 1996. In fact, buprenorphine for substitution treatment²³ was "invented" by drug users and their primary care physicians first.

Along with the professionalization of the drug treatment sector came segmentation of service providers into essentially two groups: the new *psy* specialists (psychologists, psychiatrists, social workers in the CSSTs) and the increasingly isolated general practitioners (GPs).

Psychologization of problematic drug use had limited the role of the non-psychiatric physician to either supervision of the center or somatic treatment of drug related and other conditions. Many retreated into their free-standing medical offices. But their role was not contradictory to psychoanalytically oriented treatment, for "psy" specialists saw themselves as working with the symbolic realm and leaving to others the realm of the "real" (the somatic,

²² "After a four year trial, the research teams at both centers have come to similar conclusions: they reject the model of prescribing methadone that is practiced in the United States and Holland, and they express caution about extending this method" . Monique Pelletier, cited in Bergeron, 1998, pp. 92-3.

²³ French practitioners prefer the term "substitution" to "maintenance", as a way of differentiating short term use of buprenorphine in withdrawal from opiates from its longer term use to control the craving for heroin . The shift in terminology needs to be explored.

the social). Bergeron argues that this set-up allowed specialists to maintain their normative practice, by relegating to GPs those needs (social, medical) that might have challenged their model (Bergeron 1999). In sociological terms, we could say that specialists let GPs do the dirty work. At the same time, however, the drug treatment centers became hermetically sealed worlds, through both self-selection (motivated patients who knew what to expect) and exclusion of difficult cases.

By the 1980s, the drug scene had changed radically, but the specialists, catering to choice patients, remained oblivious, unlike GPs. Middle class experimentation subsided from view; *héroïnomanes* became the real losers (*paumés*) among an already marginalized youth in the low-income neighborhoods. The *Trente Glorieuses* – France's postwar economic boom – eroded before high unemployment, particularly among young adults; deindustrialization; job insecurity (half of all new jobs created were short-term); an eroding *état providence*. Second generation immigrant children faced discrimination regardless of their education level (Tribalat 1995) as the spatial segregation of the *banlieues* reproduced the growing economic divide. *Toxicomanie*, in the public view, was increasingly associated with poverty, violence and immigration.

Without the possibility of obtaining medication from drug treatment centers, heroin injectors turned to inexpensive over-the-counter codeine-based cough medicine when their opiate of choice was unavailable. According to a pharmacy survey, on a given day 94% of this medicine was used for conditions other than what was legally indicated, the implication being by drug abusers. (That drug treatment specialists tolerated this practice is suggested by their opposition to a government attempt to designate this medication as a controlled substance). And the great majority of *toxicomanes* seen by general practitioners (with, by the

way, no training in the dispensation of psychotropic medication) were requesting psychotropics (Binder 1994).

General practitioners began prescribing, clandestinely and against medical indications, morphine products to their *toxicomane* patients. Jean Carpentier, an activist and general practitioner who today sits on the national narcotics commission, claimed to have used opiates to treat symptoms and "addictive behavior" of toxicomanics since the early 1970s (Carpentier, et al. 1994). These practices constituted pharmaceutical leakage, or prescription for uses other than those authorized. Doctors were pursued in court by the French state. Some hospitals also used synthetic opiates to treat withdrawal and symptoms of drug use, unbeknownst even to the specialists. When a low dose version of buprenorphine marketed as a post operative and more general analgesic (Temgesic®) became available in the late 1980s, it, too, was prescribed to *toxicomanes*. And when the status of Temgesic® as an ethical drug shifted from hospital prescription only to outpatient use, but under strict regulation as a narcotic, many doctors protested the absence of any medicalized treatment for opiate dependency, especially of methadone. Later sales of Temgesic dropped, and heroin users switched to long-acting analgesics like morphine sulfate [l'INSERM, 1998 #32] . But by the time high dose buprenorphine (HDB) was officially introduced in 1996, many heroin users were already familiar with the leaked, low dose version .

A French exception?

In retrospect, we now know that the epidemiology of drug use was changing in two major ways. Social workers, community workers²⁴, GPs - in short, those social actors not locked into the self-reproducing, relatively hermetic world of specialized treatment centers, - encountered a new type of drug user: socially marginalized, in extremely poor health, living in densely populated, low-income peripheral areas of large cities (euphemistically called *les banlieues*, connoting at once immigration, youth, and poverty). By 1989, the AIDS epidemic affected drug users disproportionately. Over one-third of intravenous drug users were HIV positive and 18% of AIDS patients were intravenous drug users. But both the French state and the specialist drug sector were slow to respond. French officials and professionals greatly underestimated the severity of the AIDS pandemic (Setbon 1993)²⁵. And the simplistic equation according to which the AIDS epidemic brought about drug treatment reform is contradicted by detailed media analyses revealing the inertia of psychiatrists and health officials before sick and dying heroin users at the time (Coppel 1996)²⁶. Not until 1992 did the Ministry of Health release methadone from its experimental status and until 1995 rigid eligibility criteria more-or-less inhibited its treatment use. Similarly, over-the-counter purchase of syringes, without the presentation of ID cards, was officially decreed in 1978, but for various reasons became effective only after 1993, as we have shown elsewhere (Feroni and Lovell 1996).

²⁴ Decentralization, a major sociopolitical transformation of French society in the 1980s, allowed “local actors”, such as social workers and humanitarian NGOs, to play a major role in developing a hybrid discipline and field of action, that of *sida-toxicomanie* (Lovell, Anne M., and Isabelle Feroni 1998 *Sida-toxicomanie. Un objet hybride de la nouvelle santé publique. In Les Figures Urbaines de la Santé Publique. D. Fassin, ed. Pp. 203-238. Paris: La Découverte.*)

²⁵ Michel Setbon and Henri Bergeron analyze, from a Crozierian perspective of institutional dysfunction in bureaucracies, the difficulties of establishing an adequate response to AIDS or to the drug crisis within. It is useful, though, to recall that Crozier considered his sociology of bureaucracy the ethnography of a particular kind of bureaucracy – the French system! (Crozier, Michel 1963 *Le Phénomène Bureaucratique. Paris: Le Seuil.*) Bergeron weighs two hypotheses: the unawareness of a psychologized drug treatment sector turned in on itself, and the corporatist interests. While he evokes some of the same factors found in Setbon's analysis of the contaminated blood scandal, he also suggests that that scandal may have spurred the DGS to finally implement methadone and other AIDS prevention techniques.

²⁶ This equation is implied in Bergeron's otherwise excellent study.

Ultimately, the conception of substitution treatment activists promoted from the trenches, coupled with "foreign influences", challenged the dominant French opposition to medicalized drug treatment. GPs and hospital doctors, some aware of harm reduction practices (needle exchange, low-threshold methadone, etc.) elsewhere, joined AIDS and drug treatment activists and non-governmental organizations such as Doctors of the World to promote substitution – as HIV prevention, not as long-term treatment. Advocates drew on the results of dispersed “natural experiments”, whereby physicians in Belgium and certain parts of France had, mostly illicitly, successfully used buprenorphine for withdrawal and dependency management. And, noting France's "backwardness" (*retard*) in the area, the World Health Organization's Europe section and the European Union began lobbying France in 1988 to introduce methadone and prevention measures. Yet practically no centers were developed for several years. Early proposals from NGOs and others to implement low threshold methadone (ie as a risk reduction tool, with liberal inclusion criteria) were rejected by the Ministry of Health. ANIT came around to supporting risk reduction in 1994. After years of activism (see the first-person account by the sociologist and activist, Anne Coppel ((Coppel 2002)), and the personal involvement of two cabinet ministers²⁷, the strict criteria for methadone clinics were dropped in 1995.

Approval for commercializing high-dose buprenorphine (the *autorisation de mise sur le marché*, or AMM) for opiate addiction treatment was authorized in 1996, before the completion of the appropriate clinical trials (namely Phase III) mostly held in the U.S.²⁸ The

²⁷ The conservative, Simone Weil, a concentration camp survivor open to humanitarian arguments and the socialist Bernard Kouchner, himself a health activist, media figure and former president of Doctors of the World.

²⁸ Schering-Plough acquired this authorization before the end of the clinical trials process and trials on outpatients. Studies showed that subjects taking the molecule in certain doses reduced their injection of opiates during the first ten weeks of treatment, but the follow-up period was limited to 26 weeks. The FDA extended the trials to 52 weeks (excluding subjects who had already dropped out), but in France the molecule was approved before results became available (Groupe de travail de l'INSERM, 1998 Evaluer la mise à disposition du Subutex pour la prise en charge des usagers de drogue. Paris.)

French laboratory commercializing buprenorphine had already been in contact with the National Institute of Health. Also, problems concerning leakage of buprenorphine onto the illicit market and of its injection, particularly in Great Britain, were already published in the scientific literature. The authorization indicates HDB as a “global treatment”, that is, for “major pharmacodependency on opiates within a framework of medical, social and psychological care”. It is deemed appropriate for two types of heroin users: those for whom detoxification has failed and those already being treated with 0.2 mg sublingual tablets of buprenorphine (precisely the dose of the illegally prescribed Temgesic®)(Schering-Plough n.d., p. 41) . Emphasis is placed on non-coercive treatment (the patient should be voluntary, urine tests are useful but should not be imposed...). But why buprenorphine and not methadone? Methadone is cheaper, at least in the European Union, but carries the risk of overdose and inhibits parallel heroin use (but not of other drugs, like cocaine). Still, most medicalized drug treatment elsewhere in the European Union involved methadone (2002 April 15).

One explanation to the French exception is rejection of American models. To many drug treatment specialists, methadone reeked of American pragmatism and consumerism, although the experimental centers did develop a "French methadone" (Gasquet, et al. 1999; Gomart 2002). (Later on, harm reduction methods were also critiqued as “American pragmatism”. See (Lovell and Feroni 1998)). A second possibility views HBD as a “gift” extended to French GPs for early role in treating heroin users, in the midst of the AIDS epidemic, at a time when public authorities continued to view drug users as delinquents, rather than as objects of public health policy. (Several informants specifically stated that the AMM was either the satisfaction of an conditions posed by the GPs (an *exigence*), a “gift” offered in return for their years in the trenches. A government mandated study estimated that in 1992, four years before

medicalized drug treatment, general practitioners were seeing 200, 000 *toxicomanes* a year(Charpak, et al. 1993).

Another hypothesis for the way in which HBD treatment came about in France lies in the particular status of French GPs and in accessibility to health care. A brief explanation of this French health care system may clarify this. France benefits from a national health insurance (NHI) system, the *Sécurité Sociale*, that covers the working population and their dependents. In accordance with the principle of *solidarité* (mutual aid) that underlies much of French policy and politics, the non-working poor are covered by a Universal Health Coverage (CMU), implemented in 1999 to replace local health insurance arrangements for the economically marginal. (A solidarity tax on income from wages and capital, the Contribution Social Généralisée (CSG), covers about 30% of government health care expenditure).

Unlike national health systems (e.g. Great Britain, Denmark), French patients are theoretically free to choose their physicians, although this may change²⁹. But while the CMU theoretically guarantees health care to everyone, the lack of complementary insurance (which 8% of French lack) for outpatient care limits accessibility to physicians willing to accept state-set rates of payment for services and hence creates social inequalities in health care.

Outpatient health care is mostly private, and private practice physicians are reimbursed by medical act. Health economists note that in such a situation, physicians tend to multiply the number of medical visits, as a means of increasing income (Palier 2004). Medical visits involve also involve high levels of prescriptions for medicine. The pharmaceutical industry lacks control on price setting, but incites high prescription levels by physicians through its

²⁹ As this paper goes to press, the French health system is moving towards a form of state-managed care which will impose the general practitioner as a gate-keeper to specialized care and require patients to pay one euro towards the cost of medical visits.

company representatives and usual gifts (such as paid conferences, free computers, etc.) (France ranks first in the world in the number of prescriptions per inhabitant (Palier 2004)). Finally, French physicians, who consolidated an unusual amount of authority during the early 20th century, continue to successfully resist any threat to that authority, including through computerized micromanagement and monitoring³⁰.

Currently one out of five GPs prescribe Subutex. (QDM 1999). HDB provides GPs the opportunity to increase their clientele, the only way of increasing their income. Regardless of why it is prescribed, and HDB prescription builds in the multiplication of medical visits because it must be renewed at regular intervals (at most, 28 days). The way in which HDB has been introduced in France also transforms drug dependency from an acute disease model (the medicalization of drug withdrawal, the response to emergency situations) to a chronic disease model. In fact, French health care administrators deliberately chose the term "substitution" over "maintenance" to differentiate long term use of buprenorphine or methadone to control the craving for heroin from short term use to manage withdrawal. This economic reasoning is reinforced by the fact that French physicians are paid less than their European counterparts (including British). They are acutely aware that their salaries rise more slowly relative to other socio-professional categories in France and that their economic power has eroded (Hassenteufel 1997)³¹.

But lest we be tempted to read into the development of HDB in private office-based medical practice a mere neo-liberal tinkering -- a strategy to shift costs from state-funded

³⁰ Despite its excellent health care system and general access to care, France has some of the most severe health inequalities in the so-called developed countries, with far lower life expectancy for workers than managers, and higher death rates among manual workers than non-manual workers, to cite only two examples. Furthermore, these health inequalities have increased in the last decade. (Leclerc, A., et al., eds.2000 *Les inégalités sociales de la santé*. Paris: Ed. La Découverte/INSERM).

³¹ This certainly explains the wave of strikes by GP unions in the past few years; only in 2002 did the cost of a visit rise from € 17.53 to €19).

(methadone) centers to the market-driven, private health sector -- it should be pointed out that what changed is the part of the state machinery that foots the bill. GP visits, and most of the cost of medication, is covered by the state medical fund. On the other hand, GPs, it seems, presented (to extend Claude Bernard's metaphor) a "favorable terrain" for buprenorphine. In 1995, before the commercialization of buprenorphine, a random telephone survey of GPs in the four regions with highest rates of *toxicomanie* estimated that almost two-thirds GPs saw *toxicomanes* in their practice, and 14% treated at least 10 a year (Bloch, et al. 1996). Almost half of them prescribed low dose buprenorphine (Temgesic®), although such acts were illegal (not indicated in the AMM)³². Another stud found that GPs with little experience in treating *toxicomanes* discriminated against them (Moatti, et al. 1998).

The other explanation lies in Schering-Plough's pro-activism. Observers insist that the pharmaceutical industry's symbiotic relationship to the French public health system is (again) a French exception. The usual suspects, medical visitors (reps), are implicated in France's status as the highest consumer of psychotropics and of all medications in Europe³³. Until recently, France's continuing medical education, not required for physicians, was offered by the pharmaceutical industry. The industry is heavily represented on the expert committees that approve the marketing of pharmaceuticals (because, experts claim, there is so little expertise to go around, and publicly funded researchers are "necessarily" funded by the industry³⁴);

³² See also : Clary, François PrévotEAU du 1999 Drogues, médicaments, substitution? Le médecin qui prescrit s'est-il fait une raison? In Les médecins doivent-ils prescrire des drogues? F. Diderot, ed. Pp. 52-64. Paris: Presses Universitaires de France.; Carpentier, Jean, ed.2000 Des toxicomanes et des soins. Paris: L'Harmattan. Leakage of Temgesic® was tolerated, although police often confiscated the medicine from patients during identity checks and the Order of Physicians sanctioned Carpentier.

³³ Twenty per year per person per annum, versus 8 in Great Britain and 14 in Germany. (Kervasdoué 1999)

³⁴ Patrick Lemoine, a leading French biologist specialized in psychotropics, responded thusly to the question of independence of experts on the AMM commissions: "The place and independence of experts and members of the commissions (AMM, Transparency) including, for a long time now, myself – all of us are voluntary – are never guaranteed. The only security is a declaration made to the Agency of possible ties to the laboratories; it is also forbidden for the presidents and vice-presidents of the two commissions to have financial ties to the industry, which for them is equivalent to suicide, as far as the possibility of research in their department or laboratory goes. You can understand why no one rushes to volunteer and why the position of vice-president of the Transparency Commission has been vacant for many months. Otherwise, it is the ethic and morals of each

the complicated negotiations with the industry have until recently involved tradeoffs between approval of a product, substitution of high prices, or refusal to schedule a potentially dangerous medication, on the one hand, and the establishment of production sites – jobs – in France (Cahuzac 1999). Schering-Plough was able to acquire approval for marketing high dose buprenorphine following only limited clinical trials, which prompted the DGS to name, in collaboration with the company, a commission shortly afterwards, to propose research questions³⁵. In the late 1990s, Schering-Plough continued to add new jobs annually in France (QDM 1999), in a period of continued deindustrialization for France, and of loss of jobs in the service sector, food industry, cosmetics, and other non-industrial areas to global competition. The jobs-for-authorization process must be interpreted in relation to France's activist medical profession and the fear that pharmaceutical companies will simply move abroad (Kervasdoué 1999).

Pharmaco-association: incorporating buprenorphine into everyday practices

Between the newly legitimized context in which HDB is prescribed and purchased and the everyday social spaces in which it is consumed lie mediating processes. Both medical prescriptions and pharmaceutical leakage, the one sometimes facilitating the other, allow buprenorphine to move into these new spaces. But the consumption of this pharmaceutical is not an automatic act of compliance with a medical order. It is incorporated into a preexisting nexus at once material, symbolic and social.

member that constitute what you call a guarantee [of independence]. The position is hard for experts who need financing for their [groups] and have hardly any alternative to industry financing because the official public organisms, like INSERM, rarely finance pharmacological studies. The only solution is to create a new national agency financed by industry and mandated to carry out studies in total independence. That would be a revolution" (2001 Médicaments psychotropes: le big deal? Revue Toxibase. Pp. 2-12.)

³⁵ *Evaluer la mise à disposition du Subutex® pour la prise en charge des usagers de drogue*. Rapport réalisé sous l'égide de l'INSERM dans le cadre d'une convention avec le Secrétariat à la santé, Direction Générale de la Santé et le laboratoire Schering Plough. Juin 1998

Materially, buprenorphine distinguishes itself from street drugs such as heroin that it replaces, or cocaine with which it is combined. The modern pharmaceutical, synthesized and sized for maximum efficacy, contrasts with the indeterminacy of the effects of these so-called street drugs. Part of the risk involved in illicit drug consumption is the difficulty with such qualities as pureness, strength or toxicity of the substance can be grasped. But even the effects of the modern pharmaceutical are never perfectly harnessed, in particular once it circulates outside of the laboratory. Its real efficacy is an abstraction, whose truth can be arrived at only by factoring out the symbolic, psychological, environmental and other factors from the overall effect, or remedy – a virtually impossible task³⁶. (In purely material terms, think of the litany of side effects that accompany powerful pharmaceuticals). Hence, the material and the symbolic are inextricably bound up in one another.

In a social sense, the work of drug consumption is enabled by a particular type of relationship, which it in turn contributes to building and perpetuating. These social ties are not necessarily the only or defining ones for drug users. They are not equivalent to the coming together of users in self-help groups and drug use advocacy groups. While these became particularly visible in France around issues harm reduction – although they date earlier back in other countries -- they touch but a minute proportion of drug users. A closer look at the work of drug consumption will clarify the differences in social ties.

³⁶ The modern pharmaceutical shares, though to a lesser degree, this indeterminacy with the older remedies, taken directly from flora and fauna, rather than synthesized chemically. François Dagognet expresses this through the following equation: $a = x - y$ where a stands for the global effect of the remedy, x for the real effect, and y for symbolic, psychological and other non-material effects (Dagognet, François 1964 *La raison et les remèdes*. Paris: PUF.) To the latter, we can add such variations as temporality, the physical body that receives the remedy, the imaginary. Even the sophistication of modern psychopharmacology (for example, through the use of statistical reasoning that allow for unknowns) can only reduce the degree of indeterminacy. In Dagognet's words, "[The alleged remedy corresponds] to an "non-existent" and an authentic fiction. It is but the remainder after subtraction, it cannot be presented as a veritable remedy because, were it administered or injected, it would give effects that are superior or inferior than expected, for the simple reason that he who gives it just as he who receives it would charge it either with their distrust or with their redemptory enthusiasm. Once a remedy is given out, it necessarily loses its beautiful neutrality, its clear objectivity" (p. 42).

The placing of a used syringe in a needle exchange automat in Marseille or a Paris suburb to procure a sterile injection kit, the dissolving of a buprenorphine tablet so that it can be injected, the awareness of how much a substance costs in which neighborhood and for whom all mobilize bits of knowledge and experience appropriated by drug users through their interactions with others. In these acts, Becker's (1973) well-known observation that the consumption and experiencing of drug effects depend on skills acquired through shared learning exhibits its full force³⁷. But despite his constructivist interpretation of drug use, Becker ultimately adopts the essentialist position that the effects of "hard drugs" like opiates override the possibility of constructing their use (Becker 2001). In contrast, I claim that bodily bricolage - the alteration of mental and physical states, of pleasure and pain with the tool kit of substances, sounds, instruments, atmosphere - involve competencies arrived at interactively. I call this social harnessing of bodily knowledge around the consumption of a specific type of substance and through specific social relationships, which enable and permit its effects, the *pharmaco-associative*.

The notion of the pharmaco-associative is grounded in a basic sociological distinction. In the first part of *The Theory of Social and Economic Organization*, Weber opposes "association" (in French: *sociation*)³⁸ to communal sociability. This latter emerges from a pre existing identity or sense of belonging to some whole. The "associative", on the contrary, emphasizes the *rational* dimension of ties. This abstract opposition is useful in allowing us to differentiate between two ideal types of social relationships alluded to. The first are pre-

³⁷ See Gomart's commentary on Becker's 1973 essay (Gomart, Emilie 2002 Methadone: six effects in search of a substance. *Social Studies of Science* 32(1):93-135.

³⁸ In other words, the French term *sociation* and the English term association are both used to translate Weber's notion of *Vergesellschaftung*. Talcott Parsons, the editor and one of the translator's of Weber's volume, notes that neither "society" nor "association" translate adequately the German term. (See editor's footnote in Weber 1964). For this reason I have chosen to use the less awkward "associative" in English.

organized through a commonly felt identity as a drug user and adherence to a belief, such as the right to consume mind and body altering substances (activist drug groups such as ASUD in France and Junkiebond in the Netherlands) or, for older groups (like Narcotics Anonymous) the importance of confrontation among users in moving towards abstinence). The second type of social relationships operates through mutual consent or conventions between social actors concerning the different steps involved in drug acquisition and consumption (what I am calling work, which implies at once the work of culture and of social interaction).³⁹

The *pharmaco-associative* draws also on insights concerning the first part of this hybrid term, the *pharmakon*. I am suggesting that the particularity of the social relationships is linked to the very nature of the substances involved in both medicines and in the passions, risks, annihilation, and numerous other possibilities of non-medical use. In a recent discussion on illicit drugs, the philosopher of science and physician François Dagognet elaborates on the well-known Platonic idea of the endless variants, manipulations, and uses to which the material substance opens itself (Dagognet 2000). The Greek root *pharma* refers to remedy and poison, medicine and drug, a substance that can both alleviate and kill, excite and calm⁴⁰. What distinguishes a good substance from a bad one is not inherent to the substance itself, but depends on the effect sought, the quantity taken, the means of administration, the frequency of the practice, the context, individual vulnerability, all of which is highly symbolized.

³⁹ I am aware that pharmaco-associative bears a family resemblance to Paul Rabinow's notion of biosociality (Rabinow, Paul 1992 *Artificiality and enlightenment: from sociobiology to biosociality*. In *Incorporations*. J. Crary and S. Kwinter, eds. New York: Zone Books.. But the latter, in my reading, pertains more to the "communal" side of solidarity. When biosociality becomes an adherence to groups whose members "have" similar conditions, it seems to trade nature (a common bodily affliction or genetically transmitted risk) for culture (social groups founded on different types of social action).

⁴⁰ Dagognet quotes Claude Bernard, for whom this principle is fundamental to modern medicine. In his 1883 treatise, *Leçons sur les effets des substances toxiques et médicamenteuses*, Bernard writes: "that substance which is a medicine when it comes in a small dose can become a poison in a higher dose or because of an untimely administration."

The ability to differentiate between poison and remedy, to dialectize these two poles of the *pharmakon*, greatly depends upon the lay knowledge and scientific knowledge that circulate among drug users. Indeed, it is a necessary foundation of their consumption practices. They may know that buprenorphine is prescribed to counter the craving for heroin, but also that it gives one a “*petite défonce*”, a safer one than heroin, when taken in small enough doses, or that it helps "come down" after injecting cocaine. Cocaine will be sniffed or injected to get high, but can be inhaled before going to the dentist, much as someone else might take a tranquilizer. Prozac circulates in local drug markets for its short “speedy” effect, but will be requested from a doctor by someone stuck in a tunnel of depression. “Rups” (Rohypnol, a nervous system depressant⁴¹) helps one man sleep at night, while his former injecting partner gobs forty at once. Knowledge and value judgements about the multiple uses of a given substance emerge through trial and error, as well as through the indigenization (Kleinman 1980) of pharmaceutical knowledge, the interweaving of the expertise of health practitioners and information from the *Vidal* (the physicians' desk reference of medications) into popular realities. And both illicit substances and medical ones are highly symbolized. Buprenorphine is reputed by drug users to be a highly addictive drug, associated with marginality; ex-users sometimes see those on buprenorphine as “weak” (as compared to, say, those who go through the highly regulated methadone treatment protocol). “Rups” are looked down upon as “poor man’s heroin” (buprenorphine sometimes has this name) and as a rape drug. Heroin and cocaine come and go as chic. The “natural” or *bio* (in French) reputation of a drug, or the machismo associated with it, its hardness or gentleness, its aggressiveness or generosity, are also linked to other highly symbolically charged phenomenon: places, music, visuals,

⁴¹ Publicized as the "date rape" drug because of its amnesic effect. French physicians sought to have this medication withdrawn from the market, with no success.

syringes⁴², gender play, style⁴³. Knowledge of the pharmakon is largely tacit, passed on from one user to another, verbally, through modeling and otherwise.

The work around drug consumption in the context I have studied resembles the largely tacitly-learned skills of cooking. Some of the same terms are used in drug preparation as in cooking: “cooker” (English) or *gamate* (marseillais) for the container in which the substance is heated, for example. Users sometimes refer to the preparation of the drug as “*ma cuisine*”. The buyer or consumer of heroin relies on color, taste, feel, and smell to indicate how good the drug is, just as a skilled cook feels, weighs in her hands, or smells the fresh produce she will work with. The injector complains about the way HDB coagulates, or “brown” heroin smells, just as the seasoned cook finds that light cream heats to a different consistency than thick cream, or that ready-made mixes have a different after taste than food made from scratch. Drug injectors, like cooks, eyeball amounts of ingredients that are mixed together. A drug injector in the know estimates by how much the heroin should swell once water has been added, just as a cook knows what dry rice will give once it is boiled.

This savoir-faire is passed on from user to user, as from cook to cook. Just as parents might (at least traditionally) transmit cooking skills to their children, an older drug user usually initiates a novice⁴⁴. Of course, cooking can be learned from books and video-tapes. Thus, novels, music, video, film and even the packaging and advertising of consumer products expose drug users to the pleasures and danger of various substances. Knowledge about drugs,

⁴² Older male users in Marseilles refer to the syringe as “my woman”. Some explicitly describe injection in the same terms as sexual penetration.

⁴³ During the period of my fieldwork, synthetic drugs like ecstasy and MDMA were considered middle class by poorer heroin and buprenorphine users. Buprenorphine was nevertheless consumed in the rave and free party atmosphere dominated by synthetic drugs.

⁴⁴ But in Marseille, according to drug users I interviewed in largely Magrebin neighborhoods, *grand frères* never used to initiate *petits frères* to hard drugs. Brotherhood here should be taken in the large, often fictive kin sense. Older heroin users deplore the disappearance of this code among the younger ones.

of course, even among users, is unevenly distributed, but then not everyone is familiar with food preparation or what tastes to expect.

The *pharmakon* and its circulation emerge thus as a central operator "tying" individuals to one another, that is, building the pharmaco-sociative. In the *longue durée*, the same psychotropic moves in and out of grace, now valued for its appeasing qualities, now demonized as illicit pleasure; now domesticated in the family medicine cabinet, now smuggled into dens and dance halls. (Bachmann and Coppel 1989; Courtwright 2001) . And at a global level, the same substance is incorporated into very different regimes of meaning⁴⁵. But at any one moment, the frontiers between "good" and "bad" substances are blurred, subject to diverse economic and moral interests and political climates (Ehrenberg 1996)⁴⁶. These boundaries, too, are already embodied and voiced by drug users themselves.

This moral status of drug consumption is affected by the pharmaco-associative, including through the means of procuring and using drugs. Illegal drugs, because of their cost and the secrecy and stigma that law breaking imposes, require banding together around a "plan" to obtain them. The user is necessarily caught up in a network of exchanges with other users. Energy must be expended into avoiding being caught. Furthermore, the composition of illegal street drugs is rarely certain, as testers realize⁴⁷ . Hence, "trust" and one's "word, built through social interaction, are necessary dimensions to drug purchasing⁴⁸. Of course, trying the drug

⁴⁵ Throughout history, these substances are caught up in much larger relations of power, economy, and the social imaginary (Courtwright 2001), but that history seems to have been written mostly from the Western point of view.

⁴⁶ Or, as Joe Dumit pointed out in response to the oral presentation of this paper, enhancement is the site of ethics, prompting scientists and policy-makers to declare pharmaceuticals safe and illegal drugs dangerous and neurotoxic.

⁴⁷ Various voluntary associations test street drugs. This is particularly so in « raves », « freeparties » and other collective events where synthetic drugs are present. Testing fits the harm reduction paradigm, in that it reduces the risk of unwanted effects from cut (impure) drugs ; critics claim it increases the risk of drug consumption by banalizing if not medicalizing it. .

⁴⁸ Amina Haddoui, unpublished manuscript.

out is the ultimate test, and many relationships of trust are breached, in public displays of conflict, when the "word" or recommendation of a go-between or friend contradicts the experience of the product once it is consumed. Buprenorphine, on the other hand, as we shall see, depends less these contingencies: its purity is guaranteed, its accessibility requires fewer drug network members if any, its legality can be argued. But the illicit market into which it leaks is not a *tabula rasa*.

The secret life of pharmaceuticals: leakage, diversion, dirty commodities

Let us return now to the substance that is circulating: the molecule become commodity become ethical drug in the doctor's office and legitimate remedy in the family medicine cabinet. But it has a secret life as well, a Mr. Hyde for its Dr. Jekyll⁴⁹. The two lives are linked through leakage from the legitimate market of addiction pharmaceuticals to illegitimate addiction markets. Leakage happens through the prescription of the medicine for non-indicated conditions and/or the diversion of licitly prescribed medicine to others than the patient. It connects the doctor's office or the pharmacy with networks of drug users who can diffuse the product and knowledge about it. The leaked substance travels thanks to the pharmaco-associative: the indigenous transmission and elaboration of knowledge about psychoactive substances, and the ongoing interaction and ensuing social organization of the drug users themselves. When diverted from the pharmacy or the holder of the prescription to the market where drugs are sold illegally, an ethical medicine becomes a dirty commodity⁵⁰.

⁴⁹ Thanks to Ilana Lowy for the analogy.

⁵⁰ Leakage is neither new nor limited to opiates. Agar (1977) described the phenomenon in relation to methadone clinics in the 1970's, but attributed the illicit sale and use of methadone to the street scene around the clinic.

Field observations and interviews in Marseille provide a window on how the leakage from substitution treatment has further embedded injection drug use within an isolated behavior set⁵¹. Drug users paradoxically incorporate HDB into their lifestyle, along with other legal and illegal substances. Some practice “medical nomadism” (The French term is "doctor shopping", a practice that has been attributed to the freedom to choose one’s physician, hence not limited to HDB) to obtain large quantities; it is not unusual for a spouse or parent to seek out HDB prescriptions s/he will then pass on to the partner or child. But nomadism covers a far more complex reality than first meets the eye.

An example illustrates how an addiction pharmaceutical travels from the treatment setting to the local drug market, where it becomes a (relatively precious) illegal commodity. Zé told the doctor he and Akim go to that Akim had stolen his supply of HDB, a typical ruse. Akim and Zé compete in the same neighborhood selling their prescription drugs. The doctor stopped Akim’s prescriptions of HDB and other medication, effectively eliminating him as Zé’s major competitor on the small-time local drug market. The next doctor Akim sought out took precautions, trying to explain how HDB affected his hepatitis C, but Akim lacks the cultural capital to understand such abstractions. After all, prevention and the panoply of care that precedes downright emergency treatment is a luxury he and many others never benefited from while growing up. A third doctor wouldn’t see him because he was late for his appointment. Still another doctor sent him to a social worker, but following through on Akim’s application for disability benefits was beyond his (and probably the social worker’s and doctor’s) psychic energy level. And so he wants to try the first one again. He doesn’t understand why his body is swollen like that of the old alcoholic man next door, or why doctors keep cutting off his HDB (surely they know how easily he can get it) or why he can’t get a straight story on his

⁵¹ I am not concerned, here, with patients who use buprenorphine in keeping with the tenets of "good practice". My observations included such patients, but my point here is to examine the less often studied underside of medication consumption.

abscesses and infections and why women avoid looking at him. He's caught up in a vortex of HDB injections and cocaine injections, spending more and more time in his room. His mother just spent hard-to-come by money to put bars on the windows so, she said, he couldn't sell pills out of the house. Unable to stop up the holes in his life, to get adequate responses to his problems, Akim burrows further and further into isolation. The irony here is that HDB does indeed reduce harm – the harm he experienced before as a small-time heroin *rabatteur* and big-time injector, constantly fearing withdrawal, going to prison again, incertitude, and precarity even beyond what he lives with now.

Observing and listening to how drug injectors think about and use HDB reveals different ways in which users incorporate it into their private lives. Whereas the product is a molecule conceived as a substitute for heroin, for the drug user it replaces much more than a neurophysiological mechanism. Someone who is dependent on heroin may feel that neither methadone nor HDB, either by themselves or in the dose or form in which they are available, make her feel really better. Because they are absent, they keep the product from making her "feel better", at least in her view of things. For example, she may not be receiving the time or attention wanted from a physician, or his lack of cultural capital make it next to impossible to understand what the doctor says about his tri-therapy, substitution with buprenorphine, and treatment of Hepatitis C⁵². She may not be up to following through the social worker's application for indemnities, which both the social worker and most ordinary citizens find mind-boggling. His poor living conditions or strained personal relations with family and neighbors may make him depressed, and less accepting of substitution. The immediate risk here is "not feeling better". He may then smoke joints, sniff cocaine, or use a prescription

⁵² Luc Boltanski long ago introduced the notion that cultural capital reproduces, along with other forms of capital, social and bodily inequalities in health. More privileged patients share with their physicians both the same bodily habitus and the language and everyday knowledge for describing it. Lack of this cultural capital in poorer patients creates poor doctor-patient communication, with nefarious effects on treatment and thus health (Boltanski, Luc 1971 *Les usages sociaux du corps*. *Annales. Economies, Sociétés, Civilisations*. 1:205-239.)

drug such as a benzodiazepine, or inject (as opposed to orally consume) buprenorphine, for example -- to buffer the "bad feelings" or to give a "*petite chaleur*" or to more effectively reduce opiate craving. Reducing the risk of feeling bad, then, is somehow balanced against the other risks incurred, such as the psychological dependency on "the needle" or the abscesses caused by buprenorphine injection.

On the other hand, some inject HDB in an attempt to "normalize" or "mainstream" their private life. Persons who self-medicated with injected HDB mostly injected the product by themselves, while heroin injection had been part of a group act. (There were some exceptions. For example, a woman normally injected HDB with her partner, who shot up heroin). They might inject HDB at work, or in the family bathroom, or in other everyday spaces, whereas heroin injection was most commonly done in cars, cellars, or other hidden quasi-public spaces, and less commonly in apartments or at work. HDB injectors reported a more limited number of reactions: "I felt normal", "I was no longer craving" ("*en manque*"), "I felt nothing special", "*y'a pas de montée, y'a rien, hein*") whereas they described their responses to heroin with a broader array of terms that included "wasted" ("*défonce*"), "the best feeling I had ever had", "great", "sick", etc. Buprenorphine injectors describe what they do after injecting in terms of everyday routine: "I watched TV", "I was with the family, you know", "I went to work", "*la télé, puis le lit*" ...

But the social uses of HDB also break down the social dimension of the pharmaco-associative. In recent years, HDB has become a drug of choice for injection as the availability of cocaine in has edged out heroin. [Did heroin disappear from market as HDB was introduced? Or did introduction of HDB make heroin less attractive?] (HDB , as was mentioned earlier, is injected for the "*descente*" from cocaine, just as heroin and other drugs

used to be). When HDB is transformed into a commodity in the local drug market, it often bypasses the social dimension of earlier drug exchanges. HDB, like Rohypnol® is a far easier drug to sell than heroin or cocaine, with some advantages as to harmful side effects. The standardization of the dosage and the assurance provided by commercial packaging reduce the need for harm reduction work to avoid bad effects; the purity better assures the drugs' efficacy. Hence, a user's dependence on pharmaceutical knowledge tacitly transmitted or on the seller or intermediary's "word" that before him is the real thing, becomes less important. Obtaining the product, even on the street, involves little effort. The seller and the buyer are often protected against arrest by the fact that they can always claim they have a prescription. With less fear of the police and little need to pool enough money or think up a "plan" to purchase an expensive drug, inter-group cooperation among buyers loses its importance. In other words, the user can consume a product such as buprenorphine (or benzodiazepines, Rohypnol, or any number of other commonly illicitly used medications...) with relatively little mediation of other people, making the consumption an individual affair, rather than a part of the *pharmaco-associative*.

To what extent is the secret life of this commodity known to the pharmaceutical industry, the physicians or the state health agencies? The national health fund (CNAM), which pays for most prescriptions, estimates that 21 to 25% of these directly supply the illicit market and 6% of patients receiving prescribed HDB engage in important trafficking of it (Cadet-Taïrou and Cholley 2004 (in press)) The national surveillance center on drugs and drug abuse (OFDT) suggests that one-fourth of all HDB patients are receiving "irregular prescriptions" (Cadet-Taïrou, et al. 2004). In our own street study in Marseilles, 41% of 91 current injecting drug users stated that they "self-substitute" with HDB, a practice highly associated with risky injection practices for contamination with HIV or hepatitis viruses (Lovell 2002). More

recently, the OFDT has identified, from a number of studies, problems they claim are linked to the lack of an adequate regulatory framework for prescribing HDB: injection of what is theoretically a non-injectable drug (11% of patients receiving prescribed BHD and 54% of those who use it to get high inject the product) and primo-dependency on HDB (ie persons who develop a dependency on the product without ever having used heroin or another opiate) (Costes and Cadet-Taïrou 2004).

Clinicians are aware of leakage; in fact the treatment manual distributed by the pharmaceutical company assumes a “demand” on the part of the patient for HDB (sometimes over other alternatives) (Gibier 1999), which can only have been created through leakage and circulation of pharmaceutical knowledge⁵³. How users have responded to oral or injected HDB obtained illicitly affects their decision to seek out treatment with HDB. Users who experienced unpleasant or no effects from using HDB illicitly obtained sometimes turn to methadone treatment. Others don’t seek treatment. Still others "self-treat" with HDB, either prescribed or bought on the black market, varying the doses. For perhaps one-third of BHD consumers, their experience with the drug in the illicit market became what administrators and clinicians term “the gateway” to treatment (Costes and Cadet-Taïrou 2004). In other words, the ecological experiment of making HDB easily available pays off as “global” or “social” treatment by bringing highly marginalized individuals into the general health system.

The company that markets HDB sponsors training to help doctors identify patients who "divert" their medicine (assuming that doctors are never complicitous) . The cost of potential misuse is not factored into the cost-effectiveness study of HDB in France financed by the company (Kopp, et al. 2000). While the monetary value of diverted HDB would probably not

⁵³ All the HDB injectors I interviewed had come into contact with that substance *before* contacting a doctor. Some learned about it in prison, but many “happened” upon it by chance. Again, as mine was a street ethnography, not treatment setting study, it is "biased" away from successful buprenorphine substitution.

affect the results of cost-effectiveness analyses because heroin use is so expensive, misused or diverted buprenorphine is certainly a non-negligible source of revenue for the pharmaceutical maker of the product but a loss for the national health fund that foots the bill. Hence, a potential tension between pharmaceutical sector and public sector.

Biopolitics of buprenorphine

What are the implications of the adoption of high-dose buprenorphine within the tolerant and loosely regulated context of private medical practice in France? While the logic of the pharmaceutical industry may fit with the neo-liberal economic logic of the pharma sector more generally, we have argued above that the "gift" of this addiction pharmaceutical to French general practitioners does not represent a shift from public to private sector responsibility for health care. The financing of visits to general practitioner office practice, as we have seen, is made possible through a virtually universal national health insurance (NHI) system, itself financed through a mix of mandatory payroll taxes, government general-revenue funds and a small share of consumer co-insurance. There are no deductibles, and pharmaceutical benefits are, compared to other countries' systems, extensive (Rodwin and LePen 2004).

In another way, however, the degree to which which HBD is officially prescribed within a harm reduction perspective reflects neo-liberal consumerism. Like the French health care system in general (Rodwin and LePen 2004), it embraces principles of solidarity at the same time as it espouses certain principles of liberalism. At least this is implied by the harm reduction perspective within which it was promoted⁵⁴.

⁵⁴ The French term *réduction des risques* translates both risk reduction and harm reduction. Generally, it is harm reduction that is being referred to, specifically the reduction of the possibility of physical harm from viruses. In fact, an argument today for moving away from *réduction des risques* is that it ignores addiction and other harms

Harm reduction has evolved into a highly *individualized* set of bodily practices and discourses, resonant with the individually-focused "new public health" (Peterson and Lupton 1996) which locates responsibility in the lifestyle of the individual, as a purely individual decision⁵⁵. What is presented as a choice for the consumer is an indeterminacy that reverses the role of the drug consumer-as-patient, in the expert-client treatment relationship. The health practitioner now calls upon the client to act reflexively. By presenting the drug user a hierarchy of risk in a menu of possibilities (continuing to inject, but with sterile material, sniffing rather than injecting, etc.), the work of risk reduction is left up to the drug user her or himself. Hence, the drug user is no longer simply the target of a risk reduction intervention; the user is also the *decision-maker* who rank orders his or her own practices in terms of the level of risk he or she "chooses" (to inject "safely" rather than to stop injecting, or to sniff rather than to inject, or to use "soft" drugs rather than "hard", etc). While the message that accompanies harm reduction efforts, such as needle exchange, is often contrary to continued drug use, the apparatus itself, and the autonomy to hierarchize risk taking, sends another message, implying that addiction is an individual "choice". Risk is disembedded from the original conditions that produced it, including the life conditions of poverty, dead-end jobs or unemployment, discrimination, torn families. Individual responsibility is reinforced by shifting harm reduction practices away from a particular site (treatment center) and into the private sphere. The only moral entrepreneur left, in the end, is, the person who consumes the drug.

from the drug itself (as opposed to from the tools of administration of the drug, such as syringes, filters, etc.). Buprenorphine in general practice was promoted alongside more classical harm reduction approaches such as low-threshold services, liberal regulations governing syringe sales in pharmacies, needle exchange programs, and so forth.

⁵⁵ For an extended argument see Lovell, Anne M. 2001 Ordonner les risques : l'individu et le pharmaco-sociatif face à la réduction des dommages dans l'injection de drogues. *In Critique de la Santé Publique. Une Approche Anthropologique*. J.-P. Dozon and D. Fassin, eds. Pp. 309-342. Paris: Balland.

The result, however, is not simply benign neglect, nor the surveillance and regulations attacked on to methadone delivery. Rather, the body treated with addiction pharmaceuticals has become the major site of social and political intervention for a "problem" population: a problem as much because of its social precarity, as its illicit practices. To understand this, we need to examine more closely how it is prescribed.

The addiction pharmaceutical is not prescribed – at first – with an eye to abstinence, or even treatment of toxicomania (Gibier 1999). Rather, high-dose buprenorphine is meant to lessen the *effects* of heroin use and dependence: the imminent danger of infection with HIV and the more newly discovered hepatitis C virus, which touch a part of the citizenry beyond drug users themselves, *and* the risk of socioeconomic marginalization. For public health actors, the objective of substitution is not purely therapeutic, within the medical or psychological sense of the word. It is meant to alleviate suffering -- medical, "psychic" and "social"⁵⁶. This is in keeping with a larger tendency in France during the 1990s – the bio legitimization of poverty and social precariousness. As a number of case studies in the development of local public health indicate (Fassin 1998), psychic and physical "suffering" became a primary target of service providers, elected officials, and the array of local actors. The *écoute* – empathetic listening, and hotlines and *pointes-écoutes* (drop-in centers where this takes place^o) have proliferated for youth, drug users, and other 'hard-to-reach' categories all over France. Poverty is acknowledged more and more through the mediation of sick or suffering bodies, and not through actions directed at the social conditions of drug users, migrant families,

⁵⁶ According to an epidemiologist deeply involved in the introduction of Subutex, "*One can hypothesize that the social problems associated with drug use are aggravated by [the] social crisis and that the older hegemonic models centered on psychological needs were insufficient for dependent drug users to find a new social integration [insertion]; one can also imagine that for the persons concerned, social integration, even without drugs, remained problematic in the context of the crisis*". (Lert, France 1998 Methadone, Subutex: substitution ou traitement de la dépendance à l'héroïne? Questions en santé publique. *In* Drogues et Médicaments Psychotropes. Le trouble des frontières. A. Ehrenberg, ed. Pp. 63-99. Paris: Ed. Esprit., p. 7

clandestine migrants, unemployed and precariously employed, and many other social groups affected by the mechanisms that preclude the equality of chance (Maurin 2002).

High-dose buprenorphine provides an explicit medicalized response to social suffering and exclusion⁵⁷. According to the president of the French drug agency, the MILDT, a goal of substitution treatment is to access medical care. By attracting the drug user to a noncoercive form of treatment (with the new version of French methadone held up as the coercive opposite to unmonitored care by the GP), substitution is supposed to ease the way into the health care system. And by providing a licit opiate-like pharmaceutical effects of which are similar to but less addictive and shorter-lasting than heroin, it attracts and "loyalizes" (*fidéliser*) people who have been excluded from or have avoided the health care system. In this way, substitution helps prevent or halt marginalisation and social precariousness (Maestracci 1999), (Cholley, et al. 2001). This bio legitimization appears less as a form of surveillance than an abeyance mechanism, a holding pattern in the management of flows.

Postface: Americanizing French Buprenorphine

How do pharmaceutical industries capitalize on an experience such as the marketing of an addiction pharmaceutical in France? How is it generalizable? Most HDB is paid for through the national medical fund, as are the bulk of the health visits. And the price of HDB is probably lower than it will be in countries such as the United States because of the negotiating power of the French state: it purchases, through the health fund, the pharmaceutical product directly from the industry.

⁵⁷ The manual distributed free of charge the pharmaceutical company emphasizes partnership and networking, as well as the social, economic, and relational aspects of drug addiction and treatment (Gibier, Lionel 1999 *Prise en Charge des Usagers de Drogues*. Reuil-Malmaison: Doin..

Just as in the 1970s, French experimenters aimed to make French methadone 'safer' than American methadone, by transforming its form (from pill to syrup, so that it could not be easily hidden by the patient and sold as a 'drug'), developing monitoring and limiting its use to a diagnostic tool (Gomart 2002), currently American addiction psychiatry, in collaboration with industry, is making American buprenorphine 'safer' than French buprenorphine, by transforming the assemblage to which it will be attached, assuring greater controls on physicians, higher dosages, and a combination with naloxone, which causes withdrawal or a diminished effect when the buprenorphine is injected. French data on deaths associated with buprenorphine, mostly in combination with alcohol and/or benzodiazepines, were taken into consideration, as were other data on outpatient use of buprenorphine⁵⁸. The National Institute on Drug Abuse also commissioned two of the anthropologists most expert in the drugs area to study buprenorphine's potential as a street drug (Agar, et al. 2000). They concluded that buprenorphine has always and will continue to have great potential as a street drug.

Meanwhile Titan Pharmaceuticals has developed a mechanism for long-term controlled release of buprenorphine that shifts the site of surveillance, literally embodying it in the patient. It combines buprenorphine with a copolymer, ethylene vinyl acetate (EVA). The combination is then shaped into a tiny, flat rod that can be placed under the skin. According to Titan's press release, "as body fluids absorb the drug, a steady dose is maintained in the blood in a fashion similar to intravenous administration, thereby avoiding the peak and trough levels seen with oral dosing"⁵⁹ [Titan Pharmaceuticals, 2001 March 27 #25].

⁵⁸ See, for example, the recommendations of Substance Abuse & Mental Health Services Administration (SAMHSA)'s Center for Substance Abuse Treatment (CSAT) National Advisory Council. CSAT's report does not mention that the French researchers cited received financing for their research from Schering-Plough for their buprenorphine research.

⁵⁹ Titan states this "drug delivery system" is aimed at situations in which compliance with oral drug delivery would be problematic. The rod could provide six months' continuous therapy, following just one physician visit, for "patients with opiate dependence".

Conclusion: Addiction pharmaceuticals and its sites

To what extent is the commercial success of the sale of high dose buprenorphine – like all addiction pharmaceuticals, a "difficult" one to market – shaped by local and transnational interests of the pharmaceutical industry concerned? The "French experience" – itself being marketed elsewhere as a medical response to addiction epidemics – reveals the circumstantial overlapping of multiple processes, framed by multiple actors around particular stakes, and at different levels.

In sum, at least two aspects this convergence stand out. First, that of a social movement that arose from the professionals (who prescribe pharmaceuticals) themselves, consonant with a transformation of the discourse that coats the pharmaceutical, a discourse that shifts from the status of a mask for underlying psychiatric problems, to that of a multilayered response (medicine, lure...) to marginalisation and poverty. Such a discourse enables the passage from a hegemonous psychoanalytic model to a sociomedical one: the legitimization of "substitution" with its implicit recognition of addiction. These circumstances enable the widespread diffusion of "French buprenorphine", despite the failure of its predecessor, "French methadone".

The second aspect concerns heroin users themselves, who quickly recognized the value of and ease with which the new commodity could be handled on the local informal markets.

Through both pharmaceutical leakage and normative prescription-consumption practices, the incorporation of high dose buprenorphine into the practices of both groups – prescribers and consumers – coupled with harm reduction principles produced highly individualized regimes of practice.

The lesson of the French experience may have been that of a new laboratory, in the industrialized and post industrial world, to produce evidence of 'what can be accomplished', -- even if that evidence is shaky. And this is perhaps where the pharmaceutical industry comes in, in its partnership with the French state and the general practitioners, and a post-hoc research arm. Translated into the discourse currently generated in the United States, French buprenorphine was a test case – though the results of the test are greatly lost in translation.

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