Conceptions of the subject have been a critical site of intervention for cultural studies, especially where such studies concern those processes by which meanings, practices, and institutions and relations of power are articulated in the constitution and control of social life. This article considers the analytic potential of re-thinking the subject, as Deleuze suggests, not in terms of ‘a subject’ but as a force-field of intensities. Following the work of Deleuze and Guattari, this article develops a cartographic approach to the study of such force-fields and applies this approach to one uniquely potent mode of modern subjection: that associated with addiction. In addition to intervening in those discourses and practices which produce contemporary addictions, this article offers a potentially useful approach to the study of such cultural epidemics, as well as further exploration of Deleuze and Guattari’s significance for cultural studies.

Keywords subjectivity; addiction; epidemiology; Deleuze; Guattari

I think subjectification has little to do with any subject. It’s to do, rather, with an electric or magnetic field . . . .

(Deleuze 1997, p. 93)

In *Diseasing America: Addiction Treatment Out of Control*, Stanton Peele (1989) projects a rather dismal future for American culture: ‘More and more addictions are being discovered every day, and new addicts are being identified, until all of us will be locked into our own little addictive worlds with other addicts like ourselves, defined by the special interests of our neuroses. What a repugnant world to imagine, as well as a hopeless one’ (p. 4). Peele’s prediction of an epidemic of addictions gains some credibility when we consider the sheer variety of potential addictions. Apparently, one can be addicted to nearly anything: advertising (Sweeney 2000), bowling
(Decker 2001), catalog shopping (Dumas 2000), defense spending (Gotlieb 1997), exercise (Heitger-Casbon 2000), foreign capital investment (Koretz 1986), goods (Goldbaum 2000), happiness (Lombardi 2002), internet trading (Cone 1999), junk bonds (People Weekly, vol. 52, no. 9, 6 September 1999, p. 93), killing (Rule 1994), lecturing (Jensen and Davidson 1997), mobile telecommunications (Krueger 2000), negativity (Carter-Scott 1996), over-consumption (Kiedel 1999), Pacific island artifacts (O’Neil 1981), stock quotes (Sloan 2000), recovery programs (Seid 1997), spanking (Dale 1993), teaching (Frick 1997), urgency (Tassi 1991), vibrators (Seifer 2000), weapons of mass destruction,\footnote{The X-Files,} and yoga (Larson 1998). To complete my alphabetical list, I could have added Zoloft, for Z (Gadsby 2001). But its absence permits me to point out what else is missing. This list includes none of the drugs so commonly associated with addiction, like alcohol, cocaine, heroin, inhalants, marijuana, methamphetamine, nicotine, or the host of other licit, illicit, or prescription drugs that people drop, drink, huff, pop, shoot, snort or, as William Burroughs so elegantly put it, shove up their asses (1987, p. xxxvi). Neither does this list include any of the so-called ‘process’ or activity addictions (Shaffer 1999). Like their chemical counterparts, addictions to the likes of gambling (Dickerson and Baron 2000), love (Peele and Brodsky 1975), sex (Bingham and Piotrowski 1996), and eating (Wilson 1999) continue to gain in legitimacy with clinicians, researchers, and in popular and journalistic media.

By mixing up popular media coverage with scholarly publications, and by mixing references both banal and tongue-in-cheek with those more sober, I do not mean to ridicule the notion of addiction, to impugn its validity or therapeutic usefulness, or to detract in any way from the suffering of many millions of current and recovering addicts. Nor am I going to follow Peele and others (Walters 1999) in condemning the trivializing tendency of popularization. I simply want to demonstrate the scope of the problem the addiction epidemic poses. I endeavor, in other words, to take addiction – whether to drugs, to processes, or anything else – seriously. But rather than focusing on this addiction epidemic solely in terms of a ‘disease upon the people’, a very classical meaning of ‘epidemic’, I consider it to be a cultural epidemic as well: an ‘epidemic of meanings and significations’ (Treichler 1999, p. 11).

I am interested particularly in the ways meanings and significations and practices have and continue to transect power and knowledge to spread addiction as a mode of subjectivation. In Foucault, Deleuze (1988) describes ‘subjection’ as one form subjectivation takes, one which is composed, on the one hand, by those techniques of individuation installed by power which subject one to control, and on the other hand, by corresponding techniques of the self which tie the subject to its own identity through ‘conscience or self-knowledge’ (p. 103). Addiction is paradigmatic – perhaps even the apogee – of subjection as Deleuze explains it. For addicted subjection is constituted as a
mode of individuation authorized by the power-knowledge of clinical judgment (‘You are an addict’) – which would include the ‘self’ disciplines of psychology, psychiatry, substance abuse treatment, and medicine – and by the addict-subject’s own confession (‘I am an addict’), as embodied for example in the ‘self-help’ of group-based recovery therapies.

This essay considers subjection in this dual sense as a mode of subjectivation and maps the significance of addicted subjection to the addiction epidemic. Arguably, addiction was born as an epidemic when it emerged in the medical and public health literature of the early twentieth century (Courtwright 1982, Acker 2002). Even though the disease-conception of addiction was initially associated only with opiates, the extent of the problem was – and still is – subject to frequent exaggeration, as when a 1923 front page article in the *New York Times* declared over 1 million addicts in the US alone (Hobson 1924).³ And the social harm drugs are taken to cause has been – and still is – frequently sensationalized in accounts that put an addict in every shadow and behind every sort of social ill (Black 1928, see also Baum 1996). No doubt, there is much to be gained from considering the conditions of addiction’s emergence, and its formulation as a problem, in Foucault’s sense (2001). However, my intention here is not to produce a genealogy of addiction. I simply mean to trace one line that such a genealogy might consider: the spread of addicted subjection, of ‘the addict’ as a particular, pathologized kind of subject. To use a term from epidemiology, I will map one vector by which addiction spread from opiate use to the scores of other substances, practices, relations, and activities – like those listed earlier – which populate our everyday lives. In mapping this vector of addicted subjection I will analyze a body of discourse that endeavors to explain addiction, one comprised of a number of disciplines, including clinical medicine, economics, mathematics, neuroscience, pharmacology, psychology, philosophy, public health, sociology, and theology. In order to map this vector of subjection, I will develop a ‘cartographic’ approach to the study of culture suggested by Gilles Deleuze and Félix Guattari (1987), and inspired by Deleuze’s assertion that subjection has little to do with a subject *per se*, but with a field of intensities that produce modes of subjection.

**Mapping addicted subjection**

For clarity’s sake, I want to start by unpacking some of the terms by which I have explained my task: mapping the vector of addicted subjection. As Wood notes in *The Power of Maps*, maps are useful: they are culturally specific, ‘interested’ productions which ‘make present – represent – the accumulated thought and labor of the past’; they concern ‘the milieu we simultaneously live in and collaborate on bringing into being’ (1992, p. 1). But maps do not
represent in some transparent way what is. They accrete what has been done and thought and felt, while simultaneously connecting us to a virtuality that exceeds actuality: ‘a reality beyond our reach’ (p. 4). Maps are useful precisely because they do not simply reproduce or represent a particular space: in other words, they work because they ‘lie’ (Monmonier 1996). In terms of the social milieu to which it is connected, a map is an abstract diagram that makes visible spatio-temporal relations such that acts of location, movement, and flow become possible in new ways. As Deleuze (1988) explains, such a diagram is ‘coextensive with the whole social field’; it is ‘a spatio-temporal multiplicity’ that organizes and formalizes matter and expression, determines functions and delimits the discursive field (what can be articulated) and the non-discursive field of the visible (what can be seen) (p. 34). Maps are creative engagements with the social field that operate by ‘unmaking preceding realities and significations’, and by creating multiple ‘points of emergence or creativity, unexpected conjunctions or improbable continuums’ (p. 35). Cartography — the practice of making maps — is a practice of imaging relations between forces, differentiating formed matters and expressions, organizing the visible and the expressible, which in turn organize and regulate the social field to which the map is connected. In this sense, maps are ‘abstract machines’ that register a mode of organization across particular ‘concrete machines’, that is, particular assemblages of content and expression (Wise 1997). In his discussion of cartography as a method in social analysis, Deleuze lauds Foucault’s conception of discipline as an example of an abstract machine — a map — which registers the operation of the disciplinary mode of social organization across those concrete assemblages with which Foucault’s analysis is so famously associated: the prison, the school, the clinic, and the barracks (Foucault 1977).

Deleuzean cartography is not about tracing correctly or incorrectly in order ‘to describe a de facto state’ (Deleuze and Guattari 1987, p. 12). To map is to experiment, to create a way of seeing and speaking that is ‘open and connectable in all of its dimensions; it is detachable, reversible, susceptible to constant modification’ (p. 12). Foucault’s ‘map’ of disciplinary power did not aim at ‘representing’ past, or even present reality (1977, pp. 30–31). It made visible and expressible the particular practices, relations of power-knowledge, and institutions — indeed the whole ‘social field’ of disciplinary societies — in a new, creative, potent manner. Thus, as a method of social analysis, cartography breaks from the logic of representation that has been criticized by scholars in cultural studies (Grossberg 1992, Wise 1997, Greene 1999), the pervading logic in much popular thinking concerning the value of art, as well as that of philosophy, science, or social analysis.

To illustrate, I want to draw an extended example from the history of epidemiology. In the summer of 1854, as London was being swept by a cholera epidemic, physician John P. Snow was able to demonstrate a relation between the use of a particular water source (the infamous Broad Street pump) and the
frequency and distribution of reported deaths from cholera. Snow plotted the number of deaths and the place of residence of each on a map of London that included the locations of public water sources. Snow then presented his map to the authorities who in turn initiated one of the great moments in the history of epidemiology: the removal of the handle from the Broad Street pump. It might be tempting to view this as a case of accurate representation or reproduction of reality, but for a number of reasons, this is not the case. First, Snow’s study — which reads more like a diary than a scientific paper — was published in 1855. This was decades before Koch’s discovery of the micro-organism that causes cholera (1883–1884). It was also decades before the emergence of ‘scientific’ or ‘technological medicine,’ as we understand it (Figlio 1977, p. 266). Thus, it would have been impossible for Snow correctly to identify the cause of the disease or to study the epidemic in a manner commensurable with contemporary scientific medicine. Further, as Tufte (1997) has demonstrated, Snow’s data could have been presented in alternative ways with equal or even greater accuracy, but these alternatives would not have implicated the Broad Street pump as the source of infection. Considered as an accurate representation, Snow’s map was a failure. Considered in a Deleuzean sense, however, Snow’s map creatively and potently imaged, imagined, not only the disease and the social space within which it mattered and moved, but the whole social field of practices and meanings into which the disease was articulated. Snow’s map created new connections, made possible a new way of seeing and speaking about events in the social field, and created new possibilities for acts, including those of location and movement. It is in this same sense and spirit that I undertake to map the vector of addicted subjection.

The term *vector*, too, is one that I use in a specialized sense. It is frequently used by epidemiologists to describe the ‘vehicle’ by which a disease spreads (Centers for Disease Control 1990). In the case of the cholera epidemic with which Snow was concerned, water was identified as the vector, and removing the pump handle enabled public officials to disrupt the virus’s flow. We know that certain species of mosquito are a vector for viral diseases like West Nile virus. Mosquitoes bite birds, whose blood contains the virus; the mosquitoes carry that virus and transfer it to the humans they also bite. The mosquito serves as a vehicle by which the disease is transported from one population to another, and knowing this enables public health officials to take action.

While my interest in the vector of addicted subjection is certainly inspired by epidemiological cases like these, my understanding of vectors as *constitutive lines of force* lies closer to the mathematical or engineering understanding of vector. Grossberg (1992) has used the term in an allied sense to map the ‘affective epidemics’ of neo-conservatism (see pp. 281–292). Grossberg explains that the language of vectors serves as an alternative to causal language, and that his recourse to the concept emerges from a desire to think in terms of ‘mobilities’ rather than positions, and in terms of relations rather than
essences. Similarly, Hacking (1998) uses the vector concept to make sense of the emergence, spread, and disappearance of particular forms of mental illness. Hacking explains that in engineering, ‘when there are several forces acting in different directions, the resultant force is the product of the different forces and their directions’ (1998, p. 81). The idea of forces acting in a direction suggests complex phenomena acting in disparate ways to produce a ‘niche’ within the ecology of culture and nature that makes it possible for diseases like cholera or mental illness to thrive. When relations between forces or phenomena change, so too does the ‘niche’ they produce.

Thinking a vector as a kind of mobility, as composed of relations between heterogeneous forces acting in complex ways within a social field, has a number of advantages over essentializing the vector as a vehicle. First, as Grossberg points out, it avoids the tendency toward a reductive causal language that emphasizes essences and temporality at the expense of relations and spatiality. This is particularly useful when attempting to map the complexities of contemporary epidemics, such as addiction, heart disease, and diabetes, that do not fit the deceptively simple ‘viral model’ (Institute of Medicine 1997). These contemporary epidemics have no simple, singular cause — no pump handles to remove or mosquitoes to fumigate — and often involve a complex play of forces. A second benefit to thinking vectors as constitutive lines of force is that doing so actively resists a reductive, essentialist tendency in thinking about subjectivity. Often, the focus is upon the subject as an (abstract) entity, a position, something that is individual and to a certain extent given or presumed in advance (see Smith 1988). My interest is not in the addict as \textit{subject}, a term which suggests an essentialized, individuated, and hermetical ‘self’ (Rose 1998). I am interested in addiction as a \textit{mode of subjection}, not a thing or an entity but a mobility involving heterogeneous forces and discourses in the ongoing organization of addiction as a modality of social being. My use of the term addicted subjection (rather than addicted subject) is more concrete, in that it focuses on the ongoing accomplishment of a mode of social being in the relations, meanings, practices, and lines of force that compose it, rather than on the subject as a \textit{fait accompli}, that is as a reified and abstract entity. Considering addicted subjection in this sense, as the meanings, practices, and forces that actively and continually produce this vector of the addiction epidemic, means not thinking ‘subjectivation’ in terms of ‘any subject’, but rather as Deleuze suggests, as ‘an electric or magnetic field’ (1997, p. 93).

The remainder of this essay explores the analytic potential of a shift, suggested by Deleuze, in thinking subjection in terms of an electric or magnetic field, and applies this approach to mapping the vector of addicted subjection. I argue that the ‘field’ of addicted subjection tends to be ordered around two explanatory poles: the moral and the bio-physical. While these poles are nearly always identified as diametrically opposed, the field approach
developed here enables an analysis of their relation, and permits consideration of the field effect they exert. This field effect is made visible through an analysis of a variety of clinical texts and practices produced by a number of disciplines which have taken up the challenge of explaining addiction, as well as efforts to image addiction in such texts. By mapping this field effect, the essay endeavors to show the significance of the vector of subjection for the addiction epidemic spread, and in so doing, to show the potential of the approach discussed here for the cultural study of both subjection and epidemic disease.

The field concept

To begin exploring the possibility of addicted subjection as a matter of forces, meanings, and practices composing a field of intensities, I want to take Deleuze’s suggestion quite literally and consider the scientific model of fields of force. Ebert’s (1897) book, Magnetic Fields of Force — as the cumbersome subtitle explains, ‘an exposition of the phenomena of magnetism, electromagnetism, and induction based on the conception of lines of force’ — details an experiment used to diagram a field of force:

By means of a sieve, let iron filings be scattered [...] so that they may be distributed as uniformly as possible over [a] horizontal sheet of paper. Next let the lodestone, freed from any filings that may already be adhering to it, be laid upon the paper, which is then tapped in various places. The filings arrange themselves in regularly curved lines ... these are the so called Faraday’s lines of force.

(Ebert, 1897, p. 5)

Ebert’s experiment illustrates some of the qualities of the field concept that I want to exploit in talking about addiction as a mode of the subjection (figure 1).

First, as Deleuze indicates, a field is composed of areas of relative intensity. Taking the rather simple example of a magnet, we can observe signs of two related forces. If we try, for example, to put together the negatively-charged areas or poles of two magnets, they repulse one another. We get similar results if we try to put together the positively-charged poles. However, if we place a negatively- and a positively-charged pole together, the two are attracted and together compose a field of magnetic force. It is because of the relation between these two intensive zones that magnets evidence their characteristic effect on certain metallic objects. Positive and negative zones (labeled ‘N’ and ‘S’ in figure 1) draw the iron filings Ebert suggested we sprinkle across the ‘field’ of white paper and, in doing so, they literally
diagram the direction and magnitude of lines of force of otherwise invisible fields of force.

Similarly, the field of explanations which I diagram in this essay consist of two intensive zones which I term the moral and bio-physical poles. These poles are abstract, admittedly, but they serve to make clear a set of relative intensities that organize explanations of addiction. As with a magnetic field, the field being mapped here tends to formulate these as ‘polar opposites’, but, returning to Ebert’s diagram, I want to argue that from the ‘field’ perspective I am articulating here, what matters is the relation between them. Despite the internal sense it makes, I will argue that viewing the moral and bio-physical poles as mutually exclusive categories of explanation fails to account for the complex relation between them — the field effect they generate.

The second feature of the field concept I wish to exploit concerns exactly this relational character of the forces it diagrams. The lines of force immanent to a force field constitute the field as such through their relation to one another. I have touched on this element of the field concept in discussing the relatively simple instance of a magnet: it is the combination of intensive forces
- designated positive and negative - which account for the magnet’s characteristic effect. Whitehead (1939) diagrams a more complex field, one produced by the interaction of multiple, heterogeneous forces (figure 2). 4 Whitehead’s field is not organized by two equal but opposite forces. It is drawn by the interaction of a number of heterogeneous forces - characterized in figure 2 as + and - or positively- and negatively-charged zones. These intensive zones not only draw lines of force, their action determines an individuated zone: the ‘area’ designated as ‘A’. Similarly, I will consider the relation between explanations of addiction as heterogeneous (not necessarily bipolar) zones. I argue that despite the antinomy between moral and biophysical explanations of addiction, the ‘field affect’ of addiction studies is the individuation of the addict (‘A’ in figure 2) as a particular kind of subject.

I concede that my use of the theory of fields of force to describe addiction as a field of subjection may have a figurative element, but with De Landa (1997), I wish to insist that such use is diagrammatic, not metaphorical. De Landa offers an extended explanation of the difference:

When we say (as marxists used to say) that ‘class struggle is the motor of history,’ we are using the word ‘motor’ in a purely metaphorical sense. However, when we say that ‘a hurricane is a steam motor’ we are not simply making a linguistic analogy; rather, we are saying that hurricanes embody the same diagram used by engineers to build steam motors - that is, we are saying that a hurricane, like a steam engine, contains a reservoir of heat, operates via thermal differences, and circulates energy and materials through a (so-called) Carnot cycle.

(1997, p. 58)
In other words, to say class struggle is a motor (a metaphor) has neither the same sense nor the detailed register of connections as when we say that a hurricane is a steam engine. In the former, it is through a non-detailed register of connotations that class is associated to a motor and thus has its meaning-effect. In the case of a hurricane, a meaningful relation is created by way of an explicitly detailed and intensive register of association with a steam engine. At both levels of conception and effect, an electro-magnetic field of force and the scientific-medical field of addicted subjection share a diagram which serves to explain their respective processes.

As with the diagram of magnetism, the field of discourses and practices associated with addiction is polarized around two explanatory poles. For example, Miller and Gianini (1990) argue there are two major models of addiction which they term the ‘adaptive’ or moral model, and the ‘disease’ or medical model. According to Miller and Gianini, the moral model has its roots in Medieval Christianity and argues from theologically inflected notions of causality. Addictions are viewed as ‘the result of a lack of moral character’, as a ‘form of individual degeneracy ... derived from a lack of will or initiative’, as a consequence of ‘intrapersonal and interpersonal stress’, and/or simply a ‘lack of adult maturity ... exacerbated by environmental problems’. As such addiction can be eradicated only by ‘a purging of sins and strengthening of the ego’ (Miller and Gianini 1990, p. 83). The disease or medical model, on the contrary, assumes that ‘the etiological agent’, a pleasure-producing substance or behavior, ‘interacts with a susceptible host’, one that is genetically predisposed to ‘initiate the disease process’ by imbibing the substance or engaging in the behavior concerned. The effects of substances and behaviors are understood as chemical events in the brain, rather than as means for medicating a defective ego. And effective treatment requires a chemical intervention, which the authors claim is analogous to ‘vaccinations for infectious agents’, to prevent the chemical events that produce pleasure and craving from occurring (p. 83).

This distinction between moral and medical explanations unquestionably has become a predominant feature of addiction discourse (see West 2001), and is symptomatic of a tendency among many professionals to laud the disease model and to be rather dismissive of moralistic theories of addiction or alcoholism (Levine 1978, Rothstein 1972, Institute of Medicine 1997). I do not intend to take sides in this ongoing debate, nor will I attempt to account for every theory of addiction on offer. Rather, I limit my account of this bipolar field of explanations to representative instances in order to diagram the relation between the poles and the mode of subjection they produce in order finally to problematize the easy reading the bipolar model makes available. Following the shared diagram Deleuze terms an ‘abstract machine’ (1988, p. 35), I consider the ways in which moral and bio-physical polarizations of addiction discourse attract and repel certain meanings,
descriptions, explanations, and practices concerning addiction. It is by way of these that a field of possibilities and responsibilities for addicted subjection is produced.

The moral pole

While the association of moral opprobrium with the use of drugs is often assumed to be an anachronism of past ages and are often associated with the Christian roots of the temperance and prohibition movements of the nineteenth and early twentieth centuries (Miller and Gianini 1990, Hughes 1989, Levine 1978, Mercandante 1996), it is important to note that moral explanations continue to constitute an area of relatively intense attraction within the field of addiction studies. By ‘moral’ I mean explanations of addiction that presuppose the distribution of acts between moral categories of good (moral, positive, beneficial, right) and bad (immoral, negative, harmful, wrong). Explanations attracted to the moral pole assume individuals are moral agents capable of acting under descriptions (Hacking 1999). Moral explanations assume that individuals are agents both capable of taking action and capable of understanding the descriptions under which they act – that is, of understanding the difference between good and bad acts. A moral agent, it must be presumed, is also capable of choosing which actions to take in any given instance, and thus is viewed as having the freedom to indulge in right acts and to refrain from wrong ones. Finally, in so far as one is capable of acting under description, is capable of understanding the implications of one’s actions, and is capable of choosing to act rightly or wrongly – the moral individual is responsible (to self and others) for his or her choices.

Mercandante (1996) offers one, theological example of a moral explanation of addiction. Mercandante explains that the motive for replacing the sin-salvation model of addiction-recovery with a disease-model is largely due to the paucity of the ‘popular’ image of sin as ‘a sour, pinched killjoy, shaking a bony finger at everything enjoyable, as the vestige of an unenlightened, inhumane, archaic past with which we are well finished’ (p. 20). This image of sin is behaviorally and volitionally oriented: it leads to an emphasis on defining behaviors as either essentially sinful or not, and it supposes that the will of the sinner is itself somehow corrupt. Mercandante explains that from a theological perspective sin is neither about bad behaviors nor the corruptness of the will. Rather, sin is about orientation, ‘to turn toward or away from God’ (p. 28).

It is the orientation of the will ... that determines the eminence or degradation of the person. If one does not direct the will toward God, it will be directed toward something else.

(Mercandante 1996, p. 29)
This ‘something else’ becomes the object of addiction – whatever it may be. Whatever pulls us from God degrades us and leads to suffering. While it may be characteristic of the human condition that we are always pulled away by ‘something else’, we nevertheless remain capable of re-orienting ourselves. We are, that is, responsible for moving in the direction of perfection – even if we never arrive. Far from being at odds with one another, Mercandante finds that sin and addiction are actually compatible conceptions of the human condition, and that both may benefit from theological reflection.

While the moral language of good and bad often takes on overtones which are decidedly theological, we need not, as is frequently done, reduce all moral explanations of addiction to theological terms. For example, Becker’s rational-choice theory (Becker 1992, Becker and Murphy 1988) offers what I understand as a moral account of addiction, but it does so in purely rational terms and without recourse to a theological perspective. Becker categorizes habits and addictions as beneficial ‘if greater present consumption raises future utility’, and harmful or ‘bad’ if greater present consumption lowers future utility’ (1992, p. 328). As Elster and Skøg (1999) explain in their homage to Becker, a negative addiction is characterized by two features. First, ‘higher past consumption decreases the level of utility one derives from a given amount of consumption in the present’ (p. 7). This simply means that it takes higher levels of consumption to achieve the same level of satisfaction, and that these higher levels actually limit one’s ability to consume over time. Second, higher consumption ‘increases the marginal utility of present consumption’ (p. 7). This means that being deprived of the possibility of consumption creates a sharp level of discomfort. An addiction to fast food may be characterized by increasingly frequent trips to the drive-thru, but these would eventually put one at such an increased risk of heart disease or other disorders that one would eventually die and thus be unable to consume; or one would be otherwise prevented from consuming and experience emotional and physical discomfort. Though carefully purged of theological reference, Becker’s rational-choice theory is nonetheless normative. It presumes an agent, which he terms a ‘rational, forward-looking consumer’ (1992, p. 329), who is capable of understanding and acting under description (beneficial or harmful), is capable of selecting between actions of one description or another, and thus bears the ultimate responsibility for those choices.

While psychological explanations of addiction often seek rhetorically to associate themselves with ‘scientific’ forms of knowledge, these also tend to be morally polarized. For example, Goodman (1990) seeks to situate a conception of addiction within the diagnostic apparatus of psychiatry, The Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R) of the American Psychiatric Association. Goodman defines addiction as ‘a process whereby a behavior, that can function both to produce pleasure and to provide relief from internal discomfort, is employed in a pattern characterized by (1) recurrent
failure to control the behavior’ and ‘(2) continuation of the behavior despite significant negative consequences’ (1990, p. 1404). Like Becker’s rational choice theory, Goodman’s definition is carefully purged of theological valence, but the moral language nonetheless remains. It posits an individual who is viewed as capable of acting with understanding of the ‘negative consequences’ of certain behaviors. Despite the criterion concerning ‘loss of control’, it also presumes the continued capacity for choice to engage in or refrain from engaging in certain behavior. The capacity for choice is also expressed in the capacity for responsibility on the part of the individual, for one must choose to be subjected to diagnosis and consent to be treated. This implies not only the capacity to choose, but to understand and take responsibility for making the ‘right’ choice.

The moral pole also polarizes explanations of addiction which are decidedly ‘medical’ in their disciplinary orientation. Harris Isbell, former head of and researcher at the Addiction Research Center (ARC), cites the World Health Organization’s (WHO’s) definition of addiction as:

a state of periodic or chronic intoxication detrimental to the individual and to society, produced by the repeated consumption of a drug . . . It’s characteristics include: (1) an overpowering desire or need (compulsion); (2) a tendency to increase the dose; (3) a psychic (psychological) and sometimes, a physical dependence on the effects of the drug.

(Quoted in Isbell 1951, p. 4)

Isbell appropriated this definition as the basis for a view of addiction as ‘caused by human weakness – not by drugs’ (1951, p. 4). In Isbell’s and the ARC’s view, addiction was a symptom of ‘a personality maladjustment rather than a disease in its own right’ (Isbell 1951, p. 4). While it was via the ARC’s work that much was learned about the biological and neurophysiologic action of opiates, the withdrawal syndrome, and the mechanisms of tolerance, the model of addiction upon which Isbell draws clearly holds the addict, his associates, and even his mother responsible for the condition of addiction, rather than attributing it to a disease condition. Indeed, as Grinspoon and Bakalar (1985) argue, the definition developed by the WHO and widely in use in the mid century ‘amounted to . . . an attempt to give a medical justification’ to popular opinion that some drugs (narcotics) were bad while others (tobacco and alcohol) were not so bad – ‘a habit rather than an addiction’ (p. 177).

Simply put, the diagnostic distinction was based not on a medical notion of disease, but upon prevailing moral and social prejudices concerning both addicts and drugs.

As with dominant cultural tendencies to morally polarize addiction, the problem of individual responsibility supplies an organizing topos for moral explanations of addiction. Even as the addiction concept swells to include
increasingly disparate addictions, there has been a significant backlash against the growing tendency to explain addiction as a disease, a mode of explanation which to many obviates individual responsibility. Seeberger (1993) terms this tendency the ‘externalization’ of addiction as a ‘purely physical condition’ caused by the drugs themselves, a view he equates to belief in evil spirits (p. 47). Seeburger defines addiction as an ‘enslaving disownment’ (1993, p. 116), a state in which one disavows the self as the ultimate object of responsibility and chooses instead an object of addiction. In effect, an alcoholic is not one who habitually drinks, but one who habitually chooses to drink because this is judged by the alcoholic to be the most desirable choice. What makes an alcohol addict is not the loss of the power to choose to drink, it is rather that ‘the very choosing is no longer at the alcoholic’s choice’ (p. 92). The alcoholic can, in other words, still choose whether or not to drink, but she cannot choose whether to make that choice any longer. The alcoholic’s self is no longer, then, the object of choice – drink has supplanted the self in this capacity. Aside from the apparent circularity of Seeburger’s argument, it is important to note the repetition of ‘choice’ in his claim. Even if the alcoholic is in some respect unable to choose his or her choice, he or she is nonetheless free to choose to either refrain from drinking (the good, positive, moral choice) or to drink (the evil, negative, immoral choice). While Seeburger’s philosophical model proceeds with less conceptual care than Becker’s, both are similarly morally polarized.

The bio-physical pole

Like the moral pole, the medical or bio-physical pole attracts certain meanings which tend to account for addiction in purely physical terms. In the words of one nineteenth-century physician, the opium habit was ‘not an indulgence to be humored, nor a vice to be punished, but a disease to be cured’ (Meylert 1885, p. 13). This assertion concerning the nature of drug use also points to the important association between bio-physical explanations of addiction and the ‘medical’ or ‘disease’ model with which it is associated. As with the moral pole, bio-physical explanations of addiction resist the simplistic periodization that would make them modern and enlightened. While such explanations have differed significantly, both historically and in terms of their social implications, it is nonetheless possible to diagram across these explanations four intensive zones: the pharmacological zone concerns the force of substances; the pathological zone concerns the diseased body; the neurological zone concerns the brain and nervous system; and the evolutionary zone concerns such forces as heredity and genetics.

Those explanations which focus on the determinacy of pharmacological forces view the substances themselves as subjecting those who take them.
Edward Levinstein (1878/1981), a German physician and chemist whose work was zealously imported into nineteenth century American medicine, defines the ‘morbid craving for morphia’ as a ‘disease’ brought about by ‘the injudicious use’ of morphia injections and characterized by ‘the uncontrollable desire of a person to use morphia as a stimulant and tonic’ (p. 3). Levinstein insists that this morbid craving results from one’s ‘natural constitution, and not from a certain predisposition for its use’; that ‘every person, whether of a strong or weak constitution, has a tendency towards a morbid craving for morphia’ if he is accustomed to giving himself injections of the drug (pp. 6–7). Even though Levinstein indicts the delivery system (hypodermic injection), it is nonetheless the repeated use of drugs themselves that produces the diseased state. Similarly, in an article titled ‘Molecular neurobiology of addiction’, Nestler (2001) sets forth a neural plasticity theory of addiction, in which he argues that drugs of abuse produce certain ‘acute effects’ in the brain by binding to initial target proteins. These effects produce not only the euphoric state associated with being high, but over time and with chronic use the drug causes certain molecular and cellular adaptations to occur. These adaptations caused by the drug underlie the behavioral abnormalities associated with the neuropsychiatric disorder, addiction.

In the second intensive zone of bio-physical explanations of addiction it is a pathology of the body which subjects the addict. Mattison (1883) wrote that the ‘physical necessity’ of the habit has ‘its genesis in some painful ailment demanding the use of opium’, but by the time this ‘legitimate need was fulfilled’, the habit will have ‘forged around its unsuspecting victim a chain so powerful that self, unaided, was powerless to break it’ (pp. 111–112). Bishop (1913) argued that, based on his clinical studies at the Bellevue Hospital, ‘it is to the formation of an antitoxic substance that we must look’ to explain and classify addiction as ‘a definite medical entity’ (p. 432). Bishop analogized that ‘as antitoxins are prepared for the neutralization of the organic poisons of invading bacteria’, so the body released an antidote to morphine when it was present in the body in too large amounts. Withdrawal and tolerance, then, were caused not by the drug but by a body’s own secretions become pathological. In both Bishop’s and Mattison’s theories, addiction is a pathological response in the organism – rather than an existing predisposition or the drug itself – associated with the presence of narcotic substances. While its precise nature remains unclear and, from both a theoretical and a medical point of view, problematic, the disease model of addiction so widely popularized by twelve-step programs like Alcoholics Anonymous (AA) frequently maintains a view of the disease as an allergy of the body (Peele 1989).

The third intensive zone that emerges in bio-physical explanations of addiction focuses on neurological determinants of the disease. One of the early explanations of chronic intoxication in terms of neuropsychological structure is
what Jaffe (1978) calls the ‘neurasthenia thesis’ (p. 140). Neurasthenia was a
nineteenth century disease characterized as ‘a condition of weakness or
exhaustion of the nervous system’, which appeared ‘as the expression of a
morbid, unhealthy reaction to stimuli acting on the nervous centres which
preside over the functions of organic life’ (Osler 1892/1978, p. 978). It was
believed that individuals had finite amounts of nervous energy and that adverse
social or environmental stresses (associated with ‘modern life’) depleted one’s
energy. Once depleted of nervous energy, individuals turned to ‘stimulants’
like opiates and alcohol for temporary rejuvenation. In so doing the individual
became susceptible to the opium or alcohol habit. This explanation, like the
psychological theories that inspired it, went unproven and eventually fell into
disrepute, but as Jaffe (1978) shows, this view strongly influenced
contemporary disease-concepts of addiction, especially contemporary neuro-
scientific explanations. These have sought to solve the addiction problem by
looking to ‘the cascade of chemical and electrical phenomena’ that begins with
the first use of a substance or instance of a behavior and ‘ends with abuse and
addiction’ (Taubes 2001). Since the initial discoveries of Olds and Milner
(1954), it was postulated that dopamine – the principle neurotransmitter
responsible for the neurological action of opioids in the brain and the key
chemical implicated in addiction – was a kind of ‘pleasure juice’ (Wickelgren
1997), and that drugs like cocaine ‘hijack’ these pleasure centers and turn the
organism into a drug machine by causing the brain to release such high
amounts of dopamine. Current research suggests that dopamine and the
pleasure centers are part of a larger neurochemical learning mechanism in the
brain, and that this mechanism, when it ‘learns’ to associate pleasure
(dopamine) with drugs, causes the organism to use (or act) compulsively
and thus to become addicted (O’Brien et al. 1997). While the neurasthenia
thesis and neurotransmitter thesis imply different discourses, different forms of
practice, different ‘problematics’, and different cultural and historical
situations, they nevertheless look to related neurological forces as determinate
in explanations of drug habits and addictions.

The fourth intensive zone that organizes bio-physically polarized explana-
tions of addiction concerns the search for an evolutionary determinant. One
component of the neurasthenia thesis that remained influential throughout the
first decades of the twentieth century was the focus on heredity as an
important predisposition to chronic intoxication. As Osler indicates in his
etiology of neurasthenia, heredity was one of the two causes of this disease:
‘We do not all start in life with the same amount of nerve capital’, Osler
explains, for parents ‘transmit to their children an [nervous] organization
which is defective in what, for want of a better term, we must call “nerve
force”’ (1892/1978, p. 978). Heredity went on to serve as a formative
category in Lawrence Kolb’s germinal research on addiction published in the
1920s and 1930s. In a 1928 article, Kolb analyzed 119 cases of addiction and
found that the mantra of the previous century – that physical disease and the consequent overzealous prescription of narcotics by physicians – was not the ‘real’ cause. Rather, he argued that ‘nervous instability’ was the more significant ‘causative factor’ (Kolb 1928, pp. 172–174). A ‘tainted’ inherited constitution, as expressed in the documented ‘nervous difficulties’ of his cases’ blood relatives – including various neuroses and psychoses of vague description, epilepsy, migraines, asthma, and diabetes – was in Kolb’s study the key to explaining addiction. Similarly, contemporary research on genetics posits an evolutionary mechanism at the root of addiction. In a report published in *Science* on research connected to the so-called ‘Alcoholism gene’ (the A1 allele of the gene fragments responsible for the D2 dopamine receptor), Holden (1994) claims that ‘(t)win, family, and adoption studies have demonstrated that people can inherit a vulnerability to strong drink’ (p. 1696). While a heritable ‘alcoholism gene’ or an analogous ‘addiction gene’ has yet to be identified and many remain skeptical of its existence, neuroscientists continue to explain the ‘neurotransmitter thesis’ described earlier in terms of evolutionary mechanisms. Concar (1994) explains that dopamine links behaviors to learning, and that these linkages have species consequences: it is what makes ‘eating, having sex and mothering infants’ – all activities necessary for the species to continue – ‘pleasurable and worth repeating’. That drugs hijack the learning-reward pathways, according to Concar, is an unavoidable consequence of human evolution. ‘In cold biological terms’, Concar explains, ‘the threat of addiction is the price we must pay for having evolved the capacity to respond to pleasure; or if you like, for not being bored to death by sex and food’ (1994, p. 29).

For analytical reasons I have been at pains to differentiate the four intensive zones of pharmacology, pathology, neurobiology, and evolution. However, it must be noted that these zones are seldom mutually exclusive in the way that moral and bio-physical explanations claim to be. While in many cases one zone is emphasized over others, it is often the case that various explanatory zones are more or less cogently incorporated in any given explanation of addiction. For example, as the discussion of neurasthenia and neurotransmitter theses indicate, there is a tendency to link neurology or ‘nerve capital’ to heritable traits or evolution. More important than artificially parsing the various intensive zones is their relation in the bi-polar diagram.

**Problematizing the bi-polar model**

For all its explanatory power, the polarized diagram is problematic in so far as it encourages us to view moral and bio-physical explanations as mutually exclusive paradigms within which all explanations of addiction can (and must) be sorted. This view is problematic for two reasons. First, viewing them as
mutually exclusive fails adequately to account for the complex relation between them. To return to the magnet diagram, the field effect operates by way of opposition: in this case, explanations attracted to one pole rhetorically repulse those associated with the opposite pole. Despite their antinomy, or perhaps because of it, the two poles relate to one another intensively. The struggle to oppose and repulse moral views in bio-physical explanations of addiction – here given as (scientific) facts versus (moral) myths – is an important feature of both historical and contemporary bio-physical explanations. As detailed above, J.B. Mattison (1883) was one of a number of nineteenth-century physicians who argued that chronic opium and alcohol intoxication is a physical disease (see also Parish 1870/1981, Levinstein 1878/1981, Kane 1881/1981, Meylert 1885). Yet contemporary scholars often insist their nineteenth-century predecessors were incapable of such views. Glenn Walters (1999), in summarizing the view of addiction as a ‘biological process driven by genetic or physiological forces’, begins his history of the ‘disease model’ with Jellinek’s 1960 book, The Disease Concept of Alcoholism. ‘Prior to this’, Walters explains, ‘people who misused alcohol were considered morally weak individuals who lacked proper willpower’ (1999, p. 19). In its rather polemical introduction, a 1997 Institute of Medicine report titled Dispelling the Myths About Addiction asserts that popular, political, moral ‘myths’ occlude the dawning, scientific light of addiction research and, as a result, block the way of scientific progress by limiting funding, ignoring findings, and deterring bright young scientists from joining the quest for the truth about addiction. I use the word ‘progress’ purposefully, to highlight the implicit assumption at work in this quotation: that moral explanations of addiction are an anachronism of historical, popular attitudes which continue to exert a nefarious influence upon the public’s perceptions, as well as those of policy-makers and, more importantly, scientists who might otherwise enter the field of addiction research (see Institute of Medicine 1997, pp. 4–9).

Where bio-physical explanations seek to oppose moralistic accounts which make of addiction a problem of the will, moral explanations of addiction find bio-physiological explanations contentious precisely because the human will is altogether attenuated. Stanton Peele’s (1989) diatribe against the addiction treatment industry offers an exemplary formulation of this perspective. The title of the first chapter is perhaps enough to make clear Peele’s point: ‘Why addiction is not a disease: and why we should care that it not be treated as such’ (p. 1). Peele reasons that:

We now look almost exclusively for sources of emotional distress and behavioral excesses in the chemistry of drugs and people’s bodies. In seeking biological cures for emotional disorders and addictions, we are going in exactly the opposite direction we need to follow. (1989, p. 11, original emphasis)
‘People’, he continues, ‘regularly quit smoking, cut back drinking, lose weight, improve their health, create healthy love relationships, raise strong and happy children, and contribute to communities’ (Peele 1989, p. 29). Biological models of addiction ‘militate against such human potentialities’, because they teach us to view behavior as out of control. Against the bio-determinist model, Peele argues for a view of ‘human potency and morality’, a view which insists that the source of health in individuals lies with communities and families which ‘insist on standards of decency’ (p. 29). Similarly, Seeberger’s (1993) critique of bio-physical explanations is largely implicit, but he nonetheless insists that addiction is ‘more than any merely physical state or group of behaviors’ (p. xiii, own emphasis). For Seeburger, a moral view seems to come as a response to disease conceptions of alcoholism which have themselves proliferated out of control.

The second reason the overly simple bipolar diagram fails to map the field of addicted subjection is the proliferation of a number of explanations which mix elements of both the moral and bio-physical poles. Perhaps the best example is also the most predominant explanation of addiction, the disease-conception of alcohol addiction popularized by the AA. As Peele summarizes it, the disease-conception of alcoholism is defined by six ‘core beliefs’. These core beliefs explain addiction as a disease that is: (1) characterized by loss of control (an addict can’t help it); (2) hereditary in nature (an addict is born that way); (3) inexorably progressive (an addict’s disease always gets worse, never better); (4) ubiquitous throughout social strata; (5) characterized by denial, both on the part of the individual addict (who denies having the disease) and society (which denies its prevalence); and (6) only effectively treated by therapies (whether formally so or otherwise) based on AA principles. This last core belief shifts from etiological and symptomatological terrain to therapeutic terrain but, in so doing, it also abruptly shifts from the bio-physical to a moral orientation. That is, AA adopts from the bio-physical pole its rhetorical strategy of maintaining that addiction is not the fault of the addict — after all, addiction is a hereditary, progressive disease, not a sign of an individual’s moral bankruptcy or lack of will power. Simultaneously, AA turns to an explicitly moral (and even theological, though not necessarily Christian) discourse that holds the individual addict responsible for disease behavior by enforcing compliance with a rigorous program of moral self-examination and development. As Peele observes, ‘although AA proposes a biological explanation for alcoholism, its climate is that of nineteenth-century revivalistic Protestantism’ (1989, p. 44). While this in no way detracts from the therapeutic value of AA for those who find their way out of addictions, there is nevertheless a paradoxical quality to its explanation of addiction (Reissman 1998).

Clearly, the bipolar diagram fails to offer an adequate map for the field of addicted subjection. But, once again, the diagram of magnetism offers a way
out. Rather than looking to differentiated explanations according to their attractions-repulsions, we might consider how multiple intensive zones of attraction-repulsion operate collectively and with relative independence, to produce zones of individuation. As in Whitehead’s diagram (figure 2), we might proceed by positing explanations of addiction within a field that makes visible an important field affect: the individuation of the addict as a particular mode of subjection (marked ‘A’ in the diagram).

We can, that is, observe a ‘force field’ at work in explanations of addiction, a field affect produced in the relation between moral and the biological poles. Despite their antimony, both modes of explanation resort to the same unit of explanation: the individual subject, the addict. To be sure, moral explanations and bio-physical explanations compose their respective subjects in different ways, shaping them according to the dictates of differing discourses and practices, which are internalized or appropriated in different ways. For example, there is no macro-actor like AA’s ‘higher power’ in biological explanations of addiction, just as there is no room for a micro-actor like the ‘alcoholism gene’ in moral explanations of addiction. Nevertheless, the unity being posited in both cases as the subject of research and practice—that which comprises the subject of medical knowledge, meanings, and action—is coterminous with a modern conception of self.

As Nikolas Rose (1998) defines it, this self is ‘coherent, bounded, individualized, intentional, the locus of thought, action, and belief, the origin of its own actions, the beneficiary of a unique biography’ (pp. 3–4). Like the self Rose describes, the meanings, practices, and discourses of addicted subjection operate to ‘bound’ the addict in a similar manner from the directions of the moral and bio-physical poles. Notions of ‘intention’ and ‘belief’, and viewing the individual as ‘the origins of its own actions’ and the ‘locus of thought’, smacks decidedly of moral language. While notions like neurobiology and evolution might seem at the furthest possible remove from such a morally inflected definition of the self, they nevertheless emerge from assumptions of a similarly bounded, similarly coherent and intentional self. That is, despite the talk of genes and reward pathways and the ‘species function’ for which addiction is the presumed ‘price’ paid for human evolution, it is to a similarly bounded, unique, coherent and intentional individual and to that individual’s behaviors that these theorizations ultimately apply, and it is such an individual that they seek to diagnose and regulate.

We can view both moral and biological explanations of addiction as having become constituents of what Rose terms the ‘regime of the self’, a horizon of action organized in a set of practices which delimit, assume and govern the psycho(bio)logical individual (1998, p. 2). This conception of the individual self, the sine qua non of modernity (and addiction), is ubiquitous even among ‘sociological’ and ‘environmental’ theories of addiction. Schlaadt (1994) introduces his Drugs, Behavior and Society, for example, by presenting his
readers with the ‘fact’ that ‘illicit drug use begins with a simple decision, a single moment, a search for passing pleasure’, which ultimately has ‘far-reaching consequences for the user’ (p. 1). Despite the gesture toward ‘society’ in the title Schlaadt founds his entire discussion of drugs and society in terms of individual choices and behavior. Similarly, Alfred Linde smith’s classic study, ‘A Sociological Theory of Addiction’ (1938), argued that in order to be credible, a theory of addiction must explain why certain individuals who take opiates become addicted, while others do not. The factor which accounts for this difference, Lindesmith argued, is ‘the person’s knowledge or belief’ about the symptoms he experiences ‘supplied to him by his cultural milieu’. ‘Addiction’, Lindesmith maintained, ‘is generated in the process of using the drug consciously to alleviate withdrawal distress’ (1938, p. 593). Thus, even for sociological theories of addiction, the individual is in the last instance, in Rose’s words, ‘the locus of thought, action, and belief, the origin of its own actions’ (p. 593).

I have argued that the view of addiction as an individual problem is the sine qua non of addiction: without the clinical ‘portrait’ of the addict as a particular kind of subject, addiction as such is no longer intelligible. But there is a further reason for pressing this point. The view of addiction as an individuated, individual’s problem is itself highly problematic for two reasons: first, it occludes its own historical and cultural situation, its temporal-spatial specificity; and second, it mitigates against attending to the crucial socio-technical transformations which coincide not only with the emergence of Rose’s ‘regime of the self’, but also with the concept of addiction and its ‘deviant’ subject, the addict. Rather than arbitrarily parsing out these two problems, I will explore their mingling in the terminological, practical, institutional, and technological context of modernity.

The field effect

The individual subject which Rose describes is taken as a regulative ideal in the psychological and medical sciences. As Rose explains, ‘our vocabularies and techniques of the person, by and large, have not emerged in a field of reflection on the normal individual, the normal character, the normal personality, the normal intelligence, but rather, the very notion of normality has emerged out of a concern with types of conduct, thought, expression deemed troublesome or dangerous’ (1998, p. 26). While substances like opium have been a part of human society from pre-history (Guggenheim 1967, Sonnedecker 1962, Booth 1999), it was only when the field of experience associated with euphoric practices were construed as ‘troublesome’ and ‘dangerous’ that addiction emerged. And it is more than a coincidence that this field of experience becomes a ‘problem’ at the same moment that the regime
of the self that Rose describes comes into its own (from approximately the mid-nineteenth through the twentieth centuries).

My point can be outlined in still more concrete terms. Prior to the twentieth century there were a number of different terms used by those in the ‘helping’ professions (psychiatrists and physicians) who, in the course of treating their patients, studied the problem of chronic intoxication: these patients were described variously as lethemaniacs (Gibbons 1870), morphinomaniacs (Adams 1907), criminal morphinomaniacs (Crothers 1899), opium eaters (Noble 1890), meconists, papaverists, and opium psycho-neurotics (Hughes 1884), and so forth. It was not until 1909, however, with the publication of Oscar Jennings’s book, The Morphia Habit and its Voluntary Renunciation, that individuals were termed addicts. As the title of the book indicates, this first use was nothing like a ‘sea change’ in the way the medical profession viewed drug users: they were still commonly referred to as habitués, as in Jennings’s text (Rothstein 1972, Courtwright 1982). But within two decades, by the publication of E.W. Adams’s (1937) book, Drug Addiction, the term addict, the substantive referring without distinction to any habitual drug user, was such a standard feature in medical texts that Adams, a British physician, could confront the problem of ‘tea’ addiction.

More important, however, was the institutionalization of this new subject, the addict. The change in terminology from habitué to addict is more than a matter of mere words or of medical philosophies, for this change corresponds to shifts in the political fortunes of drug users, as numerous laws emerged as solutions to the problem-field organized around the drug crisis. The first international efforts toward drug control were made in exactly the same year that Jennings first dubbed the subject of addiction the addict, at the Shanghai Conference of the International Opium Commission in 1909 (Musto 1987). This constituted the first effort to establish a broad-based international agreement to control the production, importation, manufacture, and sale of opium and its byproducts.

The Shanghai Conference was preceded in the US by the Pure Food and Drug Act (1906), a piece of legislation aimed at curtailing the excesses of the patent medicine industry, which by not labeling the narcotic contents of its ‘patent’ preparations (which were marketed to cure everything from hangovers to colic) defrauded and, worse, harmed millions each year. The first real effort to make narcotics themselves illegal, however, came in 1909 with what Terry and Pellens (1928) cite as ‘An act to prohibit the importation and use of opium for other than medicinal purposes’ (p. 745). This act did not extend to preparations other than opium (such as heroin, morphine, etc.), nor did it prevent physicians from treating and prescribing drugs to addicts. But domestic control was further expanded in 1914 with the passage of the Harrison Anti-narcotics Act, which not only made non-medical use of drugs illegal, it also forbade physicians from treating or prescribing so-called
'maintenance' doses to addicts under penalty of fine, imprisonment, and professional ruin. Further, it made importation, preparation, sale, and even non-medical possession of narcotics illegal. The consequences were profound: literally over night, innumerable addicts who were able to seek treatment and safely and legally acquire drugs of predictable quality under the care of a physician were suddenly cut off from their safe, predictable supply 'cold turkey'. Effectively cut off from a legal supply, addicts were by definition law breakers and *ipso facto* psycho-social deviants (Kolb 1925). To be an addict was, suddenly, to be a criminal.

Consequently, the federal prison system was quite suddenly deluged with sick, withdrawing federal prisoners. This led to the establishment by act of Congress in 1935 of two federal narcotics 'farms' at the federal penitentiaries in Lexington, Kentucky, and Fort Worth, Texas. Under the aegis of the Public Health Service, these farms became the institutional home of the Addiction Research Center. For the next 22 years, ARC began its mission to cure American society of addiction. In an article on the ARC, Acker (1997) summarizes Surgeon General Hugh S. Cumming’s inaugural address. It is worth quoting at length as it articulates the link between the (medical) institutionalization of addiction and the (criminal) institutionalization of the addict as a particular kind of subject:

He described the hospital as representing a ‘modern’ approach to addiction, which he compared to ‘an endemic disease’ warranting a ‘medico-social’ response. Addicts were the targets of an illicit market in opiates that was in effect a source of contagion, endangering their fellow citizens. Segregating addicts from society ‘with the object of medical treatment’ would protect the public as well as helping the addict. Cumming compared the treatment of addicts to the treatment of the insane: he said that in previous, less enlightened, periods, simple confinement of the insane had prevailed but that now medical progress had led to the provision of humane, therapeutic regimens for those suffering from mental illness. Similarly, new understandings of addiction offered hope of providing cures for a condition long viewed as intractable.

(Acker 1997, p. 245)

Acker’s summary, underscored by Cumming’s own words, indicates both the operant assumptions about the addict as a particular kind of deviant individual, and the general direction and nature of policy and practice in ARC research over the next 22 years. These researches included not only the creation and endless refinement of personality tests designed to detect the elusive ‘addict’ personality; they also involved the creation and use of devices like the metabolism chamber, which Lawrence Kolb proudly described in an article for *The Scientific Monthly* as:
an absolutely air-tight chamber in which the patient is kept for twenty-four hours. All food, water and air that he takes in and all excretions, including perspiration and expired air, are minutely measured. Comparisons are made on the same subject during and after addiction to morphine. Every motion of the patient is recorded on a moving drum.

(1939, p. 399)

This chamber might serve as an image, not unlike Foucault’s panopticon, for the assemblage of discourses, meanings, practices, and institutional arrangements of power involved in the production of addiction as a mode of subjection. The chamber both physically and psychically organized the individual addict-subject by hiving it off from drugs, but also from the cultural, social, political, and economic milieu within which such ‘individualism’ made any kind of sense, and within which drug use both occurred and was constituted as a problem. The addict Kolb describes is betrayed by his own minutely and precisely measured biometry, and by way of this betrayal is individuated, socially organized via his isolation, and pathologized as a particular kind socially threatening subject.

I am not arguing that the tightening of drug controls was the cause of addiction (see Lindesmith 1938). Shifts in public policy and law, shifts in conceptions of individuals and techniques of self, technological changes leading to more potent drugs and routes of administration, shifts in medical practice, popular conceptions of drug abusers – in other words, a complex field of heterogeneous forces – composed a force-field whose field effect has been a particular mode of subjection: addiction. Addiction designates the emergence of a new conception of illness, a new ‘disease assemblage’, constituted in emergent practices concerned with a new kind of medical subject, the addict. Drug use, which in this new horizon of the self constitutes ‘addictive behavior’, becomes a problematic form of experience precisely when and where ‘addiction’ emerges as the solution, a means for meeting the ‘growing menace’ which it was made to constitute (Isbell 1951).

Conclusion

My goal in this essay has been to develop a Deleuzean approach to both conceiving and mapping the vector of addicted subjection. I have endeavored to diagram the relations of forces in the discourses and practices that compose addicted subjection. The meanings, significations, practices, and relations of power implicated in this diagram organize an intensive zone of addicted subjection, the ‘A’ region of Whitehead’s diagram (figure 2). Compelling an example as this figure may be, I want to add to these diagrams of force fields diagrams of a different sort, but which might also be viewed as evidencing an
‘abstract machine’ at work across the forces, meanings, and practices detailed here. The first of these images (figure 3) is taken from a National Institute of Drug Abuse (NIDA) research monograph on Genetic and Biological Markers in Drug Abuse and Alcoholism (Vessel 1986). It diagrams a vector comprised of multiple forces, including everything from drinking alcohol and smoking marijuana, to barometric pressure and sunlight, liver function, lactation, and starvation. Note that these forces act in a direction, at a center emphasized with a dark, thick-lined circle that circumscribes the ‘genetic constitution’ (perhaps another form of code that has been added to the ‘unique biography’) of the individual addict. The periphery consists of ‘well-established or suspected host factors’, which are joined in a line to signify their ‘interrelationship’ (Vessel 1986, p. 28). These forces, however heterogeneous, organize a field that produces addicted subjection, such that each line of force in relation to the others serves in the circumscription of the addict. Nearly every imaginable force exterior to the individual conspires, at least in this diagram, in the subject’s subjection.

FIGURE 3
The second diagram, cartoon-ish and less ‘scientific,’ also images the operation of forces in the constitution of addicted subjection. It differs from the first diagram in that, rather than focusing on the many exterior forces that organize their subject, this second diagram focuses upon the substances which have come to be viewed as ‘addictive.’ This image (figure 4) graces the cover of another NIDA monograph titled *Self-administration of Abused Substances: Methods for Study* (Krasnegor 1978). Where the neat, straight lines in the first image indicate various environmental, social, biological, and even astronomical forces, this second diagram of the force field of addicted subjection shows meandering, jumbled ‘lines’ of pills, cigarettes, and alcoholic drinks, as well as cake and pie, burgers and fries, ice cream, sausages, doughnuts, and soda—all flowing into the gaping mouth of the ‘addict’. It is perhaps true, as Avital Ronell observes, that ‘you can only be addicted to what is available’ (1993, p. 42). The problem is that now, via the vector of addicted subjection, everything is ‘available’ and everyone is vulnerable. Given the range of substances, objects, practices, experiences, technologies, and even relationships, that have become a part of the force-field diagram of addicted subjection, addiction’s proliferation can no longer be linked to the problem of drug...
control, to the availability of the addictive substance, or to the pathologized will or organism of the individual. It isn’t the number or quantity of drugs or other objects of addiction that have led to the proliferation of addiction – at least not in themselves. It is rather the field of forces which continue accomplishing and organizing addicted subjection.

The diagram of addicted subjection produces a picture that recalls Peele’s prediction of a world where everyone is perfectly isolated by her addiction. As this map of the vector of addicted subjection makes clear, it is a ‘repugnant’ and ‘hopeless’ world to imagine. Indeed, perhaps addiction is not a case of subjection gone awry; perhaps it is rather the apogee of subjection. If this is the case, the map produced here might lead us to return to the whole field of forces of the social, to locate and create new potentialities and connections that might lead to an elsewhere and an otherwise. To borrow another observation Deleuze and his frequent collaborator, Félix Guattari, made concerning subjectivity, perhaps we might recognize that addicted subjection is itself a habit, ‘the habit of saying “I”’. What matters, say Deleuze and Guattari, is not so much whether one says ‘I’ or not, but reaching a point where it no longer matters whether one says ‘I’. If I may creatively misquote, the goal I have in mind is ‘to reach the point where it is no longer of any importance whether one says I (am an addict-subject)’ (Deleuze and Guattari 1987, p. 3).

In so far as the emergence and spread of addicted subjection has to do with the rise to dominance of contemporary scientific medicine, there are a number of implications that might follow. First, moving in the direction suggested by this analysis, others may seek to map other modes of subjection significant to illness and wellness in contemporary cultures – such as those which have emerged in non-Western cultures or those associated with diffusion of ‘alternative’ medicines. Similarly, mapping the influence of Western biomedicine on modes of subjectivation in non-Western cultures might lead to an analysis of and interventions in the hegemony of bio-medicine. Finally, as one of a number of the so-called ‘new’ epidemics of chronic illness challenging what Inhorn and Whittle (2001) term the ‘myopic focus of biomedicine’, this study of addiction might serve as a useful tool in the analysis of other vectors of other disease-assemblages. Just as the spread of such diseases does not conform to the mechanistic model of infectious disease, so the ‘niches’ within which they obtain will require a more interdisciplinary, contextual, and critical analysis than any bio-medicine is likely to muster. At the least this study stands as a further indication of the contribution cultural studies can make to an understanding of the meanings and practices involved in illness-wellness, the social inequalities with respect to health produced and maintained around gender, race, class, and sexuality, the implications of these for individuals’ and collectivities’ experiences, and the future politics to which making sense of such complex phenomena may give rise.
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Notes

1 In his Presidential address regarding the impending war against Iraq on 7 September 2002, George W. Bush announced that Sadam Hussein was ‘addicted to weapons of mass destruction’.

2 The ‘X-files fan fiction addiction’ website offers a diagnostic questionnaire and a 12-step recovery plan. There are a number of fan sites by and for ‘X-addicts’ [online] Available at: http://www.geocities.com/Area51/Keep/2355/ (accessed 6 October 2001).

3 This figure appears frequently in writings on the drug problem throughout the 1920s to 1930s, but it has proven to be a gross exaggeration. A more likely figure is 100,000 (see Courtwright 1982).

4 I wish to thank the McGraw-Hill Companies, Inc., for permission to reprint J.B. Whitehead’s diagram of force fields.

5 Becker defines addiction ‘simply as a strong habit’ (1992, p. 329), a conflation of addiction and habit which is strongly resisted in medical writing on the subject (see Anderson et al. 1998).

6 The ARC understanding of addiction borrows selectively from a loosely Freudian model. The position of ARC, as embodied in the many publications of its members, blamed poor mother–son relationships and improper psychosexual development for the ‘deviant’ personality and illicit dispositions of the addict (see Isbell 1951, Hill 1962, Felix 1939).

7 In the WHO system of classification, ‘habit’ was characterized by strong desire, not compulsion, did not imply intoxication, and produced neither dependence, tolerance, withdrawal syndromes, nor ‘harm’. Thus, addiction was largely reserved for barbiturates and opiates, and later alcohol, while habit was used to characterize alcohol and nicotine use that had become excessive.

8 Peele offers statistics from several surveys that demonstrate the proliferation of the AA model as populations show increasingly that their beliefs about addiction follow the basic AA principles outlined here.

9 My recitation of this history has been aided by Musto (1987) and by the copious review of primary sources in Terry and Pellens (1928).
This claim was made by Samuel Hopkins Adams, a muckraking journalist who published a series of five influential exposés on the patent medicine industry. These originally appeared under the title of *The Great American Fraud* in Collier’s between October, 1905 and January, 1906. The five essays were subsequently collected and published by P.F. Collier and Sons in 1906.

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