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Morals, medicine, metaphors, and the history of the disease model of problem gambling

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Abstract

Over the past 200 years, society has come to accept the idea that addictions such as alcoholism and pathological gambling (PG) are a type of disease that is chronic, progressive, and somewhat mysterious in terms of etiology. This conception has been most strongly associated with organizations such as Alcoholics Anonymous and Gamblers Anonymous. The chronic disease model alleviated stigma and encouraged many to seek help, but has been challenged by some experts. Confusing the issue is that the public health model, often presented as the main alternative to the disease model, is rooted in epidemiology and clearly a disease model itself. In this paper, we trace the history of ideas about PG as a disease and examine some of the assumptions and metaphors that underlie these models. In the final section, we examine what aspects of addiction in general, and PG in particular, are either revealed or hidden by these models.

Résumé

Au cours des 200 dernières années, la société en est venue à accepter l'idée selon laquelle les dépendances comme l'alcoolisme et le jeu pathologique sont une forme de maladie chronique, évolutive et relativement mal connue quant à son étiologie. Fortement associée à des organismes comme les Alcooliques Anonymes et les groupes d'aide aux joueurs pathologiques, cette conception des dépendances selon le modèle d'une maladie chronique a permis d'atténuer la stigmatisation des personnes atteintes et a encouragé nombre d'entre elles à consulter, mais elle fait l'objet d'une remise en question par certains spécialistes. La question fait l'objet de confusion, parce que la conceptualisation des dépendances en tant que problème de santé publique, souvent présentée comme la principale façon d'envisager les dépendances autrement que comme une maladie, provient de l'épidémiologie et repose elle-même clairement sur le modèle d'une maladie. Dans cet article, nous retraçons l'histoire des idées concernant la conceptualisation du jeu pathologique comme maladie et

examinons les diverses hypothèses et métaphores qui sous-tendent les modèles qui en ont découlé. La dernière partie de l'article est consacrée à une étude des différentes facettes de la dépendance en général, et du jeu pathologique en particulier, que contribuent à dévoiler ou à cacher ces modèles.

Introduction

Pathological gambling (PG) achieved medical recognition later than alcoholism. Through the first half of the 20th century, PG was seen largely in moral terms, as a vice for which the gambler is entirely responsible. This changed with the ascendancy of a medical perspective, symbolized perhaps in 1980 with pathological gambling's inclusion in the *Diagnostic and Statistical Manual of Mental Disorders* (3rd ed.; *DSM-III*; American Psychiatric Association [APA], 1980) as a disorder of ''impulse control''. This change helped to reduce guilt and stigma, and the ''medical model'' was hailed by its proponents as enlightened and ascendant (Lesieur & Custer, 1984). Though there are, in fact, many disease or medical conceptions of addiction in general and of PG in particular (e.g., genetic, trauma, personality, allergy), the model is often treated as a unified entity (by supporters and critics alike). Writers who argue against the disease model often speak as though there were only one disease or medical model of addiction. Yet the public health model of addiction, which is based on epidemiological models of disease (Duncan, 1974; Gruenewald, Treno, Taff, & Klitzner, 1997) and could also be called a disease model, is often advanced as an alternative to the dominant disease concept. To make clear the type of model that we are talking about in the present paper, we will call it the *chronic disease model of addiction*.

What we refer to here as the chronic disease model is a conception based on the view of addiction advanced largely by mutual aid or self-help organizations such as Alcoholics Anonymous (AA) and Gamblers Anonymous (GA), albeit with some scientific support (D. Flavin & Morse, 1991; Jellinek, 1960; Lesieur & Custer, 1984), and in many ways consistent even with the *DSM-III* (APA, 1980) description of PG as a disorder of impulse control (R.I.F. Brown, 1991; Ferentzy & Skinner, 2003). The model also shares features with the *DSM-III* discussion of substance dependence, despite the absence of terms such as *disease* and *addiction* (O'Brien, 2006; Petry, 2006; Potenza, 2006). In a study of GA and of ideas pertinent to that fellowship, the following breakdown has been proposed: ''1. Addiction is a primary disease, the cause rather than the effect of other difficulties; 2. Addiction is progressive, meaning that untreated it can only get worse; 3. Addiction is chronic, meaning that it can be arrested but never cured (hence abstinent subjects must forever remain on guard); 4. Abstinence is the only solution'' (Ferentzy & Skinner, 2003, p. 7). The tenets listed here are often taken as inherent aspects of addiction as

disease, perhaps even more so by those who criticize the model (e.g., Dickerson, 2003; Peele, 1989, 2003).

The chronic disease conception put forward by AA relies upon personal, experiential accounts, involving a radically phenomenological approach that posits one's addiction as ontologically given (Ferentzy, Skinner, & Antze, 2009). To a degree, this sets it apart from the medicalized version offered by the *DSM-III* (APA, 1980) – but only to a degree, and even here the similarities may be more important than the differences. Ferentzy & Turner (2011) have observed a key difference in 19th- and 20th-century addiction constructs: Whereas in the 19th century inebriety doctors could diagnose patients through observation, this approach was supplanted by an experiential approach requiring, for example, statements of loss of control on the part of patients (Room, 2003). As the 12-step movement emerged and grew in the mid-20th century, the medical approach to diagnosing addictions was itself becoming cooperative: a team effort requiring both doctors and patients to do their part.

This chronic disease model posits a peculiar disease that does not fit in well with the general notion of medical disease (Turner, 2006). None of the criteria mentioned above are necessary attributes of a disease label. Many diseases are secondary problems, that is, not primary (e.g., heart disease can result from a poor diet). Many diseases are not progressive and many people recover, some without medical assistance (e.g., people typically recover from the flu). Similarly, many diseases are treatable and then complete recovery is often possible. Finally, complete lifelong abstinence is pretty much unique to addictions (and, in some cases, allergies as well – a matter addressed in this paper). A heart patient or a diabetic might be told (respectively) to avoid strenuous physical activities or certain foods (e.g., sugar). But only rarely would someone be told to avoid activity entirely or to avoid all foods that contain even a little sugar.

Lesieur and Custer (1984) asserted confidently that "by the year 2000" the medical model of PG "will be firmly entrenched" (p. 156). Yet this model has since been questioned on grounds similar to those upon which it has been invoked. Appeals to kindness and understanding, along with calls for less judgmental attitudes designed to help rather than harm the gambler, can all involve critiques of – or at least alternatives to – this very conception. Sociological arguments treat much of PG as situational rather than as "internal" to the gambler (Ocean & Smith, 1993) and share much with social learning theory in that PG is typically viewed in terms of a continuum of harm rather than as categorically different from normal gambling (Ferris, Wynne, & Single, 1999, p. 25). Peele (1989) has been one of the most prominent advocates of this perspective in the substance abuse field, and similar harm reduction approaches in the PG field have challenged the strict application of pathological constructs found, for example, in the *DSM approach* (Strong, Breen, Lesieur, & LeJuez, 2003).

The public health model has also been offered as an alternative to the chronic disease model (Dickson, Derevensky, & Gupta, 2002; Marotta & Hynes, 2003). Yet, as mentioned, the public health model is similarly derived from the medical field (Korn, 2005; Korn & Shaffer, 1999). In this paper, we briefly examine the histories of the chronic disease model and of what might be its major competitor, the public health model, in order to develop some conceptual clarity. Beyond this, we discuss the extent to which these models are based on metaphors, the prototypes that lie at the heart of these models, and the strengths and weakness of these conceptual and metaphorical transpositions.

History

Gambling and luck-oriented rituals have been found dating back to as early as 4000 BC (David, 1962; Reith, 1999; Schwartz, 2006). Although numerous books have been written on the history of gambling (Asbury, 1938; Binde, 2007; Dixon, 1991; Schwartz, 2006), little scholarly attention has been paid to the history of the disease conception of disordered gambling. Gambling problems have been the target of church sermons (Bernhard, 2008) and fiction (Dostoyevski, 1866/1996; M. Flavin, 2003). Gambling has consistently been a popular topic for myths, books, songs, and more recently film (e.g., Chaucer, 1400/1993; Dostoyevski, 1866/1996; Orff, 1936/1994; Tchaikovsky, 1890/1993). An examination of works of art, such as the 13th-century *Carmina Burana* poems (see Orff, 1994), Hogarth's *Rake's Progress* (Wikipedia, 2010), or Chaucer's (1400/1993) Pardoner's Tale from the *Canterbury Tales,* suggests that people have long been aware of the potential for problems with gambling, but the treatment of the topic tended to be moralistic rather than scientific. Significantly, the theme of compulsion was often applied inconsistently or not at all. Although there has long been some awareness of what we might call "addiction," notably with respect to alcohol, for centuries such awareness was not systematic (Ferentzy, 2001; Levine, 1978; Warner, 1994).

A more focused approach to compulsion began to take hold in the 18th and 19th centuries. Prototypical versions of a disease conception of substance addiction can be found in sermons dating back to the 17th and 18th centuries (Levine, 1978; Warner, 1994). Hard drinking was thought, for example, to get worse over time. In current terminology, drunkenness was derided as "progressive." Yet this involved a conception of sin in general, applying to behaviors such as swearing and adultery (Ferentzy, 2001), and so the current situation, wherein PG and substance abuse are understood with similar concepts, is not entirely novel. Bernhard (2008) was able to find examples of all 10 of the *DSM-IV* symptoms for pathological gambling in sermons from the 18th and 19th centuries. There are some references to gambling as a disease from the 19th century (Asbury, 1938; M. Flavin, 2003), and a hymn from 1905 compares gambling to leprosy (M. Flavin, 2003, pp. 222–223).

Current disease conceptions of addiction stem largely from the political and medical attention given to alcohol in the 19th and early 20th centuries. Chronic

drunkenness – whether labeled dipsomania or inebriety – was the prototypical addiction, followed by other substance addictions and then a host of compulsive behaviors (Levine, 1978; Reinarman, 2005). For example, when Levenstein (1878, 1981) discussed morphine withdrawal in the late 19th century, he compared it to alcoholic delirium tremens rather than to withdrawal from opium – which was already well-known and obviously more similar to morphine withdrawal. More recently, an addiction model has come to target a range of behaviors (Carnes, 1983; Griffiths, 1996; Miller, 1980; Orford, 1985), with pathological gambling often portrayed as an addiction (R.I.F. Brown, 1991; Griffiths, 2005; Jacobs, 1986). Hence, it should not be surprising that efforts to tackle problem gambling often adopt ideas and practices from the substance abuse field. Arguably the label disease, when applied to addictions, has varied from metaphoric use to strictly literal. Peele (1989, 2003), for example, has questioned the literal veracity of labeling addictions as diseases. Szasz (1973, 1974) has explicitly invoked the notion of metaphor to disparage the disease status of both mental illness and addiction. This raises questions pertaining to what, exactly, it might mean to ask whether addictions are literally or metaphorically diseases.

The Meaning of Metaphor

Although debates over the literal veracity of behavioral disease conceptions abound (Barham, 1984; Fingarette, 1988; D. Flavin & Morse, 1991; Meyer, 1994; Peele, 1989, 2003; Schaler, 1998, 2000; Szasz, 1973, 1974), we are not aware of any attempt to address this topic with a sound grasp of the distinction between the metaphoric and the literal. It is our intention to lay such a foundation before proceeding further.

According to the standard pragmatic model of language (Searle, 1979), the meaning of a sentence that is intended literally is the same as the expressed meaning of the words in the sentence (Searle, 1979). For example, consider the following:

1. The cat is on the mat.

The word *cat* refers to a small furry animal, and *mat* refers to a small floor covering. The words *is on* indicate the location of the animal relative to the floor covering. Conversely, in a figurative sentence, the expressed meaning differs from the exact meaning of the words:

2. My job is a jail.

The word *jail* does not refer to a prison, but uses characteristics of the concept signified by jail to express a sense of confinement. According to Searle's (1979) standard pragmatic model, literal sentences take the form of S is P, where S is the subject and P is the predicate. In literal sentences, the literal meaning (P) is also the intended meaning or referent (R). However, in a metaphoric sentence, the literal meaning (P) is not the intended meaning (R). For example, "Sam is a pig" could be used to describe a pig named Sam, but the sentence could also be used to indicate that a person named Sam is filthy or gluttonous (R).

A metaphor often assumes the structure of S is a P, but there are actually a variety of different figures of speech, each of which is characterized by using a word, phrase, or sentence to convey a nonliteral meaning. These figures of speech include simile, analogy, metonym, personification, idiom, synecdoche, and proverb. Many use metaphors or are types of metaphors. A simile, for example, is a metaphor in which the nonliteral intention of the sentence is explicit. The metaphor is hedged by using *like* or *as* to weaken the strength of the statement. For example, "Sam acts like a pig" implies that Sam is not actually a pig and also provides some indication of the particular pig-like features that are intended. Metaphors without the hedge are actually stronger statements about the subject of the sentence than similes are: Sam is not merely *like a pig*; he *is a pig*. Consider the relative strength of the following:

1. Gambling addiction is "like" a disease.
2. Gambling addiction "is" a disease.

But the strength of the second sentence comes with the potential cost of making the meaning ambiguous.

An analogy is typically an explicit comparison, more like a simile, that is more structurally complex and involves the mapping of multiple features from predicate to subject. An idiom is a figure of speech that is so well-known that it is understood directly without reference to the underlying metaphor (e.g., kick the bucket). As noted below, sometimes idioms are so well-known that the speaker would not recognize them as metaphors (e.g., "I'm feeling down").

Studies by psychologists (Glucksberg, 2003; Ortony, Schallert, Reynolds, & Antos, 1978; Turner & Katz, 2003) have shown that people can understand metaphors as quickly as literal language if the metaphors are placed in an appropriate context. In addition, Gibbs (1980) and others have shown that idioms are in fact understood more quickly when used in their conventional figurative sense than in their literal sense. The issue of literal versus figurative meaning is often obscured in the use of common metaphors or idioms. The use of *pig* to describe persons is so common that on hearing the sentence, "Sam is a pig," many readers would assume that Sam was a filthy or gluttonous human rather than a farm animal.

Many people consider metaphor a device of the poetic imagination, part of extraordinary rather than ordinary language. In truth, metaphors are pervasive in everyday life – not just in poetry, but in ordinary language, thought, and action (Lakoff & Johnson, 1980). Arguably, our human conceptual system is fundamentally metaphorical. Consider the following examples:

- I'm feeling *up*.
- That *boosted* my spirits.
- You're in *high* spirits.
- I'm feeling *down*.

- My spirits *sank.*
- I *fell* into a *depression*.

Each of these uses a directional metaphor (in italics) to describe moods that can be summarized as happy is up; sad is down. The last example includes the word *depression*, and is particularly relevant to the current discussion. The mental disease depression is named in a manner consistent with this directional metaphor.

Lakoff and Johnson (1980) catalogued several such families of metaphors, showing how they underlie a large number of ideas. Lakoff (1987) expanded this study into a more general account of how we categorize and make sense of the world. Far from being rare poetic devices, metaphors are fundamental to conceptualization (Lakoff & Johnson, 1980). Nonmetaphorical thought is for Lakoff only possible when we talk about purely physical reality. Lakoff and Johnson (1980) have been criticized by some psychologists who argue that the metaphoric root is not automatically accessed when reading a novel instance of a conceptual figure of speech (Keysar & Bly, 1995; Keysar, Shen, Glucksberg, & Horton, 2000;). However, linguistic studies (e.g., Deignan, 2005; Steen, 2007) confirm the importance of metaphor in ordinary language. In addition, research has shown that it is easier to understand – and even to remember – things that are grounded in physical experience (Paivio, 1986). Metaphors are used to help us understand and organize information about unfamiliar and abstract ideas (Lakoff & Johnson, 1980; Turner, 1995; Turner & Katz, 1997, 2003). A key aspect of what Lakoff (1987) reveals about language is that people are often unaware of the metaphoric basis of much of their language, categorization, and reasoning. The importance of Lakoff and Johnson's (1980) work is not their specific theory, but the incredibly rich fabric of metaphors in conventional language that they have revealed. It is therefore understandable that so-called mental and behavioral diseases borrow terms originally applied to biological ailments – this would just be another example of thought proceeding from the physical toward the more abstract.

Metaphor actually belongs to a family of mental shortcuts that also includes mental models (Johnson-Laird, 1983, 1989), mental imagery (Paivio, 1986), heuristics (Kahneman & Tversky, 1982), and analogy (Gentner, 1983). All of these are employed to concretize, organize, and simplify the world. These shortcuts can be useful, but reliance on them can lead to errors in reasoning (Johnson-Laird, 1983, 1989; Kahneman & Tversky, 1982). In the case of metaphors, a particularly important potential problem is that features inconsistent with the model will be overlooked (Lakoff, 1987).

Scientific models also often use metaphors. Although scientific reasoning attempts to define ideas by using empirical methods, scientific models are derived in a manner quite similar to other mental models: a simplification and concretization of abstract ideas. For example, both Newton's particle theory of light and Maxwell's wave theory of light (see Coren & Ward, 1989, p. 58) use designations borrowed from common experience (particles and waves) to explain some properties of

electromagnetic radiation. These metaphors are still current, not only because of the clarity they provide, but also because of the predictions they facilitate regarding the properties of light.

Though useful, metaphors can become a hindrance if we accept them too strongly. Metaphors reveal some aspects of a subject domain, but hide others (Lakoff, 1987). For example, calling Sam "a pig" reveals perhaps that the person in question eats too much, is greedy, or is filthy. However, Sam could be a respected teacher, a loyal friend, or a skilled mathematician. Part of the reason that both Newton's particle theory of light and Maxwell's wave theory of light (see Coren & Ward, 1989, p. 58) are still in use today is that the features hidden by the particle theory are revealed by the wave theory and vice versa. It is therefore important to examine both aspects of a metaphoric categorization: what it reveals and what it hides.

What a metaphor reveals and what it hides depends on the prototype used. Consider, for example, the following statements: (1) A duck is a bird; (2) a penguin is a bird; (3) a plane is a bird. The third example is clearly metaphor. According to both Lakoff (1987) and Glucksberg (2003), categorization is defined not by comparison with an abstract concept, but by reference to a prototype or exemplar. For the category *bird*, the prototype might be a type of songbird called a robin. In essence, identifying a member of a category is a comparison of that member to the prototype: (1) A duck is a robin; (2) a penguin is a robin; (3) a plane is a robin. The issue of whether addictions are literally or metaphorically diseases can hinge on the many definitions and the selected prototypes for the category *disease*. As mentioned, categories (both literal and figurative) reveal some things and hide others. To draw a link between a duck and a robin emphasizes some features such as eggs, feathers, and nests, but hides the differences in habitats (trees vs. ponds), sounds (chirps vs. quacks), and size (small vs. medium). If the receiver of a message were only familiar with songbirds such as robins, after hearing the sentence "a duck is a bird," he or she might mistakenly assume that the duck is a songbird. This issue is particularly troublesome when people use a familiar metaphor that they may not realize is a metaphor. When metaphors become too familiar, people cease to read them as metaphors and instead understand them directly as if they were literal sentences (Gibbs, 1980; Turner & Katz, 2003). The *addiction as a chronic disease* metaphor has, in fact, become so familiar that it is now used as a metaphor for numerous other behavior disorders.

As already mentioned, metaphors help us to understand and organize information about the unfamiliar. We use familiar and literal categories to make sense of ideas that are perhaps new, unknown, or even just too difficult to negotiate with abstraction alone (Turner, 1995; Turner & Katz, 1997, 2003). Although a metaphor can enhance understanding, it can become a hindrance if we fail to apply some critical acumen to the issue. This can be especially troublesome when attempts are made to merge popular conceptions with scientific categories; and disease conceptions of addiction have evolved in conjunction with a practical and

experienced-based method of recovery known as the Twelve Step program offered originally by AA and later by GA.

It is our contention that the question – ''Is pathological gambling literally or only metaphorically a disease?'' – raises a moot point because both literal and figurative meanings are founded on categorization by prototypes. Calling it a metaphoric categorization in no way diminishes its significance. However, it is important to examine the nature of the prototypes (literal or figurative) that underlie the chronic disease model in order to examine what the prototypes reveal and what they hide. This, in turn, may give us a different perspective on some of the controversies haunting our field.

It could be argued that alcoholism and problem gambling are only metaphorically diseases. But as Lakoff and Johnson (1980) have argued persuasively, all abstractions, including those that refer to physical diseases and mental disorders (e.g., depression), are founded on metaphors. No matter how we categorize problem gambling (disease, disorder, public health problem, etc.), the reality is that people who suffer from the disorder do indeed suffer, and that helping professionals can often alleviate their distress. The more important questions for the current paper involve the following: When a science links categories such as addiction and disease, what aspects of the predicate of the sentence (e.g., disease) are being attributed to the subject of the sentence (e.g., addiction)? What, in essence, do metaphors of addiction reveal about the affliction and what do they hide?

The Chronic Disease Model of Addiction

This model has had effects on medical and psychiatric practice that are undeniably unique. Advocates often insist that avoidance and abstinence are only possible after individuals admit to themselves that they have no control over their behavior (the admission of powerlessness) and join an appropriate mutual aid society that acts as a support group and – by means of a Twelve Step program – helps people to change their thinking and move towards sanity (Alcoholics Anonymous World Services [AAWS], 1976; Gamblers Anonymous International Service Office, 1984; Lesieur & Custer, 1984). The model certainly has some positive features. Ferentzy, Skinner, and Antze (2007; in press) found that although the chronic disease model helps GA members to deflect guilt and shame, it can also (perhaps ironically) encourage the taking of responsibility: Given that the model treats the affliction as internal to the individual, it precludes laying the blame upon external circumstances such as bad luck. The paradoxical situation has become a cliché, with some therapeutic merit: Although persons are not responsible for having contracted an addiction, they are nonetheless responsible for their recovery. As it removes some of the stigma associated with the disorder, the model encourages a culture of assistance among the afflicted, leading to a symbiotic sharing of experience and hope (Antze, 1987). The model also encourages a strong emphasis on pathology conducive to identifying those at risk.

Yet this conception offers a peculiar disease with no medicine and, often, no treatment other than turning to a mutual aid society and a "higher power." No medical disease other than addiction is treated this way. The model's role could be viewed as positive or negative, depending upon one's ideological bent. Professional and scientific authorities have often been marginalized, with arguably dogmatic and uncompromising results (Peele, 1989). Conversely, Valverde (1998) has pointed out that AA represents the 20th century's most significant challenge to scientific and professional psycho-authority, leading to an empowerment of the afflicted that is only starting to emerge in similar areas such as mental illness.

The medical condition known as allergy provided a highly influential prototype – a maneuver first made popular by AA (AAWS, 1976; Silkworth, 1937). Though discredited scientifically today, and by no means a respectable theory even in its time (Haggard, 1944), the allergy model of alcoholism was pivotal at the popular level and also helped to buttress a conception of addiction that did, despite misgivings about the allergy theory itself, receive scientific as well as professional support (D. Flavin & Morse, 1991; Jellinek, 1960; Lesieur & Custer, 1984). Notably, allergies can involve lifelong abstinence (e.g., in the case of an allergy to peanuts). Yet today, even allergies can often be treated with drugs or antihistamines. The oddity of the AA chronic disease model from which the GA model was derived is perhaps beholden to circumstance: When the allergy theory of alcoholism was first put forward, allergies were less clearly understood and the only solution was avoidance. In its day, the allergy model fit reasonably well with alcoholism because alcohol is an ingested substance. That the allergy analogy is more problematic for gambling does not detract from the fact that the disease conception of PG has been beholden to an intellectual climate in which AA, and by implication GA, played a pivotal role (Kurtz, 1979; Rosecrance, 1985; see Jellinek, 1960; Lesieur & Custer, 1984). Despite possible protests from adherents, the allergy theory can easily qualify as a metaphorical transposition from biological science to behavioral disorders. Aside from providing ambiguous yet undeniably influential support to disease conceptions of addiction, the allergy metaphor's most significant contribution was perhaps in helping to buttress an abstinence principle that is still current despite being contentious.

In more recent years, researchers have compared alcoholism and drug abuse to chronic medical conditions such as type 2 diabetes mellitus, hypertension, and asthma (McLellan, Lewis, O'Brien, & Kleber, 2000). The value of these comparisons is clear in the implication that if the condition is managed properly, the damage to the brain and body can be stopped and to some extent reversed (Bartsch et al., 2007). The link to asthma can be viewed as a variation on the original allergy model because asthma is often triggered by environmental irritants such as dust. Diabetes mellitus offers an interesting comparison because it is chronic, can be progressive, can be dealt with by carefully monitoring blood sugar, and actually involves self-control (e.g., not eating too much sugar). However, as we have already pointed out, diabetics have to control their sugar intake rather than abstain (in fact, they

sometimes must take sugar to avoid hypoglycemia). In addition, in no way are diabetics and asthmatics expected to get worse – ''hit bottom'' – before they can get better. Early intervention is, in fact, considered helpful to a good prognosis (Bailey, Del Prato, & Zinman, 2005).

Criticisms of the Chronic Disease Model

Controversial from the start, the chronic disease model of PG has been subject to criticisms that parallel critiques of disease conceptions of substance addiction, including, but not limited to, the following:

1. It is overly rooted in clinical perspectives (Alberta Alcohol and Drug Abuse Commission, 2002; Shaffer, Hall, & Vander Bilt, 1999).
2. It was developed with a focus on the hardest cases – often those relying upon either treatment or mutual aid – and wisdom so derived is applied to the entire population of problem gamblers without considering possible differences between severe and milder cases (Messerlian, Derevensky, & Gupta, 2004).
3. For these and other reasons, such as the view that problem gamblers must suffer sufficiently (hit bottom) in order to recover, it inhibits harm reduction and moderation therapy approaches – an idea at odds with general medical practice where emphasis is placed on early intervention. With no medical condition other than those designated as addictions do treatment professionals suggest (or insist!) that the disease must be allowed to get worse (and cause sufficient harm) in order to render treatment more effective.
4. It does not fit well with psychosocial and sociological inquiries because it encourages the view that the disorder is located within the individual rather than in social problems that the individual might experience (e.g., poverty, oppression, or, with gambling, even issues such as game features; Raylu & Oei, 2004; Tse, Wong, & Kim, 2004; see also Peele, 1989, 2003).
5. It paints pathology in black and white terms without allowing for degrees (Abbott & Volberg, 2006; Strong & Kahler, 2007).
6. It still has too much in common with the moral model it supplanted – calling a behavior a disease rather than a vice need not, on its own, drastically alter our approach (Brown, 1997; Brown, 1991; see also Ferentzy, 2001; Levine, 1978; Peele, 1989, 2003; Warner, 1994).
7. The model suggests that a cure is impossible, with lifelong abstinence as the only solution (Abbott & Volberg, 2006; Peele, 2003).
8. Many adherents of this model view mutual aid societies, rather than medical professionals, as the only means to recovery. We are left with an odd situation wherein the chronic disease models of substance abuse and PG are often defined by nonmedical people. This odd situation is often supported in part by the US political climate and its health care system because it places responsibility for recovery on the individual, and places much of the solution in the hands of (cost-free) self-help groups.

One challenge that encompasses, or at least touches upon, the properties just listed involves the notion that PG be viewed from a public health perspective on a continuum of harm rather than with a focus on pure pathology. Harm reduction, moderation management, and many (though not all) preventative measures fit well with the notion of degrees of harm and less well with a focus on those who must simply abstain.

The Public Health Model

Though not originally designed to target psycho-behavioral ailments, the public health model has from the start been focused on promoting healthy behaviors. In 1854, British physician John Snow identified polluted water as a source of cholera (Vinten-Johansen, Brody, Paneth, Rachman, & Rip, 2003). Snow was an innovator in notions such as *medical hygiene*, highlighting an approach that later came to be associated with Pasteur and the germ theory of disease, which in turn prompted various attempts at imitation in 19th-century psychiatry (Dowbiggin, 1985; Rosenberg, 1979). For epidemiology, concepts such as host, agent, and environment all became key to grasping and addressing the spread of contaminants. Twentieth-century psychiatrist Paul Lemkau, founding chairman of the Mental Hygiene department at the Johns Hopkins School of Public Health, was among the first to apply a public health model to mental disorders. Of note is the department's title: *Mental* Hygiene, just like one of Lemkau's books: *Mental Hygiene and the Public Health* (Lemkau, 1955). A promoter, for example, of community walk-in clinics in the place of larger scale residential institutions, Lemkau advocated a more sociologically grounded approach to mental health with an interesting twist: Whereas an arguably harder approach to medicalization rooted largely in clinical perspectives was challenged, the challenge involved an alternative type of medicalization that borrowed ideas from epidemiology. Thus, health becomes a public, rather than a private, issue. Medicalizing the social sphere by suggesting that maladaptive behaviors are social issues, the public health model offered a conception of societal disease in direct contrast to the more dominant, individualistic disease conceptions of behavior. Figures such as Blair Justice (1976), David Duncan (1974), and Roger Meyer (1972) soon applied the model to issues ranging from child abuse to substance abuse. If nothing else, the conceptual and metaphorical transpositions were creative:

> In this model, **host** refers to the person susceptible to the illness condition and those individual characteristics which effect his or her susceptibility to the condition. The **agent** is the element (germ, toxin, nutrient, etc.) which by its presence or absence in the host may produce the illness condition. The **environment** affects both the probability of the agent's presence and the host's resistance to the agent. A fourth concept known as **vector** originally referred to insects, such as mosquitoes or flies, which carried disease. The term vector has

> now been broadened in use to include any animate carrier of infection or even any vehicle by which the agent is transmitted from host to host …
>
> The **agent** then, is one or more psychoactive drugs. The **host** is an individual whose susceptibility is increased by internal conflicts and poor coping skill. The **environment** is the social and interpersonal setting in which the host exists, with high levels of stress contributing to the probability of drug dependence. The **vector** by which the agent is transmitted to the host is the drug using peer group. (Duncan, 1974, p. 211)

Often associated today with harm reduction approaches to substance abuse problems, the public health model has been applied to PG and poses a challenge to the mainstream disease conception with respect to each of the eight issues listed in the previous subsection (Korn & Shaffer, 1999; Marotta & Hynes, 2003; Messerlian et al., 2004; Raeburn, 2004; Shaffer, LaBrie, & LaPlante, 2004; Shaffer & Korn, 2002; Taylor, Taske, Swann, & Waller, 2007).

> For gambling, the ''host'' is the individual who chooses to gamble and who may be at risk for developing problems depending on their neurobiology, psychology and behavior patterns. The ''agent'' represents the specific gambling activities in which players engage (e.g., lotteries, slot machines, casino table games, bingo, horse race betting). The ''vector'' can be thought of as money. The ''environment'' is both the gambling venue and the family, socio-economic, cultural and political context within which gambling occurs (e.g., whether it is legal, how available it is, and whether it is socially sanctioned or promoted). (Korn & Shaffer, 1999, pp. 290–291)

With respect to ideology and policy, some sympathize with many or all of the criticisms of the chronic disease concept – favoring, for example, the treatment of harm as a continuum, and questioning the rigid application of an abstinence principle – but still take issue with the use of notions such as host, agent, and vector when targeting psychobehavioral issues (Gruenewald et al., 1997), including PG (Ferris et al., 1999). That such a case could be made without these constructs is well exemplified by the following: David Korn, coauthor of the paper quoted above (Korn & Shaffer, 1999), later coauthored another in which those very terms were not mentioned, even as a case was made for a public health/harm reduction-oriented approach to PG (Korn, Gibbins, & Azmier, 2003). If public health advocates favor a broad-based, societal perspective on addictions and related matters, it is at least arguable that some of their reliance upon epidemiological notions – though perhaps needed when the public health model was new – is by now superfluous. In fact, late-19th-century psychiatry actually borrowed from Pasteur's germ theory of disease by positing single, identifiable mental ailments (Dowbiggin, 1985). Rather than a continuum of harm, germ theory and constructs related to it were originally used to buttress hard pathological constructs in psychiatry – arguably a more consistent metaphorical application than the one in use today. One may also note that for substance abuse, the chosen ''vector'' is the peer group, whereas for gambling it is

money. One could imagine, for example, the vector being a peer group in either case, or something else. Although epidemiology does provide a useful prototype in some respects, perhaps the specifics of its application to addictions could be revised. One might legitimately ask whether the essence of the public health model is truly in its medical slant, or whether its long-standing associations with harm reduction practices and sociological approaches could function coherently without the strictly medical focus. So far, however, the model has relied too strongly on epidemiology to be considered anything but medical.

Two Models and Their Implications

The allergy theory highlighted the need to avoid alcohol (abstinence), removed the condemnation characteristic of earlier moral models, and helped to empower many of the afflicted (alcoholics, problem gamblers, and even drug addicts) in ways that remain unmatched in similar areas such as mental illness. At the same time, it promoted an uncompromising principle that to this day marginalizes options designated either as harm reduction or controlled drinking therapy. By emphasizing physical reactions, the model put focus upon the biological and the internal aspects of the addiction and, inevitably, downplayed the psychosocial. Thus, it played a role in the creation of a clinically oriented conception of alcoholism, PG, and other addictions – one that is being challenged to this day by sociologists and other critics (Alexander, 2008; Fingarette, 1988; Mate, 2008; Peele, 1989, 2003). In addition, as mentioned, since the cause of allergies was unknown, the only solution was avoidance. The AA ''Big Book'' itself treats any attempt to explain why one became an alcoholic as hypothetical and possibly as making excuses (AAWS, 1976). Overall, this conception has not been receptive to psychosocial etiological accounts.

A major challenge has come from the public health model, which negates some of these difficulties, albeit providing a few of its own. We end with a brief discussion of what various models reveal and hide and why no model should be accepted uncritically. In Table 1, we have outlined a number of the different metaphoric roots that have been used to define addiction, in particular gambling addiction. The disease model has been likened to an allergy and to diabetes. The public health model involves the application of control of infectious disease. For each model, we have listed the origin, along with the themes it reveals or emphasizes and others that it hides. Each of these models helps identify different features of the disorder. For example, the allergy model informs us that the patient is not to blame for the illness and that avoidance of the substance or behavior (e.g., alcohol, gambling) is essential and must be lifelong. The analogy to diabetes also emphasizes the chronic and potentially progressive aspects of the disease if the person does not follow a regular maintenance program (e.g., AA or GA membership rather than insulin). In addition, treatment compliance (e.g., avoiding excess sugar, abstaining from gambling) is often a problem for both diabetes and addiction patients. Finally, although the disease model places responsibility for recovery in the hands of the individual, it provides them with a strategy (abstinence) and resources (GA) to help

Table 1
Features revealed and hidden by the disease and public health models

Metaphor/origin	Source/origin	Reveals/emphasizes	Hides/ignores
Chronic disease model • Allergy • Diabetes	• AA • Medical research	• Patient not blamed for illness • Avoidance is necessary • Chronic • Lifelong avoidance is the only solution • Individual responsibility for recovery • View problem and nonproblem gamblers as different	• Addiction is primary and other causes are ignored • Actual recovery is viewed as not possible • Ignores role of the games • Rejects the potential for controlled or less harmful drinking or gambling
Public health model • Infectious disease • Toxin	Epidemiology and disease control	• Importance of involvement of society • Toxic or infectious aspects of exposure • Emphasizes prevention (hygiene) • Emphasizes social responsibility • Anyone can catch the disease • Exposure puts a person at risk • Features of the games may make some more toxic than others	• Does not account for nonproblem gamblers • Assumes that it harms recreational gamblers • Confuses current play with being at risk

them along this pathway. It also hides some important aspects of the disorder in that it focuses on alcohol or gambling in such a way that other issues are ignored. It views long-term remission (meaning normal use or gambling) as simply impossible, and, in the case of gambling, the role of specific games in creating the problem is ignored.

Conversely, the epidemiological public health model reveals the importance of social determinants and policy changes (see Babor et al., 2005) that might minimize the impact of the epidemic. It emphasizes prevention and depicts everyone as potentially

vulnerable to contracting the disease. In addition, the idea that an addiction results from a toxin or is an infection focuses attention on aspects of exposure (availability) so that people who are near a casino or a bar are viewed as more susceptible, or people who engage more often are viewed as being at greater risk. Just as some strains of a disease are more problematic than others, with gambling, specific features of the game may be viewed as important because they may explain the difference in the relative risk from exposure to one form of gambling compared with another. Similarly, although a public health approach might, for example, endorse a distinction between wine and hard liquor, an AA-based disease concept leaves no room for such gradations. For example, gamblers are warned to stay away from all forms of gambling (Gamblers Anonymous International Service Office, 1999), even though people addicted to slot machines may well be able to gamble nonproblematically with other games of chance (e.g., lotteries).

In the problem gambling field, at least, the public health model has had ambiguous implications. One aspect typical of an epidemic is that children, the elderly, and the very ill are often seen as especially vulnerable to a new virus. This may be related to an arguably disproportionate focus by funding agencies or the media on problem gambling among youth and the elderly, rather than on middle-aged men and women (who typically populate treatment programs). The public health model also hides or de-emphasizes some aspects of gambling. The most notable of these is the very existence of nonproblem gamblers. Whereas GA members typically understand that recreational gamblers may simply not be vulnerable to problem gambling, the public health model can lead to the suggestion that any exposure is potentially harmful. This has certainly been the public health approach to tobacco (Siegel et al., 1997) and, to a lesser extent, also to alcohol (Babor et al., 2005), where emphasis is placed on restricting availability more than on educating consumers. Nonproblem drinkers and gamblers are not always seen as healthy individuals, but often as mild cases on the continuum of harm, who still suffer to some degree (Alberta Alcohol and Drug Abuse Commission, 2002; Shaffer et al., 1999). Some researchers have suggested that recreational gamblers are also likely to suffer from harmful consequences compared with nongamblers (Potenza, Fiellin, Heninger, Rounsaville, & Mazure, 2002). One particular model within the public health approach, the distribution of consumption model (Chipman, Govoni, & Roerecke, 2006), has proposed that because alcohol problems are log-linearly related to consumption, the best way to reduce problems would be to reduce average consumption by shifting the entire distribution downwards. That is, rather than targeting problem drinkers, the distribution of consumption model targets everyone (Chipman et al., 2006). Chipman et al. (2006) have argued that the log-linear model also fits gambling consumption and have advocated exploring the application of this and other findings from alcohol research to problem gambling research. It would seem that an epidemic model has difficulty accounting for healthy nonproblem gamblers (and drinkers) or for the enjoyment that people gain from a little flutter (see M. Flavin, 2003). Although the chronic disease model is often criticized for being too focused on abstinence, the infectious disease or toxin model has promoted policies restricting

access and at times seems to entail a neo-prohibitionist agenda. The idea that gambling is a communicable disease or a toxin does have implications that stand in direct contrast with the purported harm reduction – or even liberal – focus of the public health model.

Conclusion

In the larger field of addictions, we are left with the curious riddle of a chronic disease model that was only loosely derived from medical science, pitted against a public health model, directly derived from medical science, whose advocates sometimes explicitly reject the disease model. In our view, both the chronic disease model and the public health disease model invoke useful metaphors for some aspects of problem gambling and addictions in general, but are incomplete because they fail to take into account the interactive nature of the disorder. The disorder is neither entirely in the person nor in the exposure to the game, drug, or any other agent (see Room, 2006). It is the result of an interaction between characteristics of the gamblers or substance users (e.g., unhappiness, poor coping skills, genetically based vulnerability) with experiences such as pleasure (and relief from stress) and with social conditions such as poverty. Although few would deny this last point, we still contend that each model has, at least in practice, pointed too strongly in one direction and hence that neither deals with the disorder appropriately.

In the field of physics, both the wave and the particle model of light are now accepted as useful but incomplete metaphors for the properties of light, and current theories use an awkward blend of the two (Coren & Ward, 1989). This particle-wave duality is now a cornerstone of quantum mechanics (Greiner, 2001). Our approach, from the start, has been nonjudgmental in the sense that we do not suggest that a purportedly scientific model must be discarded simply because of debt to metaphor or to other cultural and idiomatic determinants. Rather, we have tried to expose where and how such determinants clarify or obfuscate an issue. The two competing models of addiction – chronic disease and public health – are both useful yet incomplete. In some respects, an addiction acts like a chronic disease because it alters the manner in which the brain processes rewards. It thereby makes it difficult for a person to stop and leaves many who have stopped at serious risk for relapse. Yet public health concepts such as exposure are also important considerations in understanding this disorder. Instead of fighting between two disease models of addiction, we should be advocating for less punitive and more medically based humane treatments of addiction – a consideration that should clearly override all others. Rather than disparaging either model, our suggestion is that the two could, as with wave and particle theory, be unified into a broader conception – a comprehensive view that could incorporate the best practices in medicine and public health.

The treatment of this topic in this paper has been brief. We are currently putting the finishing touches on a book to address these issues in more depth (see Ferentzy & Turner 2011).

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