

Addiction: A Disorder of Choice

Heyman, Gene (2009) Cambridge: Harvard University Press. 200 pp.

In this brief and readable volume, Gene Heyman provides a spirited, cogent rebuttal of the prevailing wisdom that addictions “hijack” the brain. Standard texts and neuroscientists cite emerging findings as evidence that addictive behaviors represent acquired neuropathology. Evidence from functional magnetic resonance imaging details the progressive change of response to drugs from hedonic, pleasure-seeking processes to compulsive ones akin to those observed in obsessive compulsive disorder. This is coupled with mounting evidence for genetic transmission of risk for developing addictions.

This new version of the “disease model” portrays addiction as a heritable brain disease. As addiction is a disease, interventions belong to the realm of medical treatment for the afflicted and prevention efforts based on public health models. Alternative models defining addiction as a criminal activity or a moral failing call on solutions provided by law enforcement agencies or by religious institutions. Seen in this light, the disease model may be the least of 3 evils with useful social and treatment implications. Legal sanctions do not deter illicit drug use and imprisonment is seldom a clear path to rehabilitation. Religious prohibitions are potent but provide little guidance in a progressively secular modern world.

The brain disease model of addiction justifies treatment by health care professionals and funding for medical research. The medical system is less costly and more effective than prison. Removing the moral taint may reduce the shame of admitting addiction and seeking treatment. On the basis of on medical research, many powerful pharmacological treatments have, indeed, been developed for treatment of opioid, nicotine, and alcohol dependence.

Still, there are drawbacks to an understanding of addiction that sounds more like epilepsy than like a bad habit. For example, in clinical practice seeing addiction as a brain disease can foster therapeutic nihilism from treatment providers and surrender of responsibility for patients. Also, using neuroimaging to identify neural correlates of drug craving does not demand a conclusion that addiction is now a brain disease. All behaviors are associated with patterns of neural activity. Further, with addictions genetic determinism is far from complete as heritability estimates are in the moderate range. This translates into several fold increases in addiction risk for the children of addicts. However, the

base rates of addictions are low enough that the great majority of these children do not themselves become addicts.

If addiction is a disease, it clearly requires participation by the patient. As it depends on acquisition and self administration, the central symptoms bear little resemblance to other, involuntary diseases such as epilepsy. Addiction requires complex, goal oriented behaviors performed in a conscious state.

To support his definition of addiction as a disorder of choice, Heyman summons a wealth of evidence from psychiatric epidemiology, personal histories, and treatment research. Against the model of a “hijacked” brain with enduring pathology, studies of community samples show addictions to be transitory disorders of teen and young adult years. Rates of substance use disorders rise in the teens, peak in the 20s, and drop sharply in the 30s and later decades of life. Recovery without formal treatment is the most common outcome for most of those who meet criteria for substance use disorders in the community. Even for opioid drugs with high addictive potential and severe withdrawal syndromes, longitudinal studies of groups like opioid-dependent Vietnam veterans document that only a small minority became readdicted to opioids after returning to the United States. Thus, for most, the brain does not seem to be so much hijacked as taken for a youthful joy ride. As Heyman points out, “most addicts choose to stop using drugs by about age thirty and the reasons that they do so are by and large the same as the reasons that motivate most of our actions, such as finances, job, family responsibilities, and self-esteem.”

Clinicians are struck by the intractability of addictions because they only detect and treat a small, high risk minority of those who qualify for diagnoses of abuse or dependence on drugs and alcohol. Although most addicts in the community recover without treatment, only around one-fifth of those with current diagnoses have sought treatment in the past 6 months. These, presumably, constitute more severe cases that have led to major legal, medical, or social consequences. At the time of seeking treatment substance abusers have typically made 5 or more unsuccessful attempts to quit on their own.

Heyman makes a strong and compelling case that addictive behaviors represent choices over which addicts continue to have control, even if this control is diminished. He poses a behavioral economic model, choice theory, as a framework to understand how addicts come to the point where they choose to engage in behavior that is self-defeating and self-destructive. From an economic standpoint, he points out, “everyone, including those who are called

addicts, stop using drugs when the costs of continuing become too great.”

The idea that addictive behaviors represent choices that can be brought under control is hardly novel as it provides the basis for many behavioral therapies for addictions including those with strongest evidence for efficacy, including cognitive behavioral therapy and contingency management. Cognitive behavioral therapy encourages addicts to engage in behaviors that are incompatible with drug use but provide “natural” rewards that substitute for those obtained from drugs. Contingency management systematically helps addicts achieve sustained periods of abstinence by providing rewards contingent on refraining from drug use. Such approaches would have no hope for changing involuntary behaviors.

Heyman does break new ground when he invokes models from behavioral economics to explain the paradoxical nature of continuing use of drugs despite disastrous consequences of this continued use. In this model, addictive choices derive from a choice strategy that relies more on moment-to-moment preferences rather than a longer term balancing of benefits and consequences. This model has interesting and surprisingly strong power to explain how use leads to excessive use and why it is difficult to quit.

This book is stronger at making the case for addiction as a disorder of choice than posing new interventions for this disorder. If addictive behaviors are governed by economic considerations such as costs and benefits, the general strategy involves making the costs higher, offering benefits from alternative behaviors, reducing benefits derived from addictions, and encouraging addicts to make choices based on long term goals rather than short term goals. This does not sound so different from prevention and treatment strategies currently in place. In a free society, there are limits to how high the costs can be fixed. In Flannery O’Connor’s short story, “A Good Man is Hard to Find,” a killer, “The Misfit” murders an irascible old woman who has undergone a sanguine personality change while attempting to persuade him not to kill her. He comments, “She would have been a good woman if there had been somebody there to shoot her every minute of her life.” Making major changes in the contingencies surrounding addictive behaviors may be an equally challenging task.

All told, this is an important book that provides a refreshing alternative to recent formulations of addiction suggesting that “anatomy is destiny.” Anatomy is not destiny. Not even neuroanatomy.

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Personal Identity and Fractured Selves

Debra J. H. Mathews, Hilary Bok, Peter V. Rabins (2009) Baltimore: Johns Hopkins University Press. x + 200 pp. \$60.00.

Advances in neurosciences and neurotechnologies increasingly challenge our common conceptions of personal identity and self. As the 4 case studies mentioned in the volume illustrate, disease, psycho-pharmacological drugs and neurotechnologies can deeply transform one's identity and demeanor. To understand the nature of these changes, one can speculate philosophically or rely on the latest developments in neuroscience. The editors of *Personal Identity and Fractured Selves* took a midway approach. They sought the contributions of philosophers and neuroscientists to form an interdisciplinary working group. Their task was to reflect on the issue of personal identity. To this end, a symposium was organized by the Johns Hopkins Berman Institute of Bioethics, Program in Ethics and Brain Sciences. The project focused on the question of whether "when an individual's personality changes radically, as a consequence of either disease or intervention, ... this changed individual [should] still be treated as the same person" (p. 10). *Personal Identity and Fractured Selves* constitutes the outcome of the event in the form of a collection of essays.

The book contains 3 main parts. Part I (*Foundations*) includes 3 preparatory chapters for the subsequent interdisciplinary reflections: (1) a philosophical analysis of the concepts of persons, personal identity, and self; (2) an overview from the perspective of neurobiology on questions of personal identity; and (3) 4 case studies to illustrate how various factors (progressive disease, degenerative disease, neurotechnologies, and pharmacological drugs) can affect personal identity and demeanor. Part II (*Philosophers Hold Forth*) contains 3 philosophical accounts of personal identity and an analysis of their relevance to the 4 case studies: (1) *forensic personal identity* (Schechtman) characterizes personal identity as the psychological capacities to act as moral agents and to enter into binding contracts and commitments (p. 68); (2) *multiple rational agents* (Rovane) within a single

person (p. 96) as an explanation of personality changes; and (3) *a person theory* (Perry), whose features include intentionality, local rationality, autonomy, identity and self, emphasizes that the identity of the person can change, in the psychological sense, but that person remains the same person, diminished and changed (p. 149).

Part III (*Neuroscientists Push Back*) constitutes a reply of 2 neuroscientists to the philosophical analyses of Part II. One could expect sharp disagreements between neuroscientists and philosophers on issues pertaining to personal identity because of the use of different methods of analysis and presuppositions. However, both scientists emphasize the convergence between neuroscience research and philosophical analysis. Michael Gazzaniga concurs with the philosophers' accounts: "[t]he deeper we delve, the more neuroscience seems to agree with the philosophers: what makes us persons, rather than merely creatures, is our ability to create a story about ourselves" (p. 175). He cites neuroscience research that identified in the left hemisphere a mechanism he calls "interpreter" that generates a narrative about oneself, an ability unique to the human species (p. 175). In the same vein, but from a different perspective, Samuel Barondes likewise emphasizes his agreement with philosophers, especially with Perry's analysis because of his ability to "assimilat[e] ideas from contemporary psychology and psychiatry" with classical philosophical literature (p. 172).

Does *Personal Identity and Fractured Selves* offer a definitive answer to the question of "when an individual's personality changes radically, as a consequence of either disease or intervention, ... should this changed individual still be treated as the same person?" The answer is ambiguous. There is agreement on the definition of personal identity which includes: (1) "an ability to express a self-narrative that recognizes the presence of an acting individual" and (2) "a constructed narrative that demonstrates intentionality reasoned choice and coherence" (p. 193). However, there is no strong consensus as to whether a change of personality is equivalent to a different person.

The strength of this collection of essays resides in its interdisciplinary outlook and the 3 philosophical approaches presented as potential frameworks to reflect on, and account for changes in personal identity.

That being said, one could wonder whether the selection of other philosophers and neuroscientists would end up with the same set of conclusions. Various philosophical traditions have different understandings of concepts such as persons, self, or personal identity. Readers would have benefited from a more nuanced approach. The title of chapter one, "How Philosophers Think about Persons, Personal Identity, and the Self" and its content does not include the broad range of how philosophers think about these issues.

In addition, the failure to include a robust analysis of more ambiguous cases (infants, severely handicapped individuals, etc.) constitutes a weakness in the overall analysis. Specifically, the 4 case studies suggested do not include people who, because of a tragic accident for instance, lose partially or entirely their ability to communicate, to act as a moral agent, to create a self-narrative and/or to engage in meaningful conversations. Although I recognize that the initial question focused on personality identity changes and not the "absence" or "disappearance" of personal identity, the volume would gain in significance from the inclusion of the most ambiguous situations. Schechtman and Rovane develop accounts that presuppose a certain level of functionality or competence as a condition for personal identity. It is not clear how their accounts help frame issues in various clinical settings involving severely mentally diminished human beings, for instance. These questions are too important not only clinically but also philosophically and ethically to be ignored. Perhaps Perry's concept of "diminished and fractured self" provides the most nuanced rendering one will find of great interest.

Readers may not agree with the potential implications of the philosophical viewpoints that construe personal identity in terms of levels of competence. Clinicians in particular, might find these contributions problematic in relation to everyday practice. Overall, however, this volume is worth reading for those who wish to understand the concept of personal identity at the intersection of philosophy, neuroscience, and ethics.

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