'Primum non nocere': A review of *Taking America off Drugs: Why Behavioral Therapy is More Effective for Treating ADHD, OCD, Depression and Other Psychological Problems* by Stephen Ray Flora

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ABSTRACT

Taking America off Drugs by Stephen Ray Flora provides an overview of effective behavioral interventions to treat a variety of mental health concerns, including depression and phobias. These disorders are better treated with behavioral than psychopharmacological interventions. Yet, the latter prevail in today's society. *Taking America off Drugs* provides the background to help us understand why, as it puts the treatment of behavioral disorders in the context of modern psychiatry and its relationship with the pharmaceutical industry. This review provides an overview and critical evaluation of the book, but it also extends its context by discussing the history of the treatment of mental illness and practices of the pharmaceutical-medical complex and by offering an optimistic scenario by which psychopharmacological agents will ultimately be replaced by interventions based on the principles of applied behavior analysis.

Keywords: Book review, mental disorders, psychopharmacological intervention

T*aking America off Drugs* covers much more than the title suggests. It is not just about effective behavioral interventions to treat the psychological problems that prevail in modern society, but also about doctors, drugs, and the dearth of scientific evidence to support our psychotropic drug habit. In *Taking America off Drugs*, Flora dissects America's love affair with legal drugs as the treatment of choice for its psychological problems. However, he offers much more by presenting an engaging analysis of the various forces that drive the prescription and consumption of psychotropic drugs. Psychological problems being behavioral problems, he makes the case that behavioral interventions are much more effective when dealing with these than the multitude of psychotropic drugs presently offered by the nation's psychiatrists and other mental health professionals. In the end, Flora offers an optimistic view of a drug-free future — but one that will be achieved only when a number of necessary prerequisites

can be put into place. Unfortunately, he proffers very little advice on specific strategies to achieve that goal.

Taking America off Drugs is a must-read for all of us who practice applied behavior analysis and others who value behaviorally based solutions for psychological problems. It provides most of the ammunition that we need to argue that harmful psychopharmacological interventions ought to be replaced by more effective behavioral interventions. This review of Flora's book is intended to add some wood to the fire in an effort to strengthen the case against psychopharmacological manipulations. It not only provides an overview and critical evaluation of the book itself, but it also extends its context by discussing the history of the treatment of mental illness, by acquainting the reader with some of the practices of the pharmaceutical-medical complex not touched upon in the book, and by offering an optimistic scenario by which harmful psychopharmacological agents will ultimately be replaced by safe

and effective interventions based on the principles of applied behavior analysis. Read on.

America's Love Affair With Various Sorts of Drugs

America's doctors and nurse practitioners wrote 3.52 billion prescriptions in 2007 (up 2.8% from 2006) at an average cost of \$69.91 (brand name: \$119.51, generic: \$34.34, up 11.2% and 9.4%, respectively, from 2006), according to the National Association of Chain Drug Stores (2008). These prescriptions can be filled at any of the approximately 57,000 community retail pharmacy outlets that currently dot our landscape (compared to some 14,000 McDonald's restaurants and 6,800 Starbucks stores). Admittedly, not all of these prescriptions are written to treat psychological problems. Nevertheless, prescription drugs appear to be available on almost every street corner in the United States. How did we get there?

In *Taking America off Drugs*, Flora

convincingly argues, “America has been deceived - deceived by the drug companies, by psychiatry, by our children’s teachers, by well-meaning physicians, and by mental health workers of all stripes. ... The deception is that whatever one’s problem ... there is a drug that can help the problem, if not cure it” (p. 1). He suggests that for many years now, the medico-pharmaceutical complex has managed to perpetuate the fiction that the origin of all of our psychological problems is to be found in our brains and that psychological well-being is only to be attained through resolution of the chemical imbalances that are at the root of our problems.

It is unfortunate that Flora does not discuss the history of the treatment of mental illness in the United States and abroad in any detail. Had he done so, he would have certainly referred to Whitaker’s (2001) elaborate account. Briefly, Whitaker notes that Thomas Willis, an English physician, was the first to write extensively on madness, its nature, and proper treatment in a book entitled, *The Practice of Physick: Two Discourses Concerning the Soul of Brutes* (1684). In those days, proper psycho-medical treatment consisted of bleedings, emetics, and nausea-inducing agents, with beatings thrown in for good measure. In 1812, Benjamin Rush published the first psychiatric text in the United States, *Medical Inquiries and Observations Upon the Diseases of the Mind*, in which he suggested bleedings, blisterings, and psychological terror as preferred interventions, but also encouraged practitioners to talk with their patients to find out what might be bothering them. Eugenics raised its ugly head in more recent times as endorsed by Victoria Woodhull in her book entitled, *The Rapid Multiplication of the Unfit* (1891), in which she argued that imbeciles, criminals, paupers, and the otherwise unfit must not be allowed to procreate. Psychiatry adopted yet a different approach in the 1930’s as it widely accepted the use of insulin coma, Metrazol convulsive therapy, and electroshock therapy as preferred therapeutic interventions. Prefrontal lobotomies (inflicted by threading an ice pick-like device through the nose) became very popular around the same time and even earned Egas Moniz a Nobel Prize in 1949.

The modern era of medical treatment for madness and mental disorders can be traced to May 1954 when the pharmaceutical company Smith, Kline, and French first introduced chlorpromazine (brand name Thorazine®) into the U.S. market for the treatment of schizophrenia. Fifty years later the drinking water of some 41 million Americans contains an array of antibiotics, anti-convulsants, mood stabilizers, and sex hormones as recently reported by Donn, Mendoza, and Pritchard (2008). The concentrations are small for now (parts per billion or trillion), but they are there as a direct result of people popping pills, their bodies absorbing some of the active ingredients and excreting what is left. Treated wastewater containing licit and illicit drugs is discharged into reservoirs, rivers, and lakes, only to return as drinking water to our homes (e.g., Bartelt-Hunt, Snow, Damon, Shockley, & Hoagland, 2009). Add to the human waste the contamination produced

by veterinary drugs and hormones (e.g. Orlando et al., 2004) and the picture becomes even more disturbing.

In *Taking America off Drugs*, Flora helps us understand how we got to this point, although it is necessary to integrate materials from several chapters to grasp the core of his argument. It all started, as mentioned above, when the term “chemical imbalance” entered the psychiatrist’s vocabulary to help explain the origin of our psychological problems. Swedish pharmacologist Arvid Carlsson first used this term in 1964 in an article in which he reported that neuroleptics, such as chlorpromazine, inhibit the activity of dopamine, one of the many chemical messengers in the brain. It did not take much longer, according to Flora, before psychiatrists concluded that neuroleptics restored “normal functioning” in the schizophrenic patient’s central nervous system by reducing the amount of dopamine available at the receptor site. Once the advertising dollars from the pharmaceutical industry became a major source of revenue for medical journals and neuroleptics were rebranded as “antipsychotic” drugs, the mutually beneficial relationship between the medical and pharmaceutical industries started in earnest (see Brody, 2007, for a much more extensive account of the marriage between the two).

In this context it is interesting to note, as Flora does, that the *Diagnostic and Statistical Manual of Mental Disorders* listed 66 disorders in 1968, 261 in 1987, and nearly 400 when the fourth edition was published in 1994 (DSM-IV). The increase can be attributed to any number of factors, but several stand out such as changes in the definition of what constitutes a psychological problem, the rebranding of normal behavior into problem behavior, and the inclusion of such disorders as “reading disorder,” which are more accurately conceptualized as the result of ineffective instructional practices.

The phenomenal increase in mental disorders treatable by psychotropic drugs serves both the pharmaceutical and the medical industries very well. Flora insightfully points out that the reciprocal relationship between the two is based largely on the fact that the pharmaceutical industry is in business to sell drugs and to maximize profits for its shareholders. Pharmaceutical companies invent, develop, produce, market, and sell drugs, but they are not allowed to prescribe them. It takes a prescription to sell a drug; it takes a physician to write one. It is thus in the pharmaceutical industry’s best interest to influence the physician’s prescription behavior (Wazana, 2000). To that end, the pharmaceutical industry uses various approaches to keep busy physicians abreast of the latest developments in modern psychopharmacology and pharmacotherapy. Drug representatives, many of whom are recruited from the nation’s large supply of college cheerleaders (Saul, 2005), frequently visit doctor’s offices bearing gifts (from pencils and notepads to free drug samples) to promote their newest products. Doctors learn even more from colleagues who have been identified as key opinion leaders (KOLs) by the pharmaceutical companies. Usually, these KOLs are well-respected physicians who are paid handsomely to conduct workshops and informal

meetings to bring their colleagues up-to-date on recent changes in the pharmacological treatment of various mental illnesses as developed by the pharmaceutical companies that sponsor their appearance at these gatherings. The pharmaceutical company keeps close track of the data (e.g., changes in prescription rates) to make sure that it maximizes the return-on-investment from every KOL it employs (Moynihan, 2008). KOLs endorse particular psychotropics mostly based on scientific data in support of their effectiveness, but these data may have been compromised and the interpretations embellished as a direct result of the pharmaceutical industry's influence on academic and non-academic research endeavors (Campbell et al., 2007) as well as its involvement with publications in respected medical journals (Ross, Hill, Egilman, & Krumholz, 2008; see Brody, 2007, for an in-depth analysis of these influences).

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One of the most inventive ways the pharmaceutical industry has manipulated doctors' prescription habits in recent years has been the utilization of direct-to-consumer advertising, which is not only aimed at educating patients about psychological and physical problems, but also at encouraging patients to request specific, patent-protected, and profit-producing pharmaceuticals from their personal physicians.

Just in case you wondered, *Primum non nocere* translates into 'first do no harm,' a fundamental medical concept that is an essential part of the Hippocratic oath still taken by those members of society whom we have entrusted with our physical and psychological well being. Based on the information presented in Flora's work, we would do well to ask them frequently to renew their vows.

Psychological Problems, Behavioral Interventions, and Drugs

Eating disorders like anorexia, bulimia, binge eating and obesity (Chapter 3); phobias such as social phobia, generalized anxiety disorder, panic disorder, and agoraphobia (Chapter 4); obsessive-compulsive disorder (Chapter 5); attention deficit disorder and attention-deficit/hyperactivity disorder (Chapter 6); depression (Chapter 7); schizophrenia (Chapter 8); and a variety of other health concerns such as difficulty sleeping,

erectile dysfunction, irritable bowel syndrome, premenstrual syndrome, and urinary incontinence (Chapter 9), are all, according to Flora, better treated with behavioral interventions than drugs. A few highlights follow.

Flora notes that certain types of eating problems are experienced almost exclusively by young, white women and girls of upper socioeconomic status. Eating disorders such as anorexia, bulimia, and binge eating are frequently treated with the most recently developed serotonin-specific re-uptake inhibitors (SSRIs) and other anti-depressants with very little beneficial effect. Interventions such as those involving behavioral contracting and cognitive behavior therapy have produced much better results, according to Flora.

Similarly, phobias and fears are learned behaviors, Flora asserts. He argues that the behaviors are acquired vicariously

or through direct experience and the most effective way to eliminate them is by using techniques that involve exposure and response prevention (ERP). Yet, the treatment of choice has been the prescription of anxiolytic drugs and the modern SSRIs, all of which may help to temporarily relieve anxiety symptoms, but do nothing to teach the skills necessary to effectively cope with the situations that produced the behavior in the first place.

Individuals labeled as suffering from 'obsessive-compulsive' disorder tend to engage in excessive, repeated, ritualized behaviors and to express unwanted, intrusive, and repetitive thoughts.

Flora tells us that behavioral interventions based on ERP have been shown to be very effective in reducing the frequency of such verbal and non-verbal behaviors, much more so than the current psychotropic treatments of choice, which include the omnipresent SSRIs.

Central nervous stimulants such as Ritalin® and Aderall® are used to treat children (four times as many boys as girls) who have been diagnosed with attention deficit disorder (ADD) or attention-deficit/hyperactivity disorder (ADHD). Flora reminds us that these diagnoses are based on behavioral indicators of inattention such as "often loses things necessary for tasks" and "is often forgetful in daily activities" (p. 75), behavioral indicators of hyperactivity such as "often leaves seat in classroom or in other situations in which remaining seated is expected" and "often talks excessively" (p. 76), and behavioral indicators of impulsivity such as "often blurts out answers before questions have been completed" and "often interrupts or intrudes on others" (p. 76). As Flora points out, none of the behavioral symptoms of ADD and ADHD suggests anything about a brain-based chemical imbalance as the origin of an abnormality that would necessitate treatment with drugs that are very similar to cocaine and amphetamine in their addiction potential (Schedule II). Instead, Flora suggests (and most behavior analysts would agree) that much of what has been

identified as ADD and ADHD can be traced to poor behavior management strategies including excessive demands and little, if any, social reinforcement for behavior appropriate to the environment in which it takes place.

Flora's behavioral analysis of depression includes the experience of uncontrollable aversive life events, a low rate of reinforcement for productive behavior, and the functional effects of depressive behaviors as they produce help and support from others in the client's environment. Effective behavioral treatments, Flora points out, include cognitive-behavioral therapies emphasizing behavioral activation that, when properly implemented, results in much higher levels of positive reinforcement for adaptive behavior and corresponding improvements in overall affect. Antidepressants may also improve affect, but they do not address the underlying causes of depression as Flora defines them.

Flora asserts that even the symptoms of schizophrenia (delusions and hallucinations) ought to be looked upon as behavior problems, best treated by behavioral interventions. As mentioned previously, Thorazine® was the first drug introduced in the United States to medicate schizophrenic patients. It is now well-known that antipsychotic drugs through their interactions with various dopaminergic systems not only suppress the symptoms associated with schizophrenia, but also induce a state of anhedonia and, even worse, irreversible tardive dyskinesia. In that context, it is truly alarming that more and more psychiatrists are willing to prescribe modern antipsychotic drugs such as Risperdal® for children as young as 6 years old in an off-label attempt to deal with serious behavior problems. Flora points out that effective behavioral treatments for schizophrenia range from the implementation of basic token economies to facilitate the acquisition of social, coping, and self-help skills to the implementation of acceptance and commitment therapy (ACT) to help clients understand that hallucinations and delusions are simply covert verbal behavior best treated as such.

Flora strongly advocates against the use of psychotropic drugs to treat behavior problems, but his "prescriptive" variant

of cognitive-behavior therapy as an alternative is rather limited. Instead of advocating methods to help the greatest number of people, behavior analysts ought to make sure that consumers become aware of the wide range of socially acceptable, highly effective individualized approaches to treatment that are currently available based on the logic of functional analysis and data-based decision making. To be sure that we continue our venerable tradition of objectivity and precision as we deal with subject matter that hitherto has been claimed by the medical and pharmaceutical industries, we would do well to use a vocabulary that sets us much apart from that used in DSM-IV. Perhaps a properly constructed *Diagnostic and Single-Subject Manual of Behavior Problems* would help to establish individualized behavior-analytic interventions as an effective alternative to current treatments with psychotropic drugs. If nothing else, it might provide us with a respected vehicle to use when billing insurance companies for our services.

Better Living Through Behaviorism

Taking America off drugs is a lofty goal, but how are we going to get it done? Flora does not offer many suggestions and is not very optimistic when he does. He writes, "The resolution of the epidemic [the mental illness epidemic], should there be one, will come only when health and mental health professionals become widely educated about and trained to apply safe and more effective psychological treatments for behavioral, psychological and health problems" (p. 158). What's in it for them? I would ask. Why would they stop doing what they have been doing, profitably, for a long time?

Changes in cultural practices happen only gradually. Change will be precipitated by what we do best: collect data on the effects of controlled interventions on behavior that is socially relevant. The results of our endeavors will speak to different constituencies, and unique combinations of seemingly unrelated events will have pronounced effects on the way in which future business will be conducted. Recent developments in the behavioral treatment of autism are a case in point.

In 1987, Ivar Lovaas (a behavior analyst with few connections to the mainstream media) published a paper that described the effects of different amounts of early intensive behavioral intervention on the educational and intellectual functioning of children with autism. His experiment, of course, was based on the work of many other applied behavior analysts published in the preceding decades. In 1996, Catherine Maurice (not a behavior analyst, but a gifted writer with connections to the mainstream media) chronicled her quest for effective interventions for her autistic children in a novel that probably reached many more readers than Lovaas' original article.

Concurrently, other behavior analysts continued to develop ever more sophisticated interventions to address behavioral deficits and excesses in children diagnosed with autism, in particular

those associated with communication problems (e.g. Sundberg & Partington, 1998). These interventions were based on a line of research that originated with Skinner's publication of *Verbal Behavior* (1957) and continued in earnest in the early 1980's with the publication of *The Journal of Verbal Behavior*. Simultaneously, the functional analysis of problem behavior frequently observed in children with developmental disabilities was addressed by Iwata and his colleagues (Iwata, Dorsey, Slifer, Bauman, & Richman, 1982) in a manner that forever changed the field of applied behavior analysis (ABA). The combination of behavioral interventions designed to teach functional skills including language and to reduce problem behavior proved to be much more effective than anything previously accomplished with children on the autism spectrum. Parents noticed, organized, and demanded that effective behavioral interventions be made available to their children. Some of these parents just happened to be better connected than others, and some of them managed to convince influential politicians to take up their cause. School-based ABA interventions are not yet provided to many students, but health insurance coverage for ABA-based interventions has been made available in some states (e.g., Texas, South Carolina, Florida, and Louisiana) with many more to come. None of this, of course, would have been possible without the existence of the Behavior Analysis Certification Board (BACB) and its programs to validate the knowledge base and experience of those who call themselves board certified behavior analysts.

Is there hope for the future as we envision a move away from harmful drugs toward effective interventions for problem behaviors and skill deficits that previously were identified as mental health problems? I believe so. All we need to do is straighten our backs, collect the data, and seize the opportunity when it presents itself. *Alea iacta est*.

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