# THE CLOCKWORK OF ATTENTION DEFICIT DISORDER: MECHANISMS IN ILLUSION

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**In the novel *A Clockwork Orange,* Anthony Burgess writes of a dystopian society that normalizes its citizens by depriving them of any criminal tendencies through medication and psychological coercion. For Burgess, the difference between normalization and pacification is purely syntactical, and the allegorical novel brings attention to the controlling and conditioning aspects of society. The central character is a fifteen-year-old named Alex, impulsive and hyperactive, with an unnerving violence and overall propensity for destruction, but with an equally passionate attachment to classical music. As the plot unravels, Alex remorselessly commits one horrific deed after another and is finally sent to a correctional facility, where he is treated with mind-altering drugs that relieve him of his violent tendencies, but at the same time deprive him of his response to music, leaving him numb, ineffectual, and suicidal. Burgess contends that the human condition is defined as an enduring balancing act between individual expression and the interests of society, and in particular, he questions the sacrifices that the individual must make in order to conform to social norms. Although Alex is an extreme form of social misfit, portrayed as noxious and appalling, Burgess raises important questions about social norms and the interests they serve, and issues a warning concerning the human costs of normalization, both for the individual and society itself. It is a warning that is relevant to the definition and treatment of the recently-prevalent form of social disability, Attention Deficit Disorder.**

**Attention Deficit Hyperactive Disorder and Attention Deficit Disorder (or ADHD and ADD; in this paper, ADD refers to both) are, according to Thomas Armstrong in *The Myth of the ADD Child*, conditions "characterized by abnormal levels of hyperactivity in attentiveness and/ [or] impulsivity that generally show up before a child is 7 years old" (4). Such children come to the attention of a diagnosing authority because their behavior is disruptive, a "problem" for their families or their schools. ADD is, Armstrong states, believed to be "a neurologically based disorder, most probably of genetic origin" (4). In "Attention Deficit Hyperactivity Disorder," Margaret Stronk writes that currently there is no "definitive medical test for either ADD [or ADHD]" (1). Instead, a vague yet widely-accepted set of symptoms act as general guidelines to recognize the presence of ADD.**

**According to these guidelines, it is estimated that "three to five percent of all children in the United States have ADD" (Strock). While "most cases are assumed to be inherited, a small percentage are thought to be caused by central nervous system damage in early childhood, which could be associated with general birth problems such as an umbilical cord wrapped around the neck, or malnutrition during pregnancy" (Strock). Since its establishment as a medical disorder, ADD has become increasingly controversial due to its vague definition and questionable treatment with low-strength stimulants such as Ritalin. However, ADD is not solely a medical issue; equally important are socioeconomic and cultural forces, the extent to which a medical disorder can be socially and culturally produced, and the effects of this production on individual human lives.**

**The unique, if not ironic, origins of ADD parallel its treatment. Beginning in 1937, Kathy Koch writes, "American physician Charles Bradley reported that the stimulant Benzedrine helped hyperactive children confined in a mental hospital become distinctly subdued in their emotional responses," which he concluded was "an improvement from the social viewpoint"(Koch 914). Bradley's conclusion is a testament to the influence of cultural mores in the field of medicine. It is important to acknowledge the "dominant" cultural mechanism at work during the time when Bradley made his assertion, since, as Swain, et al. note, they "reflect the interest of those within particular social groups or societies who have the power to define situations and the resources with which to ensure that their own definitions are accepted as true" (1). Bradley made his assertion in the late 1930's during the industrial mobilization for war against the Axis powers. This mobilization eventually provided the impetus that pulled the nation out of the Great Depression. The growth of heavy industries relied on "able-bodied" citizens and hence culturally exaggerated their importance in society. Lasting artifacts of the era such as "Rosie the Riveter" posters testify not only to the burgeoning feminist movement, but also to the unrelenting "ableist" attitudes of the time.**

**Clearly, the cultural privileging of the "able-bodied" served the function, useful at the time, of separating people who were considered normal and those that were considered disabled through their incapacity to work in industry. However, such a conceptualization, as Lennard Davis observes, established "the idea that in an ableist society, the 'normal' people [construct] the world physically and cognitively to reward those with like abilities and handicap those with unlike abilities" (10). Ultimately, a societal standard of "normal" is**

**established through this process, which serves to alienate those who are not categorized within the majority. Such conceptualization occurs on a societal scale, although Davis notes that "pre-industrial societies tended to treat people with impairment as a part of the social fabric, although admittedly not kindly, while societies instituting 'kindness,' ended up segregating and ostracizing such individuals" through discourses of disability (3). It is this socially-constructed ableist mindset of Bradley's time that allowed him to conclude that being "emotionally subdued is an improvement from a social viewpoint," and that hyperactivity is detrimental to society and needs to be addressed medically. This suggests that the roots of ADD lay not so much in a rigorous scientific discovery, but emerged from a coincidence involving the superficial effects of Benzedrine and an underlying cultural climate that promulgated a mechanistic notion of human function. More importantly, this further suggests that the practice of medicine is highly vulnerable to popular ideology.**

**The process of social segmentation through the establishment of a "normal" is reinforced by numerous factors, as the example of ADD demonstrates. For Davis, it is the segregation through the notion of disability that becomes the primary focus of his argument: that "the 'problem' is not the person with disabilities; the problem is the way that normalcy is constructed to create the 'problem' of the disabled person" (24). For Davis, it is the society that establishes the notions of disability, which are enforced through culture, tradition, and even language. Similarly, Armstrong suggests that if one were to**

> **look at the roots of American culture from colonial days . . . the Protestant work ethic has played an important role in defining standards for appropriate conduct [which] leads to a society that might well be expected to define deviance in terms of distractibility, impulsiveness and lack of motivation—the same traits frequently used to describe children suffering from ADD. (26).**

**For Davis, cultural enforcement can also take place in language in which the words "lame," "deaf," and "dumb" are not only indicative of this separation between the able and disabled but also carry "with them moral and ethical implications" that reinforce such thinking (5). This aspect of language can also be attributed to ADD in the form of a labeling effect that, as Armstrong notes, would "not only give parents and teachers a relatively simple way of explaining troublesome behavior, but it [also serves as] a central point around which parents, teachers, and professions can rally for political and economic support" (22). Therefore, the labeling of ADD reinforces an idea that ADD is a determining factor in separating children**

**into categories of "normal" and "disabled." Such a process of labeling is not an isolated event in culture but intrinsic to its longevity. John Swain, author of the article "Whose Model?" notes that any participatory action is a cultural affirmation.**

> **By associating within family groups we put into practice and reinforce existing models of kinship; by going to school or university we put into practice and reinforce existing models of education; by presenting ourselves as sets of symptoms requiring medical attention we put into practice and reinforce existing models of health care. (117)**

**He suggests, then, that a shared practice such as labeling is all that is needed to establish and perpetuate cultural prejudices as truisms. Conversely, if a culture defines hyperactivity through certain societal standards then a shift in culture would mean a whole new set of standards. The definition of "normal" would then have different connotations when the behavior is placed in another social environment. This would imply that the definition of ADD would be different in another culture, if it existed at all. For Armstrong, this phenomenon can be observed clearly in dining habits of villagers in Papua, New Guinea, where "the villagers don't expect children to sit quietly for an hour while orders are taken and adults chat" (27). Contrary to the dining etiquette in North America, the children in Papua, New Guinea, are free to roam and explore (27). Naturally, hyperactivity in Papua, New Guinea, is not seen as a disorder, while "for societies with stricter behavioral norms than those of United States—including China and Indonesia—research suggests that mental health clinicians are more likely to identify "normal" children (by US standards) as hyperactive" (27). Thus both ends of the cultural spectrum attest to the idea that culture, specifically the concept of "normal," plays an important role in the definition of Attention Deficit Disorder.**

**Whose interests are served by categories of "normal" and "disabled"? Economically, various entities gain from the existence of ADD. "Schools gain extra funds each child classified with ADD. Likewise, parents on government assistance receive extra money if their child has ADD" contends Debra Jones, "president and founder of the 2600-member Parents Against Ritalin (PAR)" (Koch 908). Moreover, "[p]harmaceutical companies collect hundreds of millions of dollars annually from the drugs that are sold to treat the estimated one million children who are currently being medicated for ADD" (Armstrong 9), contributing to the prevalence of ADD as a favorable source of economic gain. In addition**

**to government funding and corporate profit, many jobs are created to deal with ADD. According to the National Institute of Mental Health, "Child psychiatrists and psychologists, developmental/ behavioral pediatricians, or behavioral neurologists are those most often trained in differential diagnosis. Clinical social workers may also have such training" (Strock). The more inclusive the definition of ADD becomes, the more these various entities gain, resulting in a net widening-effect in the definition of ADD. Similarly, the various economic factors that operate in the misdiagnosis of ADD are difficult to ignore: "it takes time to track down these disorders and sometimes it takes money—and HMO doctors can't spend either," writes Sydney Walker, Director of the Southern California Neuropsychiatric Institute. "So instead, a physician takes 15 minutes to label a child as hyperactive or attention disordered, and write out a prescription that will mask the child's symptoms but won't do a thing to treat the causes of these symptoms" (Koch 921). Economic reinforcement, as much as medical conviction, increases the diagnosis and prevalence of ADD, and this reinforcement ultimately supports Swain's assertion that "culture is an activity that harnesses, in its interests, the social institutions that hold a society together" (117).**

**Perhaps the most glaring element in the controversy of Attention Deficit Disorder is that even with the advent of advanced medical technology, "there exists no physical test to detect ADD" (Palladino 173). The current definition is fundamentally an extension of Bradley's initial notion that hyperactivity is an undesirable trait in society. With an estimated "17 million diagnosed with ADD" (Lawis 5) from a set of guidelines with a "strong subjective component" (Palladino 173), the existence of ADD becomes a moot point of fierce contention amongst professionals and parents alike. The symptoms of ADD such as "failure to pay close attention, being forgetful of daily activities, and the inability to listen when being spoken to," can, according to Dr. Lawis, be attributed to "dementia, delirium, disorders due to medical condition, substance abuse, and anxiety disorders." Furthermore, and more troubling, Lawis contends that "all children [exhibit] these symptoms at times especially during high-stress periods" (10). Therefore, critics argue that there does not seem to be a defining attribute to Attention Deficit Disorder, and that the growing number of ADD cases is due to an expansion of this subjective definition. This criticism in turn, attests to the growing skepticism toward ADD and its treatment practices.**

**Yet, even with the possibility of over-diagnosis, Lawis acknowledges that a fundamental incompatibility exists between the mindset of the children and that of the**

**outside world which "often disrupts the normal life of the family"(10), which in turn legitimizes ADD as a social issue that needs to be addressed through family, community, and in extreme cases, medical intervention. Therefore, to Lawis, a denial of the existence of ADD would be a gross under-diagnosis. Similar claims are made by Russel A. Barkley, author of *Taking Charge of ADHD*, who also explores the consequences of under-diagnosing ADD. Barkley contends that "failure by the adults in a child's life to recognize and treat [ADD] can leave that child with an unremitting sense of failure in all arenas of life" (8). As a retort to the growing skepticism toward ADD, Barkley claims that "many legitimate disorders exist without any evident underlying disease or pathology. [ADD] is among them" (10). For Barkley, the symptoms of ADD are "pernicious, insidious and disastrous in its impact on a person's ability to manage the critical day to day affairs through which human beings prepare for the future" (24). What is important to note in Barkley's claim is that one should not perceive ADD symptoms as youthful exuberance and interpret them as a natural process of development. In this, he would disagree with Burgess' suggestion in the Preface to *A Clockwork Orange,* that social deviance is simply a matter of maturity and can be outgrown: "[s]enseless violence is a prerogative of youth, which has much energy but little talent for the constructive [but there] comes a time . . . when violence is seen as juvenile and boring" (vii). Much like Davis's assertion that the "construction of disability is through the deconstruction of a continuum" (12), Barkley is suggesting that there needs to be clear separation, albeit subjective, between legitimate human growth process and the presence of a disorder. For Barkley, the functional well-being of the individual in the future provides the standard by which to evaluate a child for ADD. However, Barkley makes the assumption that ADD continues into the adult life, which would hinder a person's "ability to manage the critical affairs" in a future where this ability is essential. Thus, for Barkley, the litmus test for deciding whether a person has a disorder ultimately rests on how well the individual will function within society. Hence, this attests to the role of societal expectations in Barkley's claim. Barkley simply restates Bradley's assertion on the practical uses of Benzedrine, and the undeniable cultural reasoning behind such a conclusion is again apparent.**

**Barclay clarifies his definition of ADD using a case study of seven-year-old Amy, characterized as "angry, resentful and belligerent when her parents tell her not to do something. Her peers and their parents find her blunt comments rude and her play behavior selfish" (26). Psychologists "found her to be of normal intelligence, without any learning**

**disability," which eventually led them to conclude that Amy exhibited clear symptoms of ADD. Certain "dietary and disciplinary measures [taken by the family had] little effect" (26). Ruling out other disorders, diet, and disciplinary factors, Barkley concluded that the disorder was inherent in Amy, the biological basis for ADD indirectly proved through the elimination of all other possible contributing factors. Barkley therefore defines ADD to be a disorder that "fully inhibits [children's] behavior to rules of social conduct—not simply etiquette, but fundamental morals of the time." While Barkley's definition appears stronger than Lawis' claim that ADD is a disorder that "disrupts the normal life of the family," it is still confined within the boundaries of time and the social definition of morality. Barkley's definition appears stronger because it claims that the behavior indicative of ADD deviates far from the normal. Therefore, the strength of the argument is based upon the social construction of the concept of normality—little girls should not challenge the social structure by being "angry, resentful and belligerent," but should be tactful and comply with the wishes of their parents—as "an ideology of containment and a politics of power and fear" (Davis 4). Hence, both the strength and reasoning of Barkley's definition for ADD lies inexorably within societal definitions of "normality."**

**Contrary to Barkley's claim that ADD exists as a disability, Lawis clearly states that ADD "is not a handicap" nor a "sign of inferior intelligence, criminal tendency or immoral behavior" ( 5). Lawis recognizes that there exists a general cultural stigma towards that of ADD, as perpetuated by Barkley, and elaborates on the "self-fulfilling prophecy" of such a belief. "When the adults in a child's life become completely focused on the negative behavior, the youngster's self-image deteriorates. The child can give up all hope of ever being good or normal when his parents think everything [he does is] bad or aberrant" (5) regardless of whether ADD is present or not. John J. Ratey, author of *Driven to Distraction,* also asserts that the labels of "ADD are misleading and shame producing," and suggests that "the syndrome is not one of attention deficit but of attention inconsistency. [Additionally] the word 'disorder' puts the syndrome entirely in the domain of pathology where it should not be" ( 23). Ratey's characterization of the misleading labels as pathology account for both the criticism and the over-diagnosis of ADD. Worried parents may deny the presence of ADD simply by ignoring the symptoms because the label of ADD conjures up connotations of disability and mental illness. Conversely, Ratey's assertion also explains why many parents are driven to find an immediate treatment or cure for the disorder. This scenario**

**would explain the "rising sales of Ritalin by 122 percent" (Lawis 121). Thus, it is the social stigma attached to ADD that hinders a legitimate diagnosis.**

**To further understand the character of ADD, other current cultural expectations should be factored into perspective. Laurie Parson, co-author of *Right Brained Children in a Left Brained World,* contends that the overall competitive nature of society induces ADD: "parents are snapping up educational toys, Mozart CDs, and flash cards, with the goal of giving Junior an edge on his less fortunate peers. There are even tapes being marketed to give babies a head start while they are still in the womb" (46). Parson asserts that "we may think that we are stimulating our children to be geniuses but in fact we are over-stimulating them to exhibit characteristics of ADD." Coupled with "the fast pace of everyday life, the search for the sound bite, and the love of fast food" (27), we inundate children with an endless barrage of sensations. Thus, according to Parson, it is this odd societal trend of the "power parent" and the fast-paced society that is driving symptoms of "impulsivity, distractibility, and hyperactivity" indicative of ADD. Moreover, Lucy Jo Palladino, author of *Dreamers Discoverers & Dynamos,* contends that it is the changing nature of attention that is responsible for the increasing numbers of cases of ADD. Palladino cites the famous Gettysburg Address as an example of changing attention spans; the speech itself lasted only two minutes, and in "1863, [this] was unheard of" (40). This shift in attention span is only one of the changing societal standards that define ADD. Further, Palladino suggests that "the norms for divergent thinking appear to have changed over the course of the last hundred years or so. The degree of divergent thinking in the general population has increased dramatically." Early on, Palladino uses the term "divergent thinking" to avoid misplaced biases and premature association with ADD; later, however, however, Palladino equates "divergent thinking" with ADD.**

**Another major factor in the development and diagnosis of ADD is the educational system. Lawis stresses that teachers play an instrumental role in the determination of ADD. Yet Lawis claims that "when a teacher is trying to educate thirty-five students and one of them is working against her by acting out, the understandable temptation is to apply a label, to solve the problem by categorizing the offending student's behavior" (10). When "asked why a child's energy level was considered a 'disease,' educator John Hold testified 'we consider it a disease because it makes it difficult to run our schools as we do . . . for the comfort and convenience of the teacher and the administrators who work for them" (Koch).**

**This subjective labeling leads to a flood of criticism, most notably from Armstrong who contends that "many parents and teachers actually embrace the label of ADD with a relief as it offers a name—an explanation for the inexplicable" (20). Further, Armstrong argues that culture is solely responsible for the rise of ADD, noting that "[ADD] is a popular diagnosis in the 1990's because it serves as a neat way to explain away the complexities of turn-of-the-millennium life in America," and that the increase in ADD cases is due to "failure of the educational system" (20). Parson, however, offers a much more plausible scenario than Armstrong's "downright 'failure'" hypothesis. Parson contends that, "people who go into teaching tend to have done well in school themselves. They gravitate toward orderliness, sequentially and familiarity" (30), affirming a certain mode of thinking which Parson tags as "left-brained thinking" with an auditory learning style. This form of thinking is contrary to that of children who have ADD, who Parson contends are "right-brained and have a visual learning style" (13). Those with a right-brained thinking style can "multitask easier" and "do difficult math problems in their head, remember long lists of words and are excellent speed readers" (14). According to Parson, part of the problem of ADD is a self-affirming and obedient style of education that is incompatible with the learning style of students who have a propensity toward right-brained thinking.**

**A very controversial issue surrounding ADD is that of its treatment with low strength amphetamines such as Ritalin. In a recent *Forbes* article by Robert Langreth entitled "Just Say No!" the author attacks our cultural fixation on medication. Langreth states that the "results of pill dependence are insidious and devastating: billions of dollars in ever-higher drug costs; millions of people enduring some highly toxic side effects; and close to 2 million cases each year of drug complications the result in 180,000 deaths or life threatening illnesses" (1). While Ritalin and many other drugs do quell the symptoms of hyperactivity, they do so at the risk of toxicity. Dr. Julian Haber, author of *ADHD The Great Misdiagnosis*, claims that Ritalin "can cause psychosis, including manic and schizophrenic episodes" (68). Furthermore, "of the 192 children diagnosed with ADD at a Canadian Clinic, 98 were managed by drugs, mostly methylphenidate (Ritalin). Of those treated with drugs, 9 percent developed psychosis" (68). Haber also notes that the prolonged use of Ritalin can cause "reduced oxygen supply, tissue shrinkage, and permanent distortion of brain cell structure and function" (71). While these symptoms are not typical of short-term use, the crucial problem is exhibited when minor complications emerge such as "nervousness, insomnia,**

**confusion, and depression" (71); because of the prevailing pill-popping culture, doctors "may slap on another diagnosis, of depression or antisocial personality, and treat this diagnosis by adding antidepressants, mood stabilizers, or narcoleptics (commonly used for epilepsy) to the treatment mix" (70). Through the assumption that medication is the answer, not only is the emerging long-term effect of Ritalin not addressed, but is compounded by the side effects and costs of other medications.**

**Given that ADD may be genetic, or the result of nervous-system damage, or its symptoms may be caused by medical conditions, substance abuse, and anxiety, or may be a set of behaviors that all children exhibit during high-stress periods, or may be produced by an incompatible education system or social over-stimulation, it would seem prudent to reexamine the tendency to medicate a disruptive child as if he were a murderous Alex, to reduce an individual to "a clockwork toy to be wound up by . . . the Almighty State," one who "can only perform good" (ix). Should children who challenge the expectations of family, community, and school system with upsetting and troublesome behavior be forcibly tranquilized into conformity in the interests of society, or their own "self-esteem"? How does the pacified and normalized child challenge our ideology of the individual? In the coming years, we will have to examine these questions as we explore how ADD furthers our understanding of the social construction of normalcy.**

## WORKS CITED


**Armstrong, Thomas.** ***The Myth of the A.D.D Child: 50 Ways to Improve Your Child's Behavior and Attention Span Without Drugs, Labels, or Coercion.*** **New York: Plume Books, 1997.**

**Barkley, Russel.** ***Taking Charge of ADHD.*** **New York: The Guildford Press, 2000.**

**Burgess, Anthony.** ***A Clockwork Orange.*** **New York: W. W. Norton & Company, 1986.**

**Davis, Lennard. "Introduction: Disability, the Missing Term in the Race, Class Gender Triad."** ***Enforcing Normalcy*****. London: Verso, 1995. 1-94**

**Freed, Jeffrey & Laurie Parson.** ***Right Brained Children in a Left Brained World: Unlocking the Potential of Your ADD Child.*** **New York: Fireside, 1998**

**Haber, Julian Stuart.** ***ADHD: The Great Misdiagnosis.*** **New York: Taylor Trade Publishing, 2000**

**Koch, Kathy. "Rethinking Ritalin."** *The CQ Researcher Online* **9.40 (1999). 7 December 2004 <http://library.cqpress.com/cqresearcher/cqresrre1999102200>.**

**Lawis, Frank.** *The ADD Answer.* **New York: Viking, 2004.**

**Langreth, Robert. Just Say No!" Forbes.com. 16 Nov. 2004. <http://biz.yahoo.com/fo/041116/6f33baae26131b78e1a9eb1d160247f6_6.html>**

**Palladino, Lucy Jo.** *Dreamers, Discoverers and Dynamos : How to Help the Child Who Is Bright, Bored and Having Problems in School.* **New York: Ballantine Books, 1999.**

**Ratey J. & Hallowell E.** *Driven to Distraction: Recognizing and Coping with Attention Deficit Disorder From Childhood Through Adulthood.* **New York: Pantheon Press, 1994.**

**Strock, Margaret. "Attention Deficit Hyperactive Disorder." National Institute of Mental Health. 1996. 9 Apr. 2004. <http://www.nimh.nih.gov/publicat/adhd.cfm>**

**Swain, John, Sally French and Colin Cameron/ "Whose Model?"** *Controversial Issues in a Disabling Society*. **Philadelphia: Open Univ. Press, 2003. 20-29.**

## COMMENTARY

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**Most are aware of the controversy concerning Attention Deficit Disorder. However, very few are familiar with the origins of this condition as well as the moral issues raised by its diagnosis and treatment. This alleged mental disorder is commonly understood as one that prevents an individual from functioning "normally" while performing everyday tasks and behaving appropriately in situations deemed critical to one's everyday existence. Upon observing what is implied by the diagnosis of Attention Deficit Disorder, the process of socialization comes to mind. What is not subject to debate is that socialization—the process of integration into society by conforming to these standards of conduct—is an essential component of education and personal development, that is, if that someone intends to be successful and competitive in everyday tasks. What is clearly subjective, and thus open to discussion, is whether or to what extent society should resort to coercion—specifically in the form of institutionalization and medication—in enforcing behavioral standards. Such difficult questions are raised in Xiaolei Shi's analysis, which is primarily concerned with determining whether ADD is a product of medical science or ideology. Structuring his argument around the debate of ideology versus science, Shi integrates the opinions of various experts on the topic into his text; subjecting them to a rigorous analysis, he strikes at the core issues of this controversy. Furthermore, he explores the dialectical relationship between the process of socialization and medical intervention. In his investigation, Shi presents the issues of the ADD controversy in a systematic and comprehensive manner, criticizing the current, often superficial methods of diagnosis and treatment, to further the cause of ADD awareness.**