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# Radical Enhancement and the Denial of Human Dignity

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Should human beings accept certain limitations in terms of cognitive ability and physical strength? These questions take on a whole new urgency in the face of recent developments in the fields of psychostimulants and other pharmaceutical innovations. Moreover, as if these developments do not represent enough of a challenge, the development of computer-enhanced human intelligence may be just around the corner.

Arnold Kling, author of *Learning Economics*, introduces the issue in a most unusual way: "Perhaps the last unenhanced human to make a significant contribution in the field of mathematics has already been born. In twenty years, the tenure track at top university mathematics departments may consist entirely of people who depend on drugs, direct neural-computer connections, genetic modification, or a combination of all three in order to achieve high-level performance."

By now, most Americans are aware of the widespread use of anabolic steroids among professional athletes. This scandal threatens to undermine the integrity of baseball as a game. After all, are we really to compare today's steroid-enhanced homerun hitters with the achievements of Babe Ruth at the Polo Fields?

The use of performance-enhancing pharmaceuticals undermines the integrity of athletic competition. Beyond this, young people are quickly learning the lesson that the use of performance-enhancing drugs is necessary in order to make it in the big leagues, much less to break records. Athletes are growing accustomed to increased demands for urine tests, blood analysis, and other investigative techniques designed to determine just who is and is not using specific performance-enhancing drugs. Meanwhile, few have been watching as the use of psychostimulants is becoming more widespread on the academic side. When it comes to performance-enhancing pharmaceuticals, the nerds are catching up with the jocks.

Kling points to the mathematics department because the use of psychostimulants among some mathematicians has now become public knowledge. As far back as two decades ago, mathematician Paul Erdős was offered five hundred dollars to see if he could kick his use of Benzedrine for just one month. As Joshua Foer reported in *Slate* magazine, "Erdős met the challenge, but his productivity plummeted so drastically that he decided to go back on the drug."

Kling reports that an increasing number of college students are using Adderall, a drug commonly prescribed for students diagnosed with attention-deficit disorder. According to Kling, "There are students who have never been diagnosed as having attention deficit who nonetheless claim that the drug improves their concentration. When I asked my college-age daughters if they knew many students who take the drug, they each responded, 'Of course.'"

"Depressives have Prozac, worrywarts have Valium, gym rats have steroids, and overachievers have Adderall," quips Foer. Some call Adderall a "cognitive steroid" because it appears to have the same effect on consciousness and alertness that anabolic steroids have on muscle performance. Foer describes Adderall as "a cocktail of amphetamines that increases alertness, concentration, and mental-processing speed and decreases fatigue." Who doesn't need a little help in those categories? The diagnosis of attention-deficit syndrome has its own troubled history, but the use of drugs like Ritalin and Adderall has become widespread among the young. Foer cites one study indicating that as many as one in five college

students takes either Adderall or Ritalin as “study buddies.”

Experiments with drugs and performance-enhancing chemicals has been a fascination of human beings for a very long time. Just think back to Robert Louis Stevenson’s epic tale, *The Strange Tale of Dr. Jekyll and Mr. Hyde*. Writers such as James Agee, Graham Greene, and Philip K. Dick, along with poet W. H. Auden used Benzedrine, then available over-the-counter, as a means of speeding up their literary output. Jack Kerouac wrote *On the Road* in a three-week period after having ingested large amounts of Benzedrine. Existentialist John-Paul Sartre was another Benzedrine devotee.

Now, the use of such drugs—available in updated and more powerful forms—has spread to college students and high schoolers. Educators report that Ritalin and Adderall pills are available for sale on the black market, and kids have been known to give friends pills from their own prescriptions in order to enhance a buddy’s night of cramming for a test.

In an interesting experiment, Joshua Foer decided to take Adderall for a week in order to see just how the drug worked. His report: “The results were miraculous.” His intelligence, memory, cognitive processing speed, and alertness increased so much that Foer felt “like I’d been bitten by a radioactive spider.”

Foer reports that the feeling of being on Adderall shifts from mild euphoria to a calming sensation that lasts for several hours. “When I tried writing on the drug, it was like I had a choir of angels sitting on my shoulders. I became almost mechanical in my ability to pump out sentences,” he remembers. Like any drug, Adderall has side effects, and the experience of coming off the drug can be a disappointment. Nevertheless, many young people are willing to take the risks in order to make the grade, make the team, or break a record.

But Adderall may be just the tip of an iceberg. Arnold Kling points to the emergence of neural implants which may be able to make direct connections between the human brain and technological devices. “Today, if I want to look up information, I have to get to a computer, connect it to a web site, and type in a search phrase,” Kling observes. “In the future, perhaps I will have an implant in my ear that can handle communication between my brain and the Internet, so I will not need the computer or its keyboard. Alternatively, my implant will communicate with a sort of mega-iPod, small in size but large in storage capacity, that can access and process all sorts of data.”

Beyond this, genetic modification will be another path for temptation. “Perhaps scientists can find a way to modify genes in enough of my brain cells to improve my memory or other cognitive skills,” Kling observes. “If not, then they are likely to develop the ability to enable parents to determine genetic characteristics of children. If nothing else, they will be able to give parents of babies fertilized in vitro the ability to select based on genetic characteristics.”

Scientists working on cures for Parkinson’s disease, Alzheimer’s, and other brain diseases are pushing the limits, even as new drugs and therapies promise progress in treating those dreaded diseases. At the same time, however, those same drugs are likely to be used for other purposes.

There is something seriously wrong with a society that worships achievement and enhancement at the expense of human dignity. Just last week the *New York Times* reported that the use of sleeping pills among children and very young adults rose 85 percent from 2000 to 2004—with much of that rise attributed to alleviating the effects of taking psychostimulants as prescribed by doctors. When children have to take sleeping pills in order to counter the effects of psychostimulants, something has gone horribly wrong. When athletes, even at younger and younger ages, put their health at risk by taking anabolic steroids just in order to make the team and win on the athletic field, something perverse is at work. When the students over in the mathematics department are hopping themselves up on Adderall in order to make higher grades (or get hired as professors), human intelligence is redefined with unknown effects.

All this runs counter to a biblical understanding of humanity. According to the Bible, human beings are inherently finite. All humans bear the image of God, and this sets humanity apart from all other creatures. Nevertheless, the Bible warns that human over-reaching is, at least in one sense, the very essence of sin itself. This was true of Adam and Eve in the garden when they ate the forbidden fruit, and it was the driving energy behind the organizers of Babel, who wanted to make a name for themselves.

There are limits to human intelligence, and a Christian view of humanity cannot encourage the use of artificial means in order to transcend human limitations.

Undoubtedly, there is a fine line between efforts to achieve health, and ambition to transcend natural human limitations.

Now is the time for serious-minded Christians to give attention to these questions and to confront these present and future challenges with mature Christian reflection and genuine biblical engagement. We bear responsibility to think about these issues before the Brave New World of human enhancement arrives in its more radical forms. Otherwise, the needed debate will come too late.

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