OUR BRAVE NEW PHARMACOLOGICAL WORLD: A VIRTUE ETHICS CRITIQUE

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INTRODUCTION

It’s not difficult to say what’s objectionable about soma in Aldous Huxley’s *Brave New World*: the majority of the blissed-out, mindless denizens of this socially and biologically engineered dystopia are oblivious not only to their own manipulation but also to the fact that their lives have become empty and hollow; they no longer care or strive for anything greater than the ecstasy of their next drug-induced vacation. Francis Fukuyama argues in *Our Posthuman Future* that Huxley’s vision of the future was extremely prescient and that advances in biotechnology and neuropharmacology now threaten to alter human nature and thus undermine the very basis of human dignity. One such threat stems from developments he sees in neuropharmacology and the growing omnipresence in our lives of psychotropic drugs such as Prozac and Ritalin. The first section of this paper discusses advances in neuroscience and pharmacology that extend the aim of medicine beyond the treatment of disease and the mitigation of pain and suffering to include “cosmetic neurology,” that is, the enhancement of cognitive functioning in normal, healthy human beings. The second section challenges Fukuyama’s assertion that we can only escape a “posthuman” future as nightmarish as Huxley’s *Brave New World* if we anchor human dignity and values in an empirically defensible conception of human nature. Given the theoretical difficulty of identifying a normatively relevant conception of human nature, I propose that Alasdair Macintyre’s analysis of virtue, internal goods and practices in *After Virtue* offers the necessary conceptual apparatus and appropriate context of human activity—not human nature—that allows us to evaluate the ethical significance of neurochemical enhancements. In the third and final section, I draw upon the myth of Theuth from Plato’s *Phaedrus* to argue that the use of performance-enhancement drugs within the arena of Macintyre’s practices threatens the integrity of these special domains.
of human activity and the forms of excellence and achievement they foster.

**BOTOX FOR THE BRAIN**

As Fukuyama tells it, the advent of Prozac in the early 1990s represented more than just a new drug therapy for treating depression: it opened our eyes to the possibility of what Peter Kramer in *Listening to Prozac* dubbed “cosmetic pharmacology.” Not only did Prozac prove to be effective in treating many clinically depressed patients, it also provided a psychic boost in self-esteem and confidence for healthy individuals and the mildly depressed. While Fukuyama recognizes Prozac as a therapeutic boon for those trapped in the depths of depression, he worries that it may become a kind of “happiness pill” for the mentally fit who want to elevate their serotonin levels to feel “better than good,” as he puts it. Fukuyama doesn’t place Prozac in the same class with soma, but he states that with this antidepressant “the path is opened toward a drug that in certain ways looks uncomfortably like the soma of Aldous Huxley’s *Brave New World*.”

Stephen Braun in, *The Science of Happiness: Unlocking the Mysteries of Mood,* rejects Fukuyama’s worry about Prozac and the potential dangers of a pharmacological future not unlike Huxley’s, but nonetheless admits that many of those using antidepressants today would never have been diagnosed as depressed in the past. Braun observes, “Today the line between mental illness and normalcy has become blurred to the point that a fully functioning, relatively happy person can walk into a doctor’s office, complain vaguely of periodic low mood or low energy, and walk out with a prescription for Prozac, or Xanax, or Ritalin.” Huxley saw a connection between the new psychotropics of his time and soma, a connection which he discussed in his 1958 work, *Brave New World Revisited.* Soma, as Huxley remarked, packs a triple punch for the inhabitants of his futuristic society: it serves as a hallucinatory tranquillizer; a euphoric which stimulates both the mind and the body; and a blissful release from tension and anxiety. Huxley observed a certain similarity between soma and the first antidepressant called Iproniazid that made its debut in the early 1950s. First developed for the treatment of tuberculosis, Iproniazid was moderately successful in combating this bacterial infection, but it had the unanticipated, though not unwelcomed, side effect of animating and energizing TB patients. When Iproniazid was tried out on depressed patients, some did remarkably well. Although Huxley didn’t suppose that
Steven D. Weiss: Our Brave New Pharmacological World

anything like soma would ever appear in our pharmacological future, he saw enough on the horizon at the time to give him pause:

the ideal stimulant—powerful but innocuous—still awaits discovery. Amphetamine, as we have seen, was far from satisfactory; it exacted too high a price for what it gave. A more promising candidate for the role of soma in its third aspect [as an anti-anxiety drug], is Iproniazid which is now being used to lift depressed patients out of their misery, to enliven the apathetic and in general to increase the amount of available psychic energy... We see that, though soma does not yet exist (and will probably never exist), fairly good substitutes for the various aspects of soma have already been discovered. There are now physiologically cheap tranquillizers, physiologically cheap vision-producers and physiologically cheap stimulants.8

If Huxley could thumb through our Merck manual today, he would doubtless find enough antidepressants, anti-anxiety drugs, stimulants, cognitive enhancement drugs and psychoactive agents to mix-and-match for a perfect soma-induced mental holiday.

Fukuyama’s fears about the potential of a Prozac-like drug to serve as a “happiness pill” extend to drugs such as Ritalin and Adderal which, he says, have proven to be very effective in chemically controlling individuals. Prescribed for the treatment of ADD and ADHD, Ritalin, or methylphenidate, is a stimulant similar in structure to methamphetamine and cocaine;9 Adderal itself is an amphetamine. Ritalin has proven effective in treating individuals suffering from ADD and ADHD: as a euphoric and central nervous system stimulant, it improves performance in the “executive function” skills of organizing, planning, decision-making, judgment and goal setting.10 Children and students diagnosed with ADHD have found that Ritalin and Adderal allow them to concentrate on their studies and better focus in the classroom. Fukuyama acknowledges all of this but suspects that healthy, rambunctious children—mainly boys—are being labeled ADHD and chemically pacified in the classroom. Researchers have yet to find an organic cause of ADD/ADHD and the diagnosis is made entirely on the basis of symptoms (the same is true of depression). Fukuyama sees a disturbing similarity between Prozac and Ritalin:

The former is prescribed heavily for depressed women lacking in self-esteem; it gives them more of the alpha-male feeling that comes with high serotonin levels. Ritalin, on the
other hand, is prescribed largely for younger boys who do not want to sit still in class because nature never designed them to behave that way. Together, the two sexes are gently nudged toward the androgynous median personality, self-satisfied and socially compliant, that is the current politically correct outcome in American society.\textsuperscript{11}

More than the issue of social control, however, what disturbs Fukuyama most about psychotropic drugs is the threat they pose to our humanity by leveling the rich diversity and complexity of human ends and activities. As Fukuyama points out in his discussion of ADD and ADHD, with the medicalization of children and adults who trail off on the edges of the standard distribution of normal behavior, the line between therapy and enhancement becomes blurred.\textsuperscript{12} Fukuyama is not alone in this observation. Anjan Chatterjee, a medical researcher and clinician, notes that medicine is finding it increasingly more difficult to distinguish in practice between therapy and enhancement. While clinicians may initially focus on treating the biological causes of disease, in many instances, what patients complain about most regarding their illness are quality of life issues which may have little to do with the underlying organic pathology that doctors seek to remedy. And so, in addition to treating the disease, physicians also include quality of life considerations alongside planning a therapeutic intervention for the patient. But if one of the goals of medicine is to improve the patient’s quality of life—where doing so does not directly relate to treating the underlying pathology—it is not implausible to ask, as Chatterjee suggests, why medicine shouldn’t devote itself to improving the lives of healthy individuals as well.\textsuperscript{13} Fukuyama’s objection that “the original purpose of medicine is to heal the sick, not to turn healthy people into gods” can be met by simply removing enhancements for the healthy from the domain of medicine; as Erik Parens suggests, we might envision a new group of professionals called “Schmooters” who will practice enhancement “Schmedicine” for the healthy.\textsuperscript{14} And the future looks promising for “Schmedicine” as all kinds of enhancement drugs now beckon for those who are of sound body and mind. Chatterjee notes that with advances in neuroscience and neuropharmacology many of the new drugs therapies being developed for cognitive disorders may not only be effective in treating dementia, Alzheimer’s Disease, stroke, traumatic brain injury and the like, but may very well serve to improve cognitive functioning in the healthy as well.\textsuperscript{15}
While professional athletes are vilified for using steroids, for many Americans performance-enhancement drugs have already become a way of life.\textsuperscript{16} For example, Ritalin and Adderal have become wildly popular among high school and college students who do not suffer from ADHD but nonetheless seek to improve their academic performance with a little help from these stimulants. Chattergie argues that it is all but impossible to prevent healthy individuals from using cognitive enhancement drugs originally developed for treating the impaired,\textsuperscript{17} and Michael Gazzaniga, agrees:

Drugs designed for psychotherapy can also be used to enhance certain regular mental functioning. Just as Ritalin can improve the academic performance of hyperactive children, it can do the same for normal children. It is commonly thought to boost SAT scores by more than 100 points, for both the hyperactive and the normal user. Many healthy young people now use it that way for that purpose, and quite frankly, there is no stopping the abuse.\textsuperscript{18}

Classical musicians have discovered that they can minimize the effects of stage fright by taking small doses of propranolol, a prescription drug sold under the trade name Inderal. Propranolol is a beta-blocker that was originally prescribed for the treatment of angina and abnormal heart rhythms, but it works equally well as an anti-anxiety drug and can steady the jittery hand of a nervous violinist.\textsuperscript{19} Paxil, a second-generation Prozac-type drug, is now used by shy people to help them overcome their discomfort in social settings.\textsuperscript{20} Researchers have also found that donepezil (trade name Aricept), originally approved for slowing memory loss in Alzheimer patients, improves memory in normal populations as well. Using a flight simulator, researchers trained pilots to respond to emergency scenarios; half of the subjects received donepezil and the other half a placebo during simulator training. The research subjects were tested a month later to determine how well they could recall and implement their training; those who had received donepezil better remembered their training as demonstrated through improved performance.\textsuperscript{21} The future of cosmetic neurology is here as pharmaceutical companies scramble to synthesize the next generation of “nootropes” or smart drugs that will boost memory and cognition in the young and old, the healthy and the infirm.

Ethical concerns about the use of neuroenhancing drugs within the healthy population reflect a larger debate within bioethics over the quest
for human perfection that includes technologies which promise better babies through genetic engineering, happier psyches through psychopharmacology, and longer-lived bodies through muscle enhancement and regenerative medicine. The ethical questions raised by these issues are wide-ranging and provide fertile ground for debate and discussion within any contemporary ethical issues class. Discussion is especially animated among students when it comes to considering the ethical issues surrounding the use of cognitive and performance enhancement drugs. Students are already familiar with the topic given the ongoing publicity about the abuse of steroids and doping agents within professional sports; and many students who do not suffer from any kind of disability are extremely forthright in admitting (as studies confirm) to taking Addreal and Ritalin to stay up all night to study or write a term paper. The ethical issues raised by neuroenhancing drugs for over-achievers can be grouped into three categories. First, considerations of harm dictate that the safety of these drugs for individuals seeking to boost their intellectual productivity should be established before we can even begin to consider endorsing this nonmedical drug use. The reality, however, is that there is virtually no research on the side effects of cognitive enhancement drugs for such a population; in fact, there is sparse evidence of the long term effects of Adderal and Ritalin for children and adults who have been prescribed these drugs. Second, questions of justice, fairness and equity spring to mind: are normal, healthy students cheating when they use stimulants to improve their test-taking performance? Suppose Addreal and Ritalin are safe and confer a benefit on non-ADHD students: should we be concerned about a possible “performance gap” between those who can and cannot afford such drugs? Would justice dictate that everyone have access to these drugs, in order to satisfy the demands of equity and distributive justice? Further, would individuals feel coerced to take these drugs, just to keep up with the competition? Third, even if we could resolve these issues of fairness, justice and equity, we would want to know what a world in which neuroenhancing drugs made everyone smarter, more mentally alert and higher-performing would mean for our sense of humanity, dignity and agency. Could we still take pride in our accomplishments? Or would these drugs diminish our sense of dignity and humanity to the extent that what we now admire is a certain pharmacologically-enhanced achievement, rather than the outcome of genuine human effort and striving? Drawing from the third category of ethical concerns, this paper offers a virtue-ethics critique of cognitive enhance-
ment drugs in a way that avoids the pitfalls of attempting to articulate a conception of human nature.

MACINTYRE’S PRACTICES, VIRTUES AND INTERNAL GOODS

Fukuyama’s worry that biotechnology threatens to erode the complex diversity of human ends and activities deserves to be taken seriously even if we think that anything approximating Huxley’s nightmarish future is only remotely possible, for there are surely many ways in which our humanity may be diminished short of Huxley’s worst case scenario. But in looking back to *Brave New World* and fearing a posthuman future of our own, Fukuyama insists that “our final judgment on ‘what’s wrong’ with Huxley’s brave new world stands or falls with our view on how important human nature is as a source of values.”24 Fukuyama’s project, therefore, is to identify our “human essence, the most basic meaning of what it is to be a human being.”25 and thus create a normative bulwark against the encroachments of biotechnology. In attempting to sort out the ethical differences between traditional v. newer technological means of achieving our ends, Ronald Cole Turner agrees with Fukuyama’s enterprise but despairs at the prospect of ever identifying an adequate theory of human nature:

[I]t is distressing that precisely at the moment in human history when we are poised on the threshold of the possibility of the technological manipulation of human nature, we have very little consensus on what we mean by human nature. In fact, we have very few candidate theories of human nature, philosophical or theological, and so it is quite likely we will proceed to alter what we do not even pretend to understand. It may turn out that through our self-alteration, through a kind of scientific experiment on ourselves, we will come at last to understand ourselves more clearly.26

What Turner doesn’t say is that we may only come to an understanding of our humanity after we have irrevocably altered or damaged it—by changing our germ line, for example. Turner’s pessimistic outlook about the likelihood of settling on a theory of human nature that can do the ethical heavy lifting Fukuyama demands of it is not unwarranted. Contrary to Turner, however, the problem may not be the paucity of theories but the sheer multitude of competing accounts of human nature, not just philosophical or theological, but psychological, sociological, and biologi-
cal as well. To further complicate matters, postmodernists reject the very notion of an essential human nature that can function as value-determining or goal-directing. Finally, Fukuyama’s own definition of human nature as “the sum of the behavior and characteristics that are typical of the human species, arising from genetic rather than environmental factors” seems to rest on a kind of quixotic scientism that claims an empirical account of species-typical behavior can provide us with an ethical vision of human flourishing and well-being. But the movement from “what is the case” to “what ought to be the case” is fraught with philosophical and ethical problems and can only be traversed—if at all—with great theoretical difficulty.

The situation is not as grim as Turner suggests, however, since an ethical evaluation of advances in genetics and psychopharmacology need not be theoretically grounded in a definition of human nature. An alternative account of human ends and activities which doesn’t risk foundering on the concept of human nature and yet provides a rich context for evaluating the ethical implications of enhancement technologies can be found in Alasdair Macintyre’s notion of a “practice” as he defines it in *After Virtue*. By a ‘practice’ I am going to mean any coherent and complex form of socially established cooperative human activity through which goods internal to that form of activity are realized in the course of trying to achieve those standards of excellence which are appropriate to, and partially definitive of, that form of activity, with the result that human powers to achieve excellence, and human conceptions of the ends and goods involved are systematically extended. Macintyre’s concept of a practice is wide-ranging and includes activities such as chess, but not tic-tac-toe; football, but not the simple act of throwing a football; architecture, but not bricklaying. Physics, chemistry and biology are all practices, as well as historical inquiry, painting and music; in general, all the arts and sciences are included. Macintyre’s notion of a practice encompasses all those human endeavors, activities and modes of inquiry which allow us to distinguish ourselves and achieve our best; each activity, endeavor or inquiry captures a unique form of human accomplishment and excellence; and each activity, endeavor or inquiry is sustained by a historical-cultural tradition of rules, standards of excellence and institutions creating a social arena within which we work.
together to realize the goods internal to that practice as we strive to achieve our best as defined by that practice.

Macintyre goes on to distinguish between the “internal” and “external” goods which attach to a practice. Awards, prizes, prestige, money, power and status are all external goods contingently related to a practice through accidental social circumstances and, as such, are not essential to or definitive of the practice itself. There are many different ways of pursuing money, power and status, so that acquiring these things is never a matter of engaging in just one kind of practice. Moreover, says Macintyre, when I acquire these external goods they always become my property, my possession. External goods are therefore the object of competition where there are always winners and losers: my gain is your loss.

Internal goods differ from external goods, according to Macintyre, in the following two ways. First, the internal goods of a practice can only be acquired by way of that particular practice; that is, they can only be realized within the confines of a specific practice and its focal activity. Macintyre’s idea seems to be that since each practice nurtures and cultivates a special form of human endeavor, activity or mode of inquiry, the intrinsic value that attaches to these undertakings and the unique form of human excellence they embody can only be realized within that particular practice. Secondly, it is only through the experience of participating in the practice that one can come to identify and recognize the internal goods of the practice. Unless I have had the relevant experiences peculiar to a given practice and have actually submitted to and attempted to achieve the standards of excellence of that practice, I am not a competent judge of the goods internal to that practice. One internal good of a practice may even include an object created by the activity associated with that practice and its standards of excellence. For example, Macintyre explains that the practice of portrait painting from the late middle ages to the eighteenth century gave rise to two very different kinds of internal goods: first, the excellence of the painting itself as aesthetic object, as well as the artist’s excellence in the execution of the painting; and, second, the good of living a certain kind of life as a portrait painter—a good that is experienced by artists as they strive to achieve the standards of excellence peculiar to their practice. Unlike portrait painting, however, some practices do not culminate in an entity or aesthetic object that exists apart from the activity that produced it; in such cases the excellence of the event, e.g., a ballet or theatrical performance, may be said to be either identical to or supervene on the excellence of the activity of the performers. But even in
those practices where the excellence of the “product” (e.g., the portrait as physical object), as Macintyre refers to it, can be distinguished from the excellence of the activity that produced it, the activity and its product do not occupy separate universes: it is the excellence of the activity that gives rise to the excellence of its product.

While the internal goods of a practice can be realized as a result of the competition to excel, Macintyre is quick to point out that these goods are never the sole property or possession of any one individual or select group of individuals; rather, the achievement of these goods, even under competitive circumstances, represents a good for the whole community participating in the practice.36 The end of chess, for example, is not winning per se, but the experience of a certain form of human excellence and achievement as defined by the standards of the practice. To further explain the difference between internal and external goods, Macintyre gives the example of a child who is first “persuaded” to play chess by being offered candy whenever she wins. Macintyre notes, however, that if this is the only reason she has for playing chess, she has no reason not to cheat and every reason to cheat if she can get away with it. But if she eventually comes to enjoy playing chess for its own sake and begins to value the goods internal to the practice she will have acquired a whole new set of reasons to win, not by whatever means possible, but in a way that allows her to excel according to the rules and standards of the game. For her to cheat now would be to lose out on the goods internal to chess—goods which can only be experienced by committing oneself to the practice of chess and embracing its standards of excellence. Some of the internal goods of chess Macintyre mentions are “a highly particular kind of analytic skill, strategic imagination and competitive intensity.”37 While these goods refer to the various powers, capacities and skills put to use by the outstanding chess player, they should not be thought of as mere instrumental means external to the activity of chess. Part of what it means to play chess and to play it well involves the utilization of these powers, capacities and skills which, following Macintyre’s definition, function as “internal means” to the end of chess: “I call a means internal to a given end when the end cannot be adequately characterized independently of a characterization of the means.”38 The fact that some of the internal goods of chess include these internal means which are partially constitutive of the activity of playing and excelling at this game will be relevant in critiquing the use of performance-enhancement drugs within practices.
The pursuit of the internal goods embedded in a practice, according to Macintyre, is always the result of the cooperative activity between the participants of the practice, and if practices are to sustain and perpetuate themselves participants must embody certain character traits or virtues. Macintyre defines a virtue as “an acquired human quality the possession and exercise of which tends to enable us to achieve those goods which are internal to practices and the lack of which effectively prevents us from achieving any such goods.” The virtues sustain the relationship between participants and create the conditions of cooperation among those who share the same purposes and conform to the same standards of excellence. Courage, honesty and justice are therefore necessary virtues of any practice, Macintyre argues, for without them participants are cut off from the internal goods of the practice. By embodying these virtues, the participants become members of a community and a tradition that value the internal goods of the practice for their own sake and seek to preserve and sustain the practice and its standards of excellence. Although practices depend on institutions to perpetuate themselves historically, Macintyre notes that institutions are notoriously driven by considerations of money, status and power; and so the virtues of honesty, truthfulness, fairness, justice and courage insulate practitioners from the potentially corrupting influence of external goods. Without these virtues the practice becomes simply another competitive arena for acquiring external goods. The very integrity of a practice, its internal goods and standards of excellence, depends upon those who embody the virtues within the practice.

A Virtue Ethics Critique of Enhancement Drugs

Immersing oneself in a particular practice always involves the development of a set of technical skills peculiar to that practice; but Macintyre cautions that a practice

is never just a set of technical skills, even when directed towards some unified purpose and even if the exercise of those skills can on occasion be valued or enjoyed for their own sake. What is distinctive in a practice is in part the way in which conceptions of the relevant goods and ends which the technical skills serve—and every practice does require the exercise of technical skills—are transformed and enriched by these extensions of human powers and by that regard for its own internal goods which are partially definitive of each particular practice.
or type of practice. Practices never have a goal or goals fixed for all time—painting has no such goal nor has physics—but the goals themselves are transmuted by the history of the activity. It therefore turns out not to be accidental that every practice has its own history and a history which is more and other than that of the improvement of the relevant technical skills.

It is here where we can locate the first distorting influence of performance-enhancement drugs on human ends and activities within practices. When string musicians use beta-blockers to dampen stage fright and improve their coordination and musicianship, they risk thinking about their practice more as a set of technical skills than a shared tradition embodying internal goods which can only be experienced within that practice. This shift in focus and attitude may be subtle. In Technopoly: The Surrender of Culture to Technology, Neil Postman argues that every tool has an ideological bias which operates as “a predisposition to construct the world as one thing rather than another, to value one thing over another, to amplify one sense or skill or attitude more loudly than another.” The temptation to use enhancement drugs within a practice will be all the greater where the refinement of technical skills is linked to external goods such as status and money contingently related to that practice. The danger is that the use of enhancement drugs will be seen as a means for improving our technical skills, no longer with an eye toward enriching the internal goods and ends of the practice, but rather as a way of better securing the external goods attached to the practice. The result: what Macintyre calls a practice—the pursuit of human excellence and achievement for its own sake—devolves into a set of skills, capacities or abilities now coveted for their instrumental value in securing external goods. What remains is not a practice in Macintyre’s robust sense but a crass competitive enterprise that no longer values the pursuit of human excellence for its own sake.

An example of how a practice can be made vulnerable to competitive pressures through the introduction of new technologies can be observed within the world of academe. Postman writes that the innovation of grading student papers first appeared in 1792 at Cambridge University when, thanks to the efforts of a tutor named William Farish, students could now be quantitatively evaluated with this new technology. Nowadays professors despair that so many students are more interested in knowing what will be on the next exam than they are in the joy of learning; and we suspect that many students no longer value education and learning for their own sake but only as a means for acquiring the
degree that will land them a good job. The fact that many students use Ritalin to boost their SAT scores is an example of how William Farish’s simple innovation altered the culture of academe in a way that distances us from the internal goods and ends of the practice and threatens to turn education into a mere means for securing external goods. The general threat posed by pharmacological agents that parade themselves as performance-enhancement drugs is their potential to reduce our practices to nothing more than competitive struggles between participants seeking to outdo one another in their quest for external goods. This threat is tied to what Postman calls the “ecological” tendency of new technologies: the innovations they introduce into culture are rarely piecemeal or isolated in their impact. In the same way an invasive species alters the entire character of an environment, new technologies rapidly transform the cultural and social landscape of our lives in ways we never anticipated. Although we narrowly focus on and debate the efficiency of the computer as a teaching tool, Postman urges that we consider how this technology alters our entire concept of learning and education. Technologies, he argues, are rarely neutral in their application or impact: how they are put to use is determined by their structure; or, to put it differently, form dictates function. It is this structure or form that gives a technology its “ideological bias,” its tendency to remake the world and human beings in its own image. While we typically think about technologies as ways of manipulating and altering the world, we often fail to consider the ways in which they can work upon and change us, for as Postman points out: “New technologies alter the structure of our interests: the things we think about. They alter the character of our symbols: the things we think with. And they alter the nature of community: the arena in which thoughts develop.” Given this dynamic of technological innovations, the critical question is how pharmacological enhancements will alter the very way we think about ourselves, our values, our skills, capacities, powers and activities—how they will alter the ecology of our practices in Macintyre’s rich sense.

A second way in which enhancement drugs distort our practices and the activities they sustain is dramatically illustrated at the end of Plato’s Phaedrus where Socrates recounts the legend of the Egyptian god Theuth who, as the inventor of numbers, calculation, geometry, astronomy, dice games and, most importantly, writing or letters, presents his arts (technē) to the Egyptian king, Thamus, and requests that they be distributed to all Egyptians. After listening to Theuth explain the merits of each invention, King Thamus praises some and condemns others, but when he considers
the art of letters he issues a stern warning, charging that Theuth has completely misunderstood the nature of his invention. Socrates continues his narration:

The story goes that Thamus said many things to Theuth about each art—both pro and con—the details of which would take too long to go through. When speaking about letters, Theuth said: ‘This branch of learning, my king, will make the Egyptians wiser and will improve their memory.’ The drug (pharmakon) for memory and wisdom has been discovered!’—To which the king responded: ‘Oh, Theuth, the greatest of technicians, one person is granted the ability to beget the things of art, another the ability to judge what measure of harm and benefit they hold for those who intend to use them. And now you, father of these letters, have in your fondness for them said what is the opposite of their real effect. For this will produce a forgetting in the souls of those who learn these letters as they fail to exercise their memory, because those who put trust in writing recollect from the outside with foreign signs, rather than themselves recollecting from within by themselves. You have not discovered a drug for memory, but for reminding. You offer your students an apparent, not a true wisdom. For they have heard much from you without real teaching, and they will appear rich in knowledge when for the most part there’s an absence of knowledge, and they will be difficult to be with since they appear wise rather than really being wise (275a-b).

The word “pharmakon” carries a double meaning in Greek, indicating either a medicine or a poison. As the proud inventor of the new technē of writing, Thamus is unable to see that what he takes to be a boon for humanity—his pharmakon for enhancing memory and wisdom—is in fact a slow acting poison which will have the opposite effect. Several aspects of the king’s criticism of Thamus’ innovation of writing shed light on the problematic nature of performance-enhancement drugs within the context of Macintyre’s practices.

Theuth’s chief complaint about the pharmakon of writing is that it does exactly the opposite of what it promises to do: instead of boosting our memory it will produce a creeping forgetfulness. He contends that those who rely on the technē of writing will no longer exercise their memory and therefore become forgetful as they “recollect from the outside with foreign signs, rather than themselves recollecting from within by themselves.” And so, not only will our memory be impaired, but by com-
ing to depend on writing to recollect what we used to remember on our own, we sacrifice a part of our agency for the false promise of this pseudo-medicine: we now resort to an external drug, something independent of the exercise of our own capacity and agency, to do what we used to do on our own without this new *technē*. While the king contemptuously tells Thamus that writing is in fact not a *pharmakon* for improving memory but a mere tool for reminding, he realizes all too well that this drug is potent enough to create the illusion of genuine memory and knowledge, and that those who ingest it “will be difficult to be with” for they will appear wise and most likely even believe that they are wise, when they are not. As the *technē* of reminding replaces the exercise of genuine memory, our very capacity and conception of what it means to exercise our memory will be so diminished that we may lose sight of what we were capable of remembering on our own before we availed ourselves of this new technology.

The first objection leveled against the use of performance-enhancement drugs charged that these agents distract us from the internal goods of the practice by misdirecting the exercise of our technical skills toward securing external goods, thereby demoting a cooperative activity to the status of a competition. But an apologist for these drugs might very well argue that the case against them has been overstated: the use of performance-enhancement drugs is not inherently antithetical to the promotion of the internal goods of a practice and need not necessarily degrade the practice; rather, as the argument continues, these drugs may be applied to improving—enhancing—our technical skills in ways that better allow us to realize the internal goods of the practice. Drawing on the myth of Theuth, a second objection to performance-enhancement drugs contends that, contrary to the apologist’s claim, these chemical agents inevitably weaken the link between the exercise of the powers and technical skills associated with a particular practice and the internal goods and ends that can only be realized by striving to achieve the standards of excellence of that practice.

It may be helpful at this point to return to closer examination to Macintyre’s definition of a practice as well as his analysis of the role and significance of technical skills within a practice. Once again, a practice is defined as

any coherent and complex form of socially established cooperative human activity through which goods internal to that form of activity are realized in the course of trying to achieve those standards of excellence which are appropriate to,
and partially definitive of, that form of activity, with the result that human powers to achieve excellence, and human conceptions of the ends and goods involved are systematically extended. 49

As Macintyre explains, a number of things transpire when we strive to achieve the standards of excellence peculiar to a practice. First, the internal goods of the practice are realized or brought to completion by the practitioners, where, again, these goods may be a) an excellent product or aesthetic object, b) the excellence manifested in the activity or performance that gave rise to the object, and c) the intrinsic good of living out a particular kind of life as informed by that practice. Beyond this, however, Macintyre states that as a result of the realization of these internal goods something else comes to fruition: both the human powers that are put to work as we strive to excel and our understanding of the goods and ends of the practice are “systematically extended.” Our practices change us as the human powers called upon by the activity of the practice are sharpened, strengthened and expanded; we become better at the special activity of the practice as a result of our efforts to achieve excellence. Furthermore, in the same way that practitioners are transformed by their practice, they too act upon and transform their practice. The very goods and ends promoted within a practice never remain static: in the process of striving to realize the practice’s internal goods practitioners may discover new ends and goods, or they may modify traditional goods and ends to explore different ways of excelling within the evolving tradition.

What Macintyre calls “human powers” are all those talents, abilities and capacities that are engaged by the characteristic activity of the practice. In the process of striving for excellence these powers undergo a transformation: they are refined and “systematically extended” to become the technical skills that enhance practitioners’ ability to achieve the standards of excellence within their practice. Macintyre postulates a reciprocal, dynamic relationship between these cultivated human powers or technical skills and the ends and goods of the practice which these powers and skills serve. Our striving to realize the goods and ends of a practice has the effect that the human powers called upon by this activity are transformed into sophisticated technical skills as they are developed, refined and strengthened in the pursuit of excellence. This transformation does not occur automatically but is the result of conscious, self-directed activity that engages these human powers and, through practice, training and discipline, molds them into technical skills. At the same time, these developed human powers or skills—now excellences in their own
right—not only serve the goods and ends of the practice but modify them in the process. As a result of this reciprocal, transformative process excellence is conferred on certain human powers now elevated to the status of technical skills which serve the goods and ends of the practice; conversely, the goods and ends of the practice are modified by their technical skills in ways that allow practitioners to explore or create new forms of excellence by altering the traditional boundaries of the practice. It is this dynamic relationship between human powers and their corresponding technical skills, on the one hand, and the goods and ends of practices which they serve, on the other, that is disrupted by the injection of performance-enhancement drugs within these special domains of human excellence and achievement.

Exactly how this link between human powers and the goods and ends of the practice which they serve is weakened by performance-enhancement drugs can be better understood by attending to three aspects of the myth of Theuth. First, like the pharmakon of writing, these drugs function in a way that is external to the human powers or technical skills they are said to enhance. These drugs are of course ingested and thus are not external in the sense that Theuth’s technē of writing depends upon a system of signs and symbols physically external to the individual-as-agent. Rather, these enhancement drugs are external to the display of human powers and skills within the practice in the sense that they stand outside the exercise of human agency and effort. The promise of these drugs is that they allow us to achieve our goals and ends more quickly and efficiently: performance is chemically enhanced by circumventing human agency and effort that depend on the exertion of will. Thus, while some classical musicians turn to alternative therapies such as yoga and aerobic exercise to help them overcome stage fright, others are impatient with the slow progress of these activities and prefer the “quick fix” of beta-blockers to calm their nerves while performing. The second feature of the myth of Theuth that merits attention is Thamus’ warning that by depending on the external technē of writing (which he says is not a drug for memory but simply for reminding) our powers of true recollection that spring from within will atrophy. Finally, Thamus cautions that the pharmakon of writing creates the appearance of genuine memory and knowledge that masks the absence of knowledge and our diminished power of memory.

The internal goods of a practice are realized in the very process of practitioners striving to achieve the excellences peculiar to their practice. But the insinuation of performance-enhancement drugs into this activity
presupposes that these internal goods can be achieved or better achieved without any additional human effort or exertion. One of these internal goods, however, just is the excellence of the performance or activity of the practice, which may or may not terminate in the production of an object such as a painting or a poem. The excellence of this activity resides in the display of human powers and refined skills, along with the achievement they facilitate through the effort of the practitioner: the activity shows us what human beings are capable of accomplishing, and we marvel at those who have achieved excellence in their practices. Because they work on us from outside our human agency, performance-enhancement drugs cannot contribute to the excellence of the human striving to measure up to the standards of the practice; in fact, by resorting to these drugs practitioners diminish the value of their performance since they can no longer claim that their achievement was wholly the result of their effort and discipline. Even where the activity of the practice produces a distinct object, it is a mistake to think of the human powers and the technical skills which contribute to the production of the object as mere external or instrumental means which could be replaced or supplemented by more efficient means. For Macintyre, these human powers and technical skills function as internal means to the end of the activity—in this case an aesthetic object—such that the object cannot be identified independently of a characterization of the means which produced it. It is, after all, the excellence in the exercise of the technical skills in the production of the object which in part gives rise to the excellence of the object. We therefore marvel at the excellence of object both in itself and as an expression of the excellence of the human powers, technical skills and effort which contributed to the object’s excellence.

The technical skills refined within a practice contribute therefore to the excellence of the object. But the exercise of these skills is also partially constitutive of the very activity unique to that practice: part of what it means to accomplish a virtuoso violin performance is to exhibit a mastery of these skills during the performance. And so the excellence manifested in the exercise of these technical skills is captured within the excellence of the entire performance. Since these skills represent the unique way in which practitioners strive for excellence within their practice, to the extent that performance-enhancement drugs are substituted, even partially, for these skills, the excellence of the object and the excellence of the activity which produced the object are diminished. Apart from their contribution to the excellence of the activity and the object which might be produced within the practice, Macintyre supposes that
the exercise of human powers and technical skills within the practice can be valued and enjoyed for their own sake. But performance-enhancement drugs threaten the intrinsic value that derives from the exercise of these powers and skills. If Thamus’ prediction is correct, these human powers and skills will atrophy to the extent that we come to rely on means external to our agency and effort. And while it is highly doubtful that performance-enhancement drugs will ever replace the training and practice needed to develop and refine the human powers and technical skills put to work within practices, the temptation is to suppose that these drugs can give us an extra boost or allow us to better utilize our powers and skills. However, the authors of Beyond Therapy: Biotechnology and the Pursuit of Happiness argue that in many instances “the capacity to be improved is improved by using it; the deed to be perfected is perfected by doing it.” The human powers and technical skills exercised within a practice are therefore improved by the type of training, practice and exercise which puts those very powers and skills to work. Furthermore, many of these powers and complex skills will lose their edge if not constantly exercised and developed. Since performance-enhancement drugs do not engage and exercise our powers and technical skills but instead seek to enhance our performance without additional effort or discipline, they create the appearance of improved performance but at the expense of diminishing our powers and skills by failing to fully exercise and engage them.

Even the best of performance-enhancement drugs do not, strictly speaking, enhance performance since a performance is something we do, something we accomplish as a result of our own effort to achieve the standards of excellence within our practice. Thus, in the same way that the techne of writing creates the illusion of memory and knowledge, performance-enhancement drugs create the appearance of improved performance where performers cannot lay claim to any kind of excellence or accomplishment they achieved entirely on their own. Consider the following scenario:

During a series of three performances, a trumpet player in a professional orchestra consistently plays a difficult solo passage flawlessly each time. Her colleague in the trumpet section marvels at her ability to play so well, since he knows that he and other professional players are unlikely ever to play that particular passage with consistent perfection. His assessment of his colleague’s luck and talent changes, however, when he learns she takes ten milligrams of the drug propranolol before each performance that requires her to play difficult solo passages.
Instead of promoting the ends and goods of a practice, drug use diminishes the excellence of the performance and impedes the realization of the internal goods of the practice which can only be generated and experienced by those who actively engage their human powers and technical skills in their striving to excel: it is this effort and these goods that we admire.

Finally, the use of enhancement drugs undermined the ongoing creative dynamic of practices described by Macintyre where our striving to excel strengthens our human powers and sharpens our technical skills which, in turn, transform and enrich the goods and ends of the practice. Within a practice the excellence of our human powers and skills, on the one hand, and the internal goods and ends they serve, on the other, mutually inform and transform one another. Since psychotropic drugs produce an effect which is not the outcome of human effort, we fail to fully exercise and develop our human powers and skills; as these skills falter and atrophy the goods and ends of the practice stagnate without the challenge posed by our heightened human powers and skills. So-called performance-enhancement drugs promise much but produce only simulacra; they cannot engender and sustain the virtues and excellences, the goods and ends of practices. Instead of promoting human excellence and achievement, these drugs serve the god of technical proficiency, seducing us into thinking that this is what constitutes human excellence, as we are already beginning to forget the intrinsic value of the goods and ends that animate our practices and enrich our lives.

NOTES

2 Ibid, p. 46.
3 Ibid.
4 Ibid.
8 Huxley, *Brave New World*, p. 301.


12 Ibid, p. 49.


31 Ibid, p. 188.
32 Ibid, p. 190.
33 Ibid.
34 Ibid, p. 189.
36 Ibid, pp. 190-1.
37 Ibid, p. 188, 191.
40 Ibid, p. 194.
41 Ibid, p. 193.
43 Ibid.
44 Ibid, p. 18.