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# Framing Pains, Pills, and Professors

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# Framing Pains, Pills, and Professors

**Abstract**
Excerpt:

"We are accustomed to anabolic athletes, medicated musicians and souped-up students. Now it appears that we can add pill-popping professors to this list (Sahakian and Morein-Zamir 2007). “Cosmetic neurology” is the term I used to describe the practice of using neurologic interventions to improve movement, mood, and mentation in healthy individuals. The specific kinds of enhancements that might be possible and the ethical concerns (safety, distributive justice, coercion, and the erosion of character) they raise are detailed elsewhere (Chatterjee 2004, 2006). Despite ethical concerns, I have argued that the practice of cosmetic neurology is likely to become widespread (Chatterjee 2007). This point is predictive, not prescriptive. It means, though, that it is likely less useful to discuss whether this practice should occur than to consider what form this practice should take. Sorting this out will prove to be quite difficult itself, because translating principle into practice runs up against the problem of conflicting reference frames that can alter one’s view of the practice. These multiple reference frames determine what it means to be a good person or to construct a good society. I hope to illustrate the problem of conflicting reference frames by examining a special case, before returning to the issue that triggered this commentary— that of pill-popping professors...."

**Disciplines**
Bioethics and Medical Ethics | Chemicals and Drugs | Medicine and Health Sciences

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# Framing Pains, Pills, and Professors

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## Introduction

We are accustomed to anabolic athletes, medicated musicians and souped-up students. Now it appears that we can add pill-popping professors to this list (Sahakian and Morein-Zamir 2007).

"Cosmetic neurology" is the term I used to describe the practice of using neurologic interventions to improve movement, mood, and mentation in healthy individuals. The specific kinds of enhancements that might be possible and the ethical concerns (safety, distributive justice, coercion, and the erosion of character) they raise are detailed elsewhere (Chatterjee 2004, 2006). Despite ethical concerns, I have argued that the practice of cosmetic neurology is likely to become widespread (Chatterjee 2007). This point is predictive, not prescriptive. It means, though, that it is likely less useful to discuss *whether* this practice should occur than to consider *what form* this practice should take. Sorting this out will prove to be quite difficult itself, because translating principle into practice runs up against the problem of conflicting reference frames that can alter one's view of the practice. These multiple reference frames determine what it means to be a good person or to construct a good society.

I hope to illustrate the problem of conflicting reference frames by examining a special case, before returning to the issue that triggered this commentary—that of pill-popping professors. The specific case, modulations of emotional systems to treat psychological pain, is of particular concern. There is an urgent need to ease the psychological burdens imposed by significantly traumatic events. Thousands of young men and women will experience post-traumatic stress following our military adventures. Few would argue against treating such individuals. But what about less severe traumas? Beta-blockers may prevent minor post-traumatic stress symptoms when given in emergency rooms to individuals after car accidents. In addition to the use of medications to dampen the emotional effects of memories retrospectively, presumably medications might be used to dampen the effects of emotions prospectively

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by affecting the encoding of memories. Assuming that such medications will be effective and others will be available in the near future, how widely would they be used? Presumably they might be used in all sorts of "normal" traumas such as break-ups in relationships and other disappointments that seem integral to our humanity. What would the long-term consequences be of flattening these bumps in the road with medications? Do we need pain to develop character? Beyond individual development, what is the role of pain in binding us communally? Empathy for the experience of pain in others may be mediated through the observer's own neural pain circuits. If pain circuits are chronically dampened, then would an individual still be capable of empathy? Communally, would we be even more inclined to sanitize inflicting pain on others as damage collateral to the service of a greater cause?

In thinking through concerns around treating psychological pain, it is useful to review how medical developments historically dealt with the treatment of physical pain. Uncertainties about how to treat physical pain appropriately are similar to uncertainties about how to treat psychological pain. The historic trajectory of thinking about physical pain may anticipate the thinking about psychological pain (Chatterjee 2008).

## Anesthesia for Pain

In the nineteenth century, significant medical advances made it possible to use anesthesia to ease the pain of surgery and of childbirth (Caton 1999). The pain of childbirth is particularly relevant in so far as this pain is "natural." At the heart of objections to using anesthesia for childbirth pain was the social construction of the meaning of pain. Treatment of pain was objectionable on three grounds: don't mess with Mother Nature; spare the rod, spoil the child; and no pain, no gain.

### *Pain as Natural*

From the very beginning, some obstetricians objected to the use of anesthesia for childbirth pain because this pain was natural and interventions invited medical disaster (Caton 1999). The general worry was that we are not wise enough to anticipate the unintended consequences of these actions. Ether had significant dangers. Concerns surfaced that anesthesia might interfere with uterine contractions or directly impair the infant's well-being when it became clear that anesthetics crossed the placenta into the infant's circulation. However, the popularity of anesthesia continued to rise with support from the media and advocacy groups. Further medical developments making safety less of a concern also contributed to an increased use of anesthesia for childbirth.

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The appeal of things natural remained and resurfaced with force in the mid-twentieth century. Grant Dick Read promoted the natural childbirth movement. He suggested that women were better off being conscious through the process and were emotionally fulfilled by seeing and welcoming the child as it emerged into the world. Around the same time, Lamaze published "Painless Childbirth" promoting his own techniques of natural childbirth. In 1956 Pope Pius XXII gave a special address on the moral value of natural childbirth, giving these approaches spiritual weight. This address coincided with a period in which the public was less optimistic about medicine's ability to alleviate illness and pain.

### *Pain as Punishment*

Within religious traditions, pain is sometimes understood as a vehicle for atonement. In the Judeo-Christian tradition, the link between the pain of childbirth and punishment is made explicitly in Genesis (3:16). The Puritan minister Cotton Mather, who wrote a textbook of medicine and was an advocate of inoculations for smallpox, declared that "[t]he sin of our first parents was the first parent of all our sickness." The notion of pain and suffering as deserved is evident in other traditions. In the *Oresteia*, Aeschylus had the Furies declare that "every mortal who outraged gods or guest or loving parent: each receives the pain his pains exact" (Aeschylus 1977, 268). Self-infliction of pain as an act of atonement remains prominent in Christian, Muslim, and Hindu traditions. While the view of pain as deserved punishment has its adherents in religion, similar views appear in secular writings. In colonial America, brutal public punishments were sanctioned to serve as both public entertainment and education. Relieving deserved pain was considered an invitation to social chaos.

### *Pain as Progress*

Pain is also considered a vehicle for development. This development can be thought of in both individual and communal terms. In spiritual contexts, pain serves as a vehicle for transcendence. In secular contexts, pain builds character. Writers explored the experience of pain and suffering as integral to larger than life characters in literature, such as Prometheus, Hamlet, and Faustus. Hemingway claimed "[y]ou especially have to hurt like hell before you can write seriously" (quoted in Caton 1999, 211), a sentiment echoed by many others linking pain to creativity.

Pain also serves to strengthen social bonds. Religious views that a God that punishes also heals give reason for communities to rejoice together in that

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healing. In the context of childbirth, the traditional ways of delivery served to solidify social bonds. The pain of childbirth and the real possibility of death meant that neighbors and family and friends supported the event in a way that often formed life-long bonds.

## Countervailing Reference Frames

Despite the various ways in which the treatment of physical pain was (and sometimes continues to be) viewed with mistrust, the use of pharmacology for pain management is now widespread. Two ways of reframing the meaning of pain facilitated this change. The first was framing pain treatment as a mechanical rather than a metaphysical manipulation. The second was framing pain treatment as one element of the humanitarian goal of relieving suffering.

The classification of pain as a biologic phenomenon diluted the impact of religious interpretations of pain. Very early in the use of anesthesia, Simpson divested the pain of childbirth of its religious interpretations. He emphasized that pain was a consequence of anatomy and not divine wrath. In the early twentieth century, Sherrington observed that complex behavior could be analyzed as a set of reflexes co-ordinated to carry out goals, and pain and our response to it could be viewed as a complex reflex arc. The discovery of different sensory receptors and the mediation of pain by specific pathways made explicit the possibility of manipulating that pain. This mapping of pain onto its biology helped frame its treatment as one more mechanical manipulation.

Humanitarianism also contributed to reframing the meaning of pain. The goal of alleviating pain fell naturally into reform movements like women's suffrage, abolitionism, prison reform, and child labor reform. Along with these movements, in the late nineteenth century, the public attitude towards pain shifted. As William James wrote,

> A strange moral transformation has, within the past century, swept over our Western world. We no longer think that we are called on to face physical pain with equanimity…. The way our ancestors looked upon pain as an eternal ingredient of the world order, and both caused and suffered it as a matter-of-course portion of their day's work, fills us with amazement. (quoted in Caton 1999, 93)

## The Problem of Pain

Physical pain produces neural responses that sort into different components (Price 2000). First is the sensory experience itself. Parts of somatosensory

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cortex and sensory relays of the thalamus mediate the sensory aspects of pain. Second is the subjective sense of "unpleasantness," which is mediated by the insula and the anterior cingulate. The insula controls our autonomic nervous system. The anterior cingulate integrates attentional and cognitive experiences of pain with their emotional valence and establishes priorities for possible responses. Finally, pain produces emotional feelings directed at the long-term implications of having pain. The amygdala, anterior cingulate, insula, and prefrontal cortex are all part of the distributed network that mediates emotional distress and its interactions with our cognitive systems, providing the neural underpinning where physical and emotional pain converge.

As the understanding of the neurobiology of emotional systems deepens, treatment of psychological pain becomes more easily viewed as a mechanical rather than a metaphysical manipulation. Similarly, it is hard not to see such intervention in humanitarian terms. Some estimate that up to a quarter of the U.S. population suffer from affective or addictive disorders (Kessler et al. 2005). How could anybody seriously object to the alleviation of this suffering, even if it means that some might pop pills for less compelling reasons?

The fundamental problem in using first principles to establish a coherent position on ameliorating psychological pain is that any general unease around widespread treatment of pain does not cohere when specific instances are considered. At issue is whether we view pain as important to living a good life or whether we frame pain as an impediment to living a good life. Attitudes towards psychological pain and its treatment fragment into competing and conflicting frames that are held simultaneously (Chatterjee 2008; see Parens 2005 for a similar discussion about ambivalences around enhancement and authenticity). We can worry about loss of character individually and communally, yet at the same time we frame psychological pain in biological or broad humanitarian terms. We might share the general sense that some things are best left alone, but we are unlikely to agree about which specific things are best left alone. We might share the view that pain serves a purpose in establishing order, but we are unlikely to concur which pains can be justified and for whose version of order. We might share the general sense that pain can be a vehicle for development, but we are unlikely to share opinions of which specific pains are worth enduring for which specific gains.

## Pill-popping Professors

What about academics using brain boosters? While there was relatively little new information in the article in *Nature*, it attracted considerable attention. Perhaps this attention was fueled by the fact that the practice was not about

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"those people" (athletes, students, soldiers), but about us—academics. Professional narcissism aside, how might we view the possibility that the practice of academics taking cognitive enhancers could become widespread? Analogous to the way that treatment of pain can be viewed as important to living a good life or not, enhancing professors can be viewed as important to constructing a good society or not. As in the case of psychological pain, the evaluation of the practice of cosmetic neurology depends on which frame of reference is brought to bear on this question. Here, a "greater good" frame conflicts with a "fairness in competition" frame.

The greater good frame is as follows. Some workers have a disproportionate impact on the greater good of our society. Their functioning well bears directly on societal health and protection. It is no surprise that considerable research and use of cognitive enhancers occur in the armed forces. There is little public outrage at this practice. The logic is that our military serves a vital public role, and it is in our interest that military personnel perform at their peak.

A variant of this greater good frame is a revelatory one. On this view, cognitive enhancers clear the way for one's natural talents to be revealed. The prime example of a practice framed this way is the widespread use of beta-blockers by musicians to dampen tremors and reduce performance anxiety. Again, there is little public outrage at this practice. A line seems to be drawn between the intrinsic talent to perform music and the ways this talent could be hampered by the performer's messy affective state.

The fairness in competition frame is as follows. We want a level playing field so that, when individuals compete with each other, we observe their intrinsic talents on display, the consequences of their hard work and discipline, such that the best person wins. This sensibility pervades the public view of sport. Consequently, there is considerable public outcry at each story of baseball players or track athletes taking anabolic steroids or amphetamines to enhance their performance. Here the enhancers are seen as compromising something essential to the performance. The sense of fair play, intrinsic to the joy of competition, is violated. And individual achievement, which we admire, is sullied.

How do these reference frames, admittedly drawn coarsely, map onto academia? The greater good frame seems obvious. Academics are in the business of uncovering new knowledge, making discoveries and generally enhancing the quality of our lives. The public would want academics at the peak of their potential, because their product serves a greater good. The revelatory variation might also apply to academics. Talented academics have a gift. They serve as vehicles for discovery, insight, and creativity—and the medications

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used to facilitate the delivery of these gifts are desirable. On these grounds, one might think there is no problem with academics using enhancers. Pill-popping professors would be desirable insofar as they more effectively contribute to the construction of a good society.

The fairness frame also applies to academics. One might imagine academics as pure altruists dedicated to the sole purpose of advancing knowledge. On this view, no such thing as professional rivalry would exist. Academics would not compete with each other, and everybody would co-operate in the grand program of advancing society. Would that it were so. Academics, like others, compete for professional promotions and accolades, wish to be first in their discoveries, and hustle in the marketplace of ideas. We are subject to winner-take-all environments in which incremental advantages can result in disproportionate rewards. These competitive aspects of academia are on the rise. In academic medicine, "publish or perish" seems a quaint anachronism of a kinder and gentler time. "Cash or crash" seems more appropriate as many tenured academics in medicine lack guaranteed salaries and are only as valuable as their last grant. Medicine might seem more like a dingy dungeon than an ivory tower, but these financial pressures on medical academics arose out of desires to contain medical costs. Given the continuously rising cost of higher education, similar pressures might also apply to other academic settings. In this frame, the use of cognitive enhancers is problematic on two grounds: first, it violates our notions of fairness; and, second, as competition rises, it could be deeply coercive. Pill-popping professors reify the uglier aspects of competition. By endorsing a system in which the benefits of "progress" outweigh almost any cost, they contribute to the breakdown of a good society.

In summary, the *Nature* article alludes to a trend in the use of cognitive enhancers among academics that, in my view, is likely to continue. This use is yet another example, albeit closer to home for those reading this journal, of the increasing practice of cosmetic neurology. Whether one views this practice with anticipation or with alarm depends on which conflicting reference frame one brings to bear upon the issue.

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