
Colloquy

IN DEFENSE OF PROMETHEUS: SOME ETHICAL, ECONOMIC, AND REGULATORY ISSUES OF SPORTS DOPING

RICHARD A. POSNER†

A chapter in *The Case Against Perfection: Ethics in the Age of Genetic Engineering*,¹ a book by Michael Sandel, the well-known Harvard political philosopher, provides a convenient stepping-off place for an analysis of the social issues involved in sports doping. The chapter is entitled “Bionic Athletes,” and despite the reference in the subtitle of the book to genetic engineering the chapter is mainly about doping rather than about genetic alteration; the author returns to the topic of doping in a later chapter, “Mastery and Gift.”² By “sports doping” I mean, of course, the use of performance-enhancing drugs by athletes, though professional athletes will soon resort to genetic alteration as well or instead, because it will be harder to detect.³ There are other methods of athletic performance enhancement as well. Some of them, such as taking up temporary residence at a very high altitude in order to increase one’s red blood corpuscles,⁴ tremble on the edge between tolerated and reprobated methods of improving one’s athletic performance. I will focus on

Copyright © 2008 by Richard A. Posner.

† Judge, U.S. Court of Appeals for the Seventh Circuit; Senior Lecturer, University of Chicago Law School. This is the revised draft of a paper given at the Harvard University “Re-Engineering Human Biology Conference” on March 19, 2007. I thank Heather Afra and Tara Kadioglu for their very helpful research assistance.

1. MICHAEL J. SANDEL, *THE CASE AGAINST PERFECTION: ETHICS IN THE AGE OF GENETIC ENGINEERING* (2007).

2. *Id.* at 25–44, 85–100.

3. Richard W. Pound, Editorial, *Taking the Lead*, PLAY TRUE (World Anti-Doping Agency, Montreal, Can.), Issue 1 – 2005, at 1, 1 (noting possibility of “genetically-altered” athletes in the 2008 Beijing Summer Olympics and athletic trainers’ reports of trainer inquiries about the therapies “solely to enhance performance”); *see also* SANDEL, *supra* note 1, at 11 (“The widespread use of steroids and other performance-enhancing drugs in professional sports suggests that many athletes will be eager to avail themselves of genetic enhancement.”).

4. *See* SANDEL, *supra* note 1, at 32–33 (describing the problem of distinguishing between simulated high-altitude training and doping).

drugs, but glance from time to time at alternative methods of enhancing athletic performance.

Sandel's book mentions cosmetic surgery only in passing,⁵ though he discusses at greater length the analytically similar phenomenon of administering human growth hormone to a child of average height in the hope of making him an adult of above-average height.⁶ The social issues (regulatory, economic, ethical) that cosmetic surgery raises are interestingly alike and unlike those raised by sports doping, so I shall refer in places to cosmetic surgery as well and even to coaching children to help them get into desirable schools—still another practice that has parallels to sports doping.⁷

As one could have anticipated from his previous writings,⁸ Sandel opposes the use of drugs to enhance athletic performance. He thinks such use detracts from the athlete's achievement; what seems the athlete's achievement is actually the achievement of the drug's inventor.⁹ Even worse, in Sandel's view, the use of drugs to enhance athletic performance represents "a Promethean aspiration to remake nature, including human nature, to serve our purposes and satisfy our desires."¹⁰ It is not, however, the "drive to mastery" per se that troubles him but the effect of that drive in obliterating what he calls "the gifted character of human powers and achievements"—the recognition that "not everything in the world is open to any use we may desire or devise."¹¹

Now it is far from obvious what value this "giftedness" has or why "Promethean aspiration" should be denigrated. Prometheus is the Titan of Greek mythology who gave fire to man at great personal cost;¹² from the human standpoint he is a hero. In reality, of course, man domesticated fire; but was that accomplishment "Promethean"

5. *Id.* at 8–9.

6. *Id.* at 16–19.

7. *See infra* pp. 1734–35.

8. For Sandel's previous writings on his political philosophy, see generally MICHAEL J. SANDEL, *DEMOCRACY'S DISCONTENT: AMERICA IN SEARCH OF A PUBLIC PHILOSOPHY* (1996); MICHAEL J. SANDEL, *PUBLIC PHILOSOPHY: ESSAYS ON MORALITY IN POLITICS* (2005); Michael J. Sandel, *The Baby Bazaar*, *NEW REPUBLIC*, Oct. 20, 1997, at 25.

9. *See* SANDEL, *supra* note 1, at 25.

10. *Id.* at 26–27.

11. *Id.* at 27.

12. *See* HESIOD, *Works and Days*, in *THEOGONY AND WORKS AND DAYS* 37, 38–39 (M.L. West trans., Oxford Univ. Press 1999).

in a pejorative sense? And why should “Promethean” *have* such a sense? I defer these questions to later in this Essay.¹³

The importance that Sandel attaches to “giftedness” as he defines the word leads him to distinguish between two sources of athletic achievement: the “effort and striving, grit and determination” of Pete Rose, and the “grace and effortlessness [of players like Joe DiMaggio] whose excellence consists in the grace and effortlessness with which they display their natural gifts.”¹⁴ Sandel insists that because “the point of sports” is “excellence,” and “excellence consists at least partly in the display of natural talents and gifts that are no doing of the athlete who possesses them,” doping is bad less because it enhances “effort” than because it challenges the “natural” hierarchy of the “natural talents.”¹⁵ It challenges giftedness in the sense in which we say that a child has a musical “gift,” meaning something innate rather than achieved, just as an ordinary gift is something you receive rather than make. A gift is for Sandel more “natural” than effort.¹⁶

The distinction is forced; in the case of DiMaggio versus Rose, it is muddled. Both baseball players had outstanding athletic skills. Both had grit and determination. DiMaggio was more graceful and gave the impression of “effortlessness,” but he is admired primarily for his achievements rather than for his style.¹⁷ And “grit and determination” are, it seems to me, as innate as “natural talents”—they are no less natural—though Sandel may believe in free will in a strong sense and therefore regard grit and determination not as innate attributes but as products of the exercise of a faculty that sets human beings apart from other animals.¹⁸

Distinguishing Pete Rose from Joe DiMaggio is not the only line-drawing problem that Sandel faces in picking out the enhancements

13. See *infra* pp. 1739–40.

14. SANDEL, *supra* note 1, at 27.

15. *Id.* at 28–29.

16. *Id.*

17. Stephen Jay Gould, *The Streak of Streaks*, N.Y. REV. BOOKS, Aug. 18, 1988, at 8, 8, available at <http://www.nybooks.com/articles/4337> (“Nothing ever happened in baseball above and beyond the frequency predicted by coin-tossing models. The longest runs of wins or losses are as long as they should be, and occur about as often as they ought to. . . . There is one major exception, and absolutely only one—one sequence so many standard deviations above the expected distribution that it should not have occurred at all: Joe DiMaggio’s fifty-six-game hitting streak in 1941.”).

18. See SANDEL, *supra* note 1, at 27 (discussing “grit and determination”).

of athletic performance that should be forbidden. Suppose an otherwise naturally gifted baseball player has below-average eyesight. Should he be permitted to wear glasses? Or to have surgery to correct nearsightedness? How about surgery that would give him 20/10 vision rather than 20/20? Should he be permitted to take vitamins? Protein supplements? To use a weight-lifting machine to build strength? If he is a boxer, should he be permitted to wear a helmet and required to wear boxing gloves? Should an athlete be permitted to drink coffee before an athletic event? If so, should he be permitted to substitute caffeine pills? Caffeine is a chemical found in unimproved nature; but so for that matter are anabolic steroids, such as testosterone. Athletes at the ancient Olympic Games tried to enhance their performance by ingesting “bulls’ testicles and stimulating herbal potions.”¹⁹ Was their behavior natural or unnatural?

Sandel’s solution to the line-drawing problem is to base the scope of permissible enhancements of athletic performance on identifying the “essence” of the game,²⁰ or equivalently “the nature of the sport,” which in his view determines “whether the new technology highlights or obscures the talents and skills that distinguish the best players.”²¹ But in a discussion of technological interventions in athletic capabilities, or indeed in human capabilities generally, the word “nature” is richly and relevantly ambiguous. We have just seen Sandel use the word in two senses: “nature” as something innate in a biological being²² and “nature” as the core or object of a human practice.²³ The distinction is between that which is definitional or characteristic of a particular entity or activity (the Aristotelian concept, the second sense above)—and thus one might speak of the “nature” of a human artifact, such as a game—and that which exists in the natural (prehuman or nonhuman) world rather than being a human artifact (the first sense). Shakespeare played on this duality in *King Lear*: the bastard Edmund is natural in the second sense, unnatural in the first.²⁴ The meanings quickly get confounded when one is talking about sports doping because the objections to it are

19. Yorck Olaf Schumacher & Michael Ashenden, *Doping with Artificial Oxygen Carriers*, 34 *SPORTS MED.* 141, 142 (2004).

20. SANDEL, *supra* note 1, at 36.

21. *Id.* at 37.

22. *Id.* at 38.

23. *Id.* at 37–38.

24. *See* WILLIAM SHAKESPEARE, *KING LEAR* act 1, sc. 2.

bound up with a sense that drugs themselves are not “natural” (though all are composed ultimately of natural materials, as is everything physical) and on that ground alone are likely to be more objectionable to Sandelians than, say, exercise.

But I think Sandel is on to something in relating the objections to sports doping to the “nature” of sports both in the Aristotelian sense (the “natural” as what is fit or proper to some particular activity or creature) and in the biological sense. The relation lies in the innate human delight—archaic as it may seem in our age rich in egalitarian pretense—in innate human hierarchies, such as hierarchies of height, strength (though it is innate only to a degree, being a function in part of the activities in which a person engages, even if he is not deliberately body building), agility, physical coordination, beauty, brilliance, and musical talent (and the delight in animal hierarchies too, as in horse racing). The origins of this innate delight are, plausibly, evolutionary. To primitive man—man in the “ancestral environment,” as evolutionary biologists call the circumstances to which human beings became adapted in their long prehistory—differences in innate abilities relating to hunting and fighting were salient, closely observed, and highly correlated with survival prospects for the group as well as for the individual. Admiration of and deference toward the superior performers were not only natural in a Darwinian sense but compellingly sensible from a social perspective. These attitudes inform human beings’ love of sports, which isolate and exhibit innate hierarchies, most of which are closely related to the hierarchies that fascinated primitive man—hierarchies of the traits that promote success in hunting and fighting.

Sports are designed to highlight, isolate, and display one or more of these hierarchies and to invite our admiration for the athletes who occupy the highest rungs. They are “a test of biological potential.”²⁵ So the question of doping and other technological interventions comes down to whether the particular intervention disrupts or obscures the hierarchy. Often it does neither, as Sandel, who is not entirely opposed to progress, recognizes.²⁶ He gives the example of better running shoes. They benefit all runners more or less equally, in

25. *But see* J. Savulescu, B. Foddy, & M. Clayton, *Why We Should Allow Performance Enhancing Drugs in Sport*, 38 *BRIT. J. SPORTS MED.* 666, 667 (2004). As the title of this article makes clear, this is not the only possible view to take of the aim of sports; and if it is rejected, the case against sports doping is gravely weakened, as the authors explain.

26. SANDEL, *supra* note 1, at 37.

part by reducing the risk of injuries that could happen to even the best runners, and so they do not disrupt or obscure innate differences in fleetness of foot. At the opposite extreme (this is not one of Sandel's examples, but it illustrates his approach) would be a drug that increased running speeds at a diminishing rate, so that the slower you naturally were the more the drug would add to your speed; eventually everyone would run at the same speed, and footraces would disappear. The speed of these technologically enhanced runners might dazzle, but the pleasure that the audience took in it would be that of "spectacle" rather than that of sport.²⁷ It would be like watching robots run.

In between would be allowing a person with a bad leg to use a golf cart in a professional golf tournament, where golf carts normally are forbidden.²⁸ Stamina is not what a golf tournament seeks to test, so compensating for an abnormal deficiency in stamina does not (it seems to me—Sandel is noncommittal)²⁹ disturb the relevant hierarchy, as it would in long-distance swimming. Allowing the use of the golf cart is more like the elimination of the color bar in professional baseball: it improves the contest by eliminating an arbitrary bar to participation (arbitrary in relation to the nature of the game—it would not be arbitrary to refuse to cast a black woman in *Othello* as Desdemona). The running shoes may be a parallel example. And likewise allowing baseball players to correct below-normal vision. But they should not be allowed to enhance normal vision, because superior vision is one of the ingredients of the innate skill that the baseball contest ranks; it is one of the keys to a high batting average.

Critics of doping bans point out that often there are nondoping substitutes for drugs, such as weight lifting for steroids. But there is a difference, though it is obscured by Sandel's attempt to distinguish "natural" skills from "grit and determination."³⁰ Except, as I have suggested, for people who believe in free will in a strong sense, grit and determination are as innate as having good physical coordination and are among the attributes that affect an athlete's place in most

27. This is a distinction Sandel emphasizes. *Id.* at 43–44.

28. This was the subject of a Supreme Court decision, *PGA Tour, Inc. v. Martin*, 532 U.S. 661, 691 (2001), in which the Court required the PGA Tour to allow a disabled golfer to use a golf cart, which Sandel discusses, SANDEL, *supra* note 1, at 42–43.

29. See SANDEL, *supra* note 1, at 42–43.

30. *Id.* at 27.

sports hierarchies. Weight lifting requires grit, patience, and determination; popping a pill does not. Actually, the contrast is overdrawn, because the usual (and safer—possibly quite safe) use of steroids by athletes is intermittent,³¹ with body building used to maintain the strength created by the steroids. But there is less effort relative to the degree of improvement when steroids are used rather than the athlete's relying on unaided body building, and the difference is relevant to assessing whether using steroids disrupts or obscures the relevant hierarchy in a sport like football or baseball.

Even so, one might want to make a distinction along the following lines. Runners in the ancient Olympic Games did not have good running shoes, so presumably they injured themselves more than modern runners do. But because having fewer injuries does not equate to running faster, the modern runner does not have an unearned advantage over his predecessors. Steroids, in contrast it may seem, enable a football player whose natural gifts are no greater than those of his predecessor in the pre-steroid era to outperform that predecessor, precluding skill rankings across time. But this distinction overlooks the many uncontroversial technological and institutional improvements that have boosted modern athletic performance over that of earlier eras: better nutrition, better health care, better methods of training, better surface composition of running tracks, and, yes, better running shoes. The only robust distinction between good and bad performance enhancers is between those that disturb or obscure, and those that leave unaltered, the hierarchies of “natural” talent that sports seek to exhibit. It is not realistic to maintain a “level playing field” over time so that the performance of modern athletes can be compared with that of their predecessors millennia or centuries or, in some sports, even decades ago—think of what a difference the modern composite metal tennis rackets make to tennis playing. Even if it were feasible to ban technological innovations from

31. Andrew B. Parkinson & Nick A. Evans, *Anabolic Androgenic Steroids: A Survey of 500 Users*, 38 MED. & SCI. SPORTS & EXERCISE 644, 648 (2006) (reporting that 90 percent of steroids users surveyed administered anabolic androgenic steroids in cycles of four to twelve weeks with drug-free intervals in between these cycles); Miia Pärssinen & Timo Seppälä, *Steroid Use and Long-Term Health Risks in Former Athletes*, 32 SPORTS MED. 83, 84–85 (2002) (explaining that athletes generally use steroids in cycles of six to twelve weeks); Chris Street, Jose Antonio & David Cudlipp, *Androgen Use by Athletes: A Reevaluation of the Health Risks*, 21 CANADIAN J. APPLIED PHYSIOLOGY 421, 434–36 (1996) (noting that most athletes use steroids intermittently and that moderate use produces only minor and reversible side effects).

sport, it would not be desirable in cases in which the innovations improved performance from the standpoint of the fans.

Nor are technological improvements that are distinct from performance-enhancing drugs the only factors, other than those drugs and institutional changes such as better training of athletes, that have boosted enhanced athletic performance over time. The economist J. C. Bradbury points out that racial integration and immigration, along with natural population growth, have increased the pool of potential baseball talent, while at the same time team expansion has increased variance in players' abilities, so good hitters face some poor pitchers, and good pitchers some poor hitters.³²

Still, Sandel has shown, to my satisfaction anyway, which modes of athletic performance enhancement harm a sport and which do not.³³ I would have argued the point somewhat differently, but I have no basic disagreement with it.

But toward the end of the chapter he goes seriously astray. He worries that

[i]f people really believed that the rules of their favorite sport were arbitrary rather than designed to call forth and celebrate certain talents and virtues worth admiring, they would find it difficult to care about the outcome of the game. Sports would fade into spectacle, a source of amusement rather than a subject of appreciation. Safety considerations aside, there would be no reason to restrict performance-enhancing drugs and genetic alterations—no reason, at least, tied to the integrity of the game rather than the size of the crowd.³⁴

He is right, as should be clear from my earlier discussion, that the rules of sports are not “arbitrary.”³⁵ And he is right to set safety considerations to one side.³⁶ They do not warrant restricting sports doping (or genetic alterations). The use of steroids in “supratherapeutic” doses to enhance athletic performance does have adverse effects both physical and psychological,³⁷ but they might be

32. J.C. Bradbury, *What Really Ruined Baseball*, N.Y. TIMES, Apr. 2, 2007, at A27.

33. See SANDEL, *supra* note 1, at 36–44.

34. *Id.* at 43 (footnote omitted).

35. *Id.*; see also *supra* text accompanying note 28.

36. *Id.* at 11.

37. See, e.g., Fred Hartgens & Harm Kuipers, *Effects of Androgenic-Anabolic Steroids in Athletes*, 34 SPORTS MED. 513, 534–43 (2004); J.J. Patil et al., Case Report, *Near-Fatal*

slight if their use were not forbidden.³⁸ The methods of doping that minimize the likelihood of detection, such as oral ingestion of anabolic steroids, tend to be the more dangerous methods.³⁹ The preference for that method of consumption is thus an artifact of prohibition. And as in any black-market situation (such as the black market in narcotics), the absence of warranties, of instructions for proper use, and of monitoring by medical personnel impairs quality control and as a result increases the danger to the user.⁴⁰ In any event, the adverse health effects of anabolic steroids seem to dissipate within a short time after cessation of use,⁴¹ though the absence of long-term effects cannot be confirmed because there have been no rigorous studies of those effects.⁴²

Sandel's second and more serious muddle is his attempt to oppose "amusement" to "appreciation" and "size of the crowd" to "integrity."⁴³ The size of the crowd (nowadays mostly a television audience) that a sport attracts is inseparable from the success of the sport in exhibiting the hierarchy of "talents and virtues" that the audience admires.⁴⁴ That exhibition is the key to a sport's popular success, or, in other words, to the size of the crowd that it attracts.

Spontaneous Hepatic Rupture Associated with Anabolic Androgenic Steroid Use, 41 BRIT. J. SPORTS MED. 462, 462 (2007).

38. Richard D. Collins, *Anabolic Steroid Legislation: The Wrong Prescription?*, 9 CRIM. JUST. J. 98, 103 (2001) ("[I]t is time for our laws to discard the view of anabolic steroids as 'deadly drugs' for mature adults, based on the medical and scientific truth. The current scheme, with its unsupervised self-administration of potentially dangerous black market pharmaceuticals . . . is the wrong prescription indeed."); see also Street et al., *supra* note 31, at 436 (arguing that controlled administration of moderate doses of steroids "could induce positive changes . . . with little to no side effects").

39. George Fan, Comment, *Anabolic Steroid and Human Growth Hormone Abuse: Creating an Effective and Equitable Ergogenic Drug Policy*, 1994 U. CHI. LEGAL F. 439, 442 (citing Herbert A. Haupt, *Anabolic Steroids and Growth Hormone*, 21 AM. J. SPORTS MED. 468, 469 (1993)).

40. Hartgens & Kuipers, *supra* note 37, at 518. Drs. Parkinson and Evans report that 89 percent of the users of anabolic androgenic steroids obtain the drugs illegally. Parkinson & Evans, *supra* note 31, at 649.

41. Hartgens & Kuipers, *supra* note 37, at 527 ("After drug withdrawal the alterations of body composition fade away slowly, but may be partially present for time periods up to 3 months. However, on the basis of scientific data, the final net result of short-term [androgenic-anabolic steroids] administration on body composition seems to be rather small." (footnotes omitted)).

42. *Id.* at 517.

43. SANDEL, *supra* note 1, at 43.

44. There are sports in which this not true, or less true, like professional wrestling and auto racing.

What this means—and it is critical to the formulation of sensible public policy toward performance-enhancing drugs—is that the “problem” of sports doping has only a minor public dimension; its solution can largely be left to the free market. It is largely a nonproblem—though, as we will see, not entirely so.

If what the public wants from sports performances is to observe hierarchies of innate qualities, then it is in the financial self-interest of the owners of professional sports teams, and for that matter the owners of amateur sports teams (such as universities), to prevent drug taking or other interventions that alter or obscure the relevant hierarchies. They might try to prevent even some interventions that do not alter or disturb any of those hierarchies. The reason is again financial self-interest. If because the public *believes* that steroid use alters these hierarchies (even if it does not—even if it increases every player’s performance proportionately) it associates sports doping with the consumption of cocaine and heroin, thinks cheating inherent in the use of performance-enhancing drugs though in fact it is inherent merely in the imperfect enforcement of the prohibition against the use of such drugs, or worries that permitting professional athletes to use them will have bad effects on children (for whom professional athletes are role models), again the team owners might ban these drugs, and these too would be decisions without any great public significance. This point, the unimportance of what team owners would decide to do if left to their own devices, is obscured by Sandel’s use of the term “talents *and virtues*” to describe what it is that sports exhibit,⁴⁵ as if watching a sport were edifying—as if one were admiring a display of virtue and, by admiring it, becoming more virtuous oneself.

The self-correcting character of sports doping flags a paradoxical difference between it and cosmetic surgery. Physical attractiveness (including height) is very largely relative.⁴⁶ One person is more attractive than another person, and this confers personal and professional advantages, but if the other person caught up by means of cosmetic surgery, there might be no net benefit for the pair. One would be better off than before—the one who had had the cosmetic surgery—but the other would be worse off, because he would have lost the advantage that being more attractive than his competitor

45. SANDEL, *supra* note 1, at 43 (emphasis added).

46. *See infra* pp. 1738–39.

conferred. If pitchers and hitters in baseball both become better, the game may be better in the sense of attracting a larger audience, and if so the players have not engaged in a pure arms race in improving their performance. And if their competition ever reaches the point at which it spoils the game, the owners (perhaps with the aid of government, as I discuss below) will take measures to stop it.

Cosmetic surgery, even for normal persons as distinct from disfigured and other abnormal persons, is probably not entirely an arms-race phenomenon. Probably the gain in self-esteem to the people who have the surgery exceeds the loss of advantage to the naturally attractive, if only because cosmetic surgery, unlike sports doping, usually does not do a great deal for a normal person's looks; the naturally attractive retain a comfortable margin of attractiveness, though this may change as cosmetic surgery gives way to genetic interventions. But the most interesting difference between sports doping and cosmetic surgery is not the different intensity of their arms races but the fact that the demand for cosmetic surgery lacks an adequate self-correcting mechanism. Think of people who take human growth hormone to become taller. If everyone were a foot taller than he is at present, there would be no net social gain. In fact there would be a considerable loss, because it would cost more to feed, clothe, and house everyone, without the additional cost conferring any benefit. The competition in height would top out at some point for biological reasons, but whatever *average* increase in height had been attained before that happened would be all cost and no benefit.

Or consider the practice in New York City of hiring coaches to prepare one's four-year-old for an interview for admission to a fancy kindergarten.⁴⁷ The coaching contributes nothing to the child's development but merely puts pressure on other parents to hire coaches for their kids; there is again no net social benefit. Sports doping is different, to the extent it improves a sport in the eyes of the spectators.

But whether sports doping creates *net* social benefits may depend on the costs of controlling it. Not all sports doping improves a sport; perhaps very little does; and perhaps the cost of an outright ban would be less than trying to achieve the optimum positive level of

47. See Jane Gross, *Right School for a 4-Year-Old? Find an Adviser*, N.Y. TIMES, May 28, 2003, at A1.

sports doping. The problem of control is that the use of performance-enhancing drugs can be very difficult to detect,⁴⁸ especially when they are used in preseason training. Performance-enhancing genetic alterations are even more difficult to detect.⁴⁹ And although team owners have a collective interest in maintaining the integrity of the innate talent hierarchy that the sport in which their teams engage is designed to exhibit, individual owners have an incentive to defect from rules designed to maintain that hierarchy. The owner who can dope his athletes without the other owners' discovering what he is doing can steal a march on them.

The combination of difficulty of detection with incentives to defect may make purely private sanctions for violating a doping ban an inadequate deterrent. Criminal or other public penalties may be necessary. To illustrate, let B be the benefit from violating a rule, P (smaller than 1) the probability that the violation will be detected and punished, and S the sanction for the violation; then PS is the expected cost of the sanction to the violator, and it must exceed B ($PS > B$) to deter the violation. Equivalently, deterrence requires that $S > B/P$. Thus the smaller P is (because of the difficulty of detection) and the larger B is (because of the gain to the team owner from successful cheating), the less likely the inequality is to be satisfied, and the sanction will fail to deter. If the benefit from the violation is \$1,000 and the sanction \$10,000, still the violator will not be deterred if the probability of detection (and hence of the imposition of the sanction) is less than 10 percent, because $\$10,000 \times .1$ does not exceed \$1,000. (Equivalently, \$10,000 does not exceed $\$1,000 \div 0.1$.)

So deterrence may require a heavy sanction—heavier than a private entity can impose. The private sanction for violating a doping ban is not trivial—the player who is caught can be expelled from the team or even from the league—but it may not be large enough

48. See, e.g., Rajendrani Mukhopadhyay, *Catching the Bad Sports: Don Catlin Has Made a Career of Developing Techniques That Strike Out Athletes Who Use Illicit Performance-Enhancing Drugs*, 79 ANALYTIC CHEMISTRY 3963, 3965 (2007) (characterizing performance-enhancing drugs as “sophisticated” and arguing that testing methods must match the heightened level of sophistication); Bob Nightengale, *Is HGH Hiding Steroid Use?*, USA TODAY, Sept. 12, 2007, at 1C (reporting that the use of human growth hormone helps athletes conceal the use of steroids).

49. See, e.g., Maria Cheng, *Scientists Racing to Catch Gene-Dopers*, USA TODAY, Dec. 15, 2006, available at http://www.usatoday.com/tech/science/2006-12-15-gene-dopers_x.htm. This may, however, be changing. See *id.*; Sal Ruibal, *A New Tool to Catch Sports Cheats: Test for Gene Doping Could Be Breakthrough*, USA TODAY, Dec. 5, 2006, at A1.

relative to the difficulty of detection to be an adequate deterrent. For if he is a good player, the team (and the league) will be reluctant to expel him and may be content instead with imposing a fine, suspension, or other sanction that may not satisfy the deterrence formula. The team owner who was complicit in sports doping might be expelled from the league, but he could sell the team and thus escape a large financial penalty. Both player and owner, if detected, face a significant blow to their reputations as well as financial sanctions that may be modest; but if the gains from doping are great enough and the likelihood of detection small enough, it may be rational to dope. Detection, reputational and other likely sanctions, risk aversion, benefits from cheating, and perhaps other factors affecting deterrence are likely to vary across players, so there are likely to be some violations of any antidoping rule, and perhaps, for the reasons I have suggested, widespread violations. In particular, weaker players are quite likely to violate the rule. They will benefit more from doing so than the best players and also be less likely to be detected, both because they do not stand out the way the best players do and because their drug-enhanced performance may seem like "normal" improvement.

In situations in which private remedies are insufficient to deter inefficient behavior, private firms seek the aid of government, for example by asking it to annex criminal penalties to the purely civil ones that are all that a private person or institution can impose. Criminal penalties for embezzlement are an example. This consideration may warrant imposing criminal penalties on athletes who engage in forms of doping that both are difficult to detect and reduce the economic value of the sport.

A further problem with antidoping measures is that to the extent that they are only partially effective, they may actually result in more doping. Suppose some athletes are deterred by the measures and cease doping. This increases the expected benefit of doping to a competing athlete who is not deterred by the measures, perhaps because he is one of the weaker players whom I have mentioned.⁵⁰ The fact that many crimes are committed even though the punishments for crime in this country are severe suggests that it is not optimal to adopt a punishment schedule that is so draconian as to

50. See *supra* p. 1736.

deter all misconduct, so partial deterrence of doping could be ineffectual.

When punishments (S in my simple economic model) are capped at a fairly low level, effective deterrence depends on setting P (the probability that the sanction will be imposed) at a high level. This may be difficult to achieve in the sports-doping arena, where detection depends on the outcome of an unpredictable arms race between concealers and enforcers. Probably, therefore, sports doping will continue, with the equilibrium amount determined by (private) benefits and enforcement costs.

The economic approach (hardly a solution) to the problem of sports doping that I have proposed⁵¹ would not take care of Sandel's concerns with doping. It is apparent from the other chapters in his book—indeed from the book's title (*The Case Against Perfection*)—that he thinks that more is at stake than simply assuring an economically efficient sports market. For him sports doping, like human cloning, which he discusses in another chapter of his book,⁵² presents a momentous moral issue of “Prometheanism,” of hubris, of a Nietzschean will to power that he associates with modernity and technology and deplors.⁵³ To my simple way of thinking, modernity, in its technological as in its other manifestations, is simply a source of issues of public policy that are related to each other only in their common dependence on modern technology, in much the same way that transvestism is dependent on gender-specific dress. When people lived in caves and wore animal skins, there were no transvestites. And if it weren't for modern biology there would be neither sports doping nor cloning. But it doesn't follow that from the standpoint of ethics or public policy there is any connection between the two phenomena.

I do not myself think that there is anything to the sports doping issue beyond consumer preferences and the behaviors of team owners, leagues, and individual athletes that those preferences evoke. The only externality, besides the cost of a regime of public law enforcement to back up the private sanctions available to team owners and league officials, is the cost that one team imposes on another or one player imposes on another by violating a ban imposed by the team owners in their mutual self-interest. So suppose it turns

51. For more on the economics of sports doping, see generally Kjetil K. Haugen, *The Performance-Enhancing Drug Game*, 5 J. OF SPORTS ECON. 67 (2004).

52. See SANDEL, *supra* note 1, at 6–8.

53. See *id.* at 89.

out that the “crowd” actually prefers spectacle to sport—that people want to see bionic football players collide with each other, or genetically altered runners race at 50 miles per hour, or basketball players nine feet tall as a result of doping with human growth hormone. So what (apart from health concerns, discussed below)? The sports scene is very different from what it was when the ancient Greeks invented the Olympic Games. It is different largely because of technological progress, and it may continue to change with further progress. I do not know what bad or for that matter good effects the changes in sport over the millennia have wrought, except to provide more entertainment for the masses, which is at least a modestly good thing. I do not know what would be lost if people lost their interest in observing hierarchies of strength, speed, agility, and the like and preferred spectacle. Does Sandel think that sports fans are better people than people who don’t follow sports, because they want to observe the natural hierarchies in action?

At some point, the safety and health of the players would become a matter of social concern. We allow football players to do terrible damage to each other, but we would not allow Roman-style gladiatorial combat to the death even if people could be hired, as undoubtedly they could be, to fight to the death—even if, indeed, such combat were efficient in an economic sense.

But that is not Sandel’s objection to the transformation of sport into spectacle. His objection, spelled out in chapter 5 of his book (“Mastery and Gift”), is that “[i]f the genetic revolution erodes our appreciation for the gifted character of human powers and achievements, it will transform three key features of our moral landscape—humility, responsibility, and solidarity.”⁵⁴ Thus, for Sandel, it is not so much that spectacle is bad as that a lively sense of the existence of hierarchies of innate traits, which an interest in sports cultivates, is morally and politically good.

The suggestion that sports fans are more given to humility than those who are indifferent to sports is unconvincing. We do not associate humility with the spectators at the gladiatorial contests in the Roman Colosseum, at a bullfight, at the Super Bowl, at a prizefight, at the 1936 Olympics, at professional soccer games in Europe and South America. I particularly question Sandel’s

54. *Id.* at 86. Here, as throughout the book, Sandel’s emphasis is on genetic alteration; but his concern with performance-enhancing measures in sports is not affected by whether the enhancement is brought about by a drug or by altering the athlete’s genes.

admiration for humility,⁵⁵ which is one of the least attractive of the so-called virtues. It overlaps with fatalism, passivity, and otherworldliness. A slavish trait, it is also inconsistent with a lively recognition of innate human differences; it ascribes success and failure to chance rather than to talent—hence the profound mismatch between sports and humility, a mismatch that exposes a deep inconsistency in Sandel’s argument.

But I am more concerned with the quietistic implications of humility. Sandel describes humility as the attitude that “invites us to abide the unexpected, to live with dissonance, to reign [*sic*] in the impulse to control.”⁵⁶ Why should we encourage such passivity? Had early man been guided by Sandel, the human race would quickly have become extinct, having forsworn Promethean aspirations to control fire and make tools and in these and other ways tame a murderous environment by reducing the domain of the unexpected. Dissonance, uncertainty, and inability to control one’s environment are adversities caused by human limitations in the face of indifferent nature. They are adversities to be overcome, not virtues to be cultivated.

“As humility gives way,” he writes, “responsibility expands to daunting proportions. We attribute less to chance and more to choice.”⁵⁷ That is true, but it is a good thing. Attributing to chance the successes and failures that befall us is a temptation to fatalism. And fatalism is a formula for inaction. “Paradoxically,” Sandel continues, “the explosion of responsibility for our own fate, and that of our children, may diminish our sense of solidarity with those less fortunate than ourselves.”⁵⁸ He goes on to observe, I think correctly, that as more of our life prospects come under our control and less is due to chance, the scope for health, life, casualty, and liability insurance, and also for social insurance (such as public welfare), diminishes.⁵⁹ Insurance involves the pooling of risks. In the limit, if all is certain, if there are no unknowns, there are no risks to pool and therefore no demand for insurance and we no longer feel ourselves to be in the same boat with others, other than those we love. “The meritocracy, less chastened by chance, would become harder, less

55. *See id.* at 27.

56. *Id.* at 86.

57. *Id.* at 87.

58. *Id.* at 89.

59. *Id.* at 89–92.

forgiving.”⁶⁰ But it is an empirical question whether the existence of private and social insurance creates a feeling of solidarity and as a result makes us less “forgiving” of human failure. My own sense is that mutual dependence does foster a sense of solidarity but in doing so undermines autonomy. We seek to reduce the costs of both private and social insurance by imposing restrictions on the behavior of the high-risk members of the insurance pools. Is this sacrifice of individuality a good thing? Sandel does not say. If it is not a good thing, is there any basis for embracing it anyway? That is not a question that Sandel can answer.

And there are other solidarities besides those of the insurance pool. There is nationalism. There is the spirit of the mob—much in evidence at some sports events. I find particularly unattractive, indeed repulsive, the combination of humility, diminished personal responsibility, and solidarity, on the one hand, with the admiration of innate, unalterable (except by technological interventions that Sandel wants to forbid)⁶¹ hierarchies of talent on the other hand. On the field, the heroes, displaying awesome innate abilities. In the stands, the masses, humble in their undifferentiated mediocrity. The vision is one of medieval stasis; it is pessimistic, Heideggerian, and fearful.

Not that fear of change, fear of modernity, is an unreasonable response to our world. Modernity is full of dangers, including dangers created or exacerbated by technological progress and associated changes, such as population increase. These dangers include apocalyptic terrorism, the proliferation of weapons of mass destruction, global warming, biodiversity depletion, pandemics, and catastrophic scientific accidents.⁶² But reduction of these dangers will depend on technological and analytical methods repugnant to Sandel, and on a spirit, opposed to his, of active engagement with a threatening environment.

60. *Id.* at 92.

61. *Id.* at 27, 37–38.

62. *See, e.g.*, RICHARD A. POSNER, CATASTROPHE: RISK AND RESPONSE 12–13 (2004).