DISCIPLINARY MYTHOLOGIES: A RHETORICAL-CULTURAL ANALYSIS OF PERFORMANCE ENHANCEMENT TECHNOLOGIES IN SPORTS

by

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ABSTRACT

In sports discourse, the relationship between athletics and technology is often paradoxical. On the one hand, modern sports rely on technology at every level, from training and tracking of players to the equipment and apparel used by athletes to the game strategies and playing fields themselves. Nearly all of these technologies are intended to increase athletic performance on some level. And yet, certain performance enhancement technologies can be criticized for being antithetical to the spirit of sports, which is framed as being a strictly natural and pure human endeavor.

Using a rhetorical-cultural methodological approach, popular sports discourse is analyzed to investigate how arguments in contested spaces between sports and technologies get (re)negotiated and (re)articulated to fit within a sports social language that emphasizes “pure” and “natural” ideals of sport. This often results in a dichotomy where the sport/technology relationship is either black boxed, thus being subsumed in the sport social language and becoming transparent and the relationships unarticulated, or the technology is regulated out of the sport through rules and bans. The reason for this articulation is attributed in large part to the deep humanism embedded in the sport social language. How a shift to a posthuman perspective would effect sports discourse is explored.

These conclusions about underlying values in sports discourse lead to the formation of a new theoretical framework called disciplinary mythologies. Building off of Foucault’s disciplinary power, Scott’s disciplinary rhetorics, and Barthe’s mythologies, disciplinary mythologies are discrete units of persuasion that both construct and

constitute claims by drawing upon layered narratives and shifting associations that lose their context when entering the realm of myth. Two specific disciplinary mythologies are discussed—the level-playing-field topos and the nostalgia enthymeme—and it is shown how sports discourse often draws upon them to shape arguments and actions.

To Mandy, my partner and sidekick through this journey. You have been my support and my motivation. I could not have done this without you; I did this for you.

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LIST OF ACRONYMS

EPO	Erythropoietin
FINA	Fédération Internationale de Natation (International Swimming Federation)
HGH	Human Growth Hormone
PEDs	Performance Enhancement Drugs in Sports
PETs	Performance Enhancement Technologies in Sports
MLB	Major League Baseball

CHAPTER 1

Where does the body end and the technology begin? Where is the line between natural and artificial?

In the world of high-performance athletics, these are not questions of simple demarcation; they are questions that interrogate the heart of self, identity, and perception, and as I will show, they have real-world implications on sports performance.

Controversy and debate are nothing new to sports, and the arguments expressed in newspapers, locker rooms, and around water coolers address a wide range of issues—from whether an officiating call was justified to who the best player of all time was to which team is best positioned to win the next championship. One particularly contentious debate that occurs in various forms throughout most sports is how to rectify technology's role in what is generally mythologized as a strictly human endeavor. A simple survey of the sports landscape reveals relationships between sport and technology that are often confusing or contradictory. This is a world where injecting substances into the body is demonized for being unnatural while at the same time using advanced computer modeling, algorithms, and analytics is not only considered acceptable, but also a necessary part of optimizing human performance; where using a natural substance like caffeine has been heavily restricted at times while a synthetic substance like Gatorade is consumed en masse; where in one sport a uniform can be labeled as *technological doping* while the same technology in another sport is accepted with little reservation. What started me on this line of inquiry was what I believed at first

to be a simple question: Why are some technologies accepted into the sporting world with little to no critical debate while others are hotly contested and seen as parasitic in an otherwise *natural* endeavor? However, this is not a question that can be answered simply. The reasons behind it stem from deep-rooted notions about the nature of competition.

The focus of my analysis is on Performance Enhancement Technologies in Sports (PETs), and by *technology* I am referring to everything from the athletic shoes/clothing/equipment we use to the nutrients/supplements/drugs we consume to the scientifically based training techniques/diets we follow in an effort to improve athletic performance. In other words, I am considering technology to be anything (including objects, data, theories, systems) that has its basis in empirical/experiential science and extends a human's capabilities and senses. The definition I am using is not unique; however, the fact that I am articulating the definition is a departure from the dominant criticism about PETs in sports. Typically, technology is referred to generally. For instance, in the recent collection *Performance-Enhancing Technologies in Sports* (Murray, Maschke, and Wasunna, 2009) not once in any of the 13 separate articles is the concept of technologies defined despite the fact that every article uses the term repeatedly. Additionally, an important distinction between my analysis of PETs and the majority of other criticism on the subject is that I am purposely drawing examples from technologies that are not performance-enhancement drugs in sports (PEDs). Again, if we use the Murray text as a representative example of the types of research in this field, we would think that a book titled *Performance-Enhancing* Technologies *in Sports* would draw upon a variety of technologies to analyze. However, in all but one article,

“technologies” is used primarily to discuss a type of PED. The one exception is an article that deals with the concept of fairness and does not address any technologies specifically. Although no one would argue that illegal substances (e.g., anabolic steroids and blood doping) are the only performance enhancers in sports, they have dominated the conversations about PETs so much that other technologies (e.g., game equipment, apparel, nutritional supplements, science-backed training programs, advanced equipment used for healing, recovery, and training, etc.), many of which have a far greater effect on actual performance, have been overlooked, ignored, or accepted with minimal resistance by both research communities and the general public.

Technology plays a major role in modern sport, yet it can also remain in the background; in some cases society seems to deliberately overlook technology’s role through a discursive emphasis on the body—the “natural”—over the human-made when it comes to human competition. However, there are moments when technology exerts its presence, often within a haze of controversy and uproar. My project will look at these contested nodes where technology and sport seem to challenge each other, and I will explore what these moments tell us about our underlying assumptions, about our perspectives and priorities.

Personally, I am a huge sports fan and consider myself athletic (if not an athlete), so this topic naturally appeals to me. But more than my attraction toward competition, I am drawn to the sports discourse and practices because of their seeming contradictory and shifting stances toward technology—modern sports rely so heavily on technology

but also sometimes work to elide this fact. In many sports discourses1, human body and human spirit reign supreme, skill and talent are considered *natural*, even while bodies, skills, and talent depend on using the most advanced technology and techniques. If technology is seen to cross an illusory and shifting boundary—whether it is steroids or equipment or bodily modifications—its use can be viewed as unfair or otherwise out of bounds.

Current Research & Methodology

While the topic of performance enhancement technology appears to be a very large and encompassing area, the research that has been conducted on this issue as it applies to sport comes out of discourse groups with discrete lines of inquiry. Highlighting these lines of inquiry reveal significant gaps in the scholarship. Although there is some limited intermingling and blending between groups, the stakeholders in this conversation generally remain separate (i.e., you don't have one voice speaking from a position of authority in more than one group) and come from one of three arenas: *medical science*, *social science/academia*, and *sports culture*. The most homogeneous of the three groups is the medical science, which is composed primarily of medical doctors and sports-science doctors (generally M.D.'s, but it also includes Ph.D.'s that have a clinical focus). Although the empirical research from this group is routinely drawn upon for

1 Of course, there is not one sports discourse, and even to claim that each sport has its own unified discourse is misleading. I will use the term "sports discourse" in this project for expediency sake to refer to conversations relating to sports rhetoric, but I am in no way attempting to claim there is an expansive, monolithic sports discourse. In Chapter 2, I will more clearly articulate how I am applying this term and what does or does not fit well within it.

arguments that emerge from either social science or popular media, it is much less common for someone from the medical science to speak from a position within either of the other two groups, with the occasional exception of a sports-science Ph.D. publishing within a social science venue. The social-science group is composed mainly of scholars from various disciplines within social science, especially sociologists, anthropologists, and sports ethicists. Their scholarship is published primarily through academic journals or academic presses. The last group, and the most heterogeneous one, speaks from a position within sports culture. Sports writers/columnists make up the largest percentage of this group, but it also includes a variety of other stakeholders within the sports industry, including (but not limited to) current and former athletes, sport manufacturing entities, team ownership/administration, mainstream media outlets, governmental bodies/policymakers, and sports enthusiasts.

As I commented on earlier, PETs as a collected artifact of study—inclusive of all technologies, not just PEDs—has received little critical attention. While there is extensive discourse about one aspect of PETs—namely *steroids*[2]—there is a dearth of critical research on other performance technologies (i.e., footwear, Gatorade, clothing, equipment, training/diet techniques, etc.). Discourse on steroids flows from numerous disciplines—medicine, sociology, sports science, anthropology, political science/public policy, journalism and others—but when it comes to other PETs, research comes almost exclusively from sports science. Since the research aims and publication

2 Of course, “steroids” is the popular term that usually applies to several different pharmaceuticals including anabolic steroids (as opposed to corticosteroids), red blood cell transfusion or recombinant human erythropoietin (blood doping), and now potentials for “gene doping.”

opportunities for sports-science scholars generally come from empirical research, even when they do investigate other PETs, the scope of such projects is restricted to testing the effectiveness of a technology on performance (i.e., how much of a performance increase will you get from a new shoe design, etc.), and seldom do they investigate the social implications of a technology on the sport or look at PETs in a broader context[3]. Generally speaking, steroids seem to be a black hole in sports discourse, drawing all the research and cultural attention toward them. It is difficult to escape the gravitational pull that steroids have on the PETs discussion since most of the lines of inquiry are aimed at that particular controversial subject.

What Are the Effects of Using PETs (Steroids)?

The vast majority of empirical research on how PETs, and steroids in particular, affect the human body and athletic performance comes from medical research. Like most research conducted within a medical context, the research generally remains limited to reporting on the specific study/experiment findings. Articles rarely discuss broader social implications of steroid use. However, the findings from this research are often taken up by both social science and popular-culture sources in order to make arguments about the social implications of steroid use. For the most part, this group of research will only be discussed in my project tangentially. Since my concern is how

3 We might view other body modification or performance enhancement technologies that are non-sport related as a distant cousin of this first branch. Issues such as cosmetic surgery, sexual enhancement, performance enhancement as a result of physical loss due to age or injury, creativity or mental-focus improvement, etc. have been examined extensively by sociologists and other social scientists.

definitions and understandings get rhetorically negotiated, the actual medical research is less of a focus for my project.

That being said, the medical research on steroids is far less definitive than one may think. Since there are serious legal and ethical restrictions to conducting any kind of study using illegal/banned substances in a sporting context, it is impossible to develop any kind of supportable consensus on the actual performance-enhancing effects or the health risks to athletes[4]. According to Smith et al., "there remains an absence of reliable evidence documenting the adverse effects of many performance-enhancing drugs as well as reliable data about the prevalence of their use in sport" (2010). What limited research there is has drawn a wide variety of conclusions, including many who argue that anabolic steroids specifically have little effect on actual performance, yet the dominant social image is that injecting steroids can turn a normal human into a superhuman.

Another major component of the medical research is in the field of testing for performance enhancers. Again, the scholarship is fairly rich on this subject, and most of it comes out of medical journals. However, unlike the first distinction I drew in the medical research, testing is where medicine and public policy tend to intermingle. For instance, "Gene Doping: The Hype and the Harm," discusses not only challenges to testing for genetic manipulation for performance enhancement, but it also addresses the

4 Various kinds of steroids have been approved for use outside of sports competition, so the health effects for "normal" use have been studied. However, the research on the effects during intense competition is limited (Yesalis, Kopstein, & Bahrke, 2001). The other issue is that many of the risks associated with steroids come from their misuse, just like any other pharmaceutical. There is a very different set of risks when the substance is administered and monitored by a physician, but since steroids are banned in professional sports, the vast majority of steroid use in this context is done without physician administration or monitoring.

need for such testing measures in order to maintain a “level playing field” in competitive sports (McKanna and Toriello, 2010). These article tend to accept without question the underlying premise that steroids (and other performance enhancers, but they rarely stray from steroids) need to be banned from sports; therefore, they will serve as a texts to apply a rhetorical-cultural lens and question why these assumptions are made to begin with.

How Do PETs Impact Society & Sports?

Questions about how PETs impact society or specific social groups come mainly from social science scholars. Sociology, Anthropology, Sports Science and Philosophy departments (often in the form of sports ethics or sports law courses) have examined social attitudes toward steroids, especially in groups perceived to be at risk such as weight lifters and teenagers. For instance, articles in the journals *Sport, Ethics and Philosophy* and *Sport in Society* often address the issue of steroids and other performance enhancers from a critical position, questioning why and how social opinions are formed and perpetuated. One such article out of the latter journal, “Attitudes towards use of performance-enhancing substances and body modification techniques: A comparison between elite athletes and the general public,” (Breivik, Gunnar, Hanstad, Dag Vidar and Loland, 2009) both provides valuable primary research in the form of survey data and engages in a useful dialogue about the unclear assumptions that inform social opinions on various performance enhancing technologies. Similarly, Susan Sherwin’s article in *Sport, Ethics and Philosophy*,

“Genetic enhancement, sports and relational autonomy” (2007) provides similar data and dialogue on attitudes toward performance enhancers. However, even the sociological studies that examine attitudes toward steroids tend to isolate them from a larger context of PETs. And despite coming from social sciences, scholars have rarely examined how language and discourse help to shape these perceptions, which will be a primary focus in my research.

Although there are some rich materials coming out of Sociology research, there is also less critical work that seems to accept the same assumptions that we see in the steroid-testing field. “Effects of mass communication on attitudes toward anabolic steroids: an analysis of high school seniors,” (Denham, 2006), for example, attempts to take the survey data collected and use it to suggest ways to improve anti-steroid educational material. That steroids and other performance enhancers need to be banned remains an underlying and unquestioned assumption in the article. Work such as this will not inform my argument but will be useful as a target to apply a rhetorical analysis to and examine the social understandings that are being negotiated within the discourse, even scholarly discourse.

Regarding how steroids affect sports themselves, most of the commentary comes from popular media. Of course, a lot has been written about steroids in the popular media, especially sports journalism, and these materials are just as important, if not more so, when it comes to using rhetorical analysis to investigate the social (un)conscious regarding PET. Central to popular media are the sports figures implicated or proven to have used steroids during competition. Athletes, fans, sports and news commentators, social critics, politicians and others have all weighed in on this issue,

most often condemning the use of steroids and those who use them. The arguments are a wealth of primary source material for rhetorical analysis, especially since they tend to include these four claims differently elaborated:

- Steroids are dangerous to the user's health
- Steroids threaten the integrity of the game and the notion of a "level playing field"
- Steroids are a violation of the rules and therefore cheating
- Teenagers look up to athletes, so if athletes are perceived to use steroids, youth will be more likely to use them.

Additionally, books written by or about athletes who have used steroids have moved up recent best-seller lists. Jose Canseco's *Juiced: Wild Times, Rampant 'Roids, Smash Hits, and How Baseball Got Big* (2006) and Shaun Assael's *Steroid Nation: Juiced Home Run Totals, Anti-Aging Miracles, and a Hercules in Every High School: The Secret History of America's True Drug Addition* (2007) are just two examples of a bevy of popular texts that address the "era of steroids," primarily in baseball, cycling, and weight lifting. Most of these works are historical or biographical in nature, and they are far from critical, but they form a significant part of the social dialogue about steroids.

What Should Be Done About PETs in Sports?

Again, most of the discourse about how to react toward steroids and other PETs comes from popular media. Whether we are talking about "doping" or new performance equipment/training techniques, there are a number of sports writers, athletes, and fans ready to comment on the subject and what should be done about it. Additionally, public

policy has weighed in on the issue of steroids and how to regulate them. For the most part, in all of these situations, arguments simply replicate the underlying assumptions about steroids. The most high-profile example of this is the Congressional hearings about steroid use in Major League Baseball. Out of those hearings came the Mitchell Report, a government-ordered report that looks mainly at the history behind steroid use in baseball but also makes arguments about why steroids need to be addressed in professional sports.

Multiple Gaps & Methodology

Clearly, even within discussions of steroids, there are some significant critical gaps in the scholarship. However, as I have stated previously, the bigger gap is in the larger context of performance-enhancement technologies in sports as a whole. Although much of this literature review has focused on the banned-substance issues within sports, my project will draw from a much larger pool of PETs as examples and case studies. Texts that explore beyond the boundaries of steroids and other banned practices in order to look at a wider range of performance enhancement are few and far between, and it is to this group that I hope to make the largest contribution. Despite the scarcity of scholarship here, there are a few texts of note that will factor significantly into my own research (Shogan, 1999; Pronger, 2002; Magdalinski, 2009). All of these texts apply cultural analysis and critical theory to the larger realm of performance enhancement in sports/athletics, which is what I will do as well. However, my project will apply a more overtly rhetorical lens to PETs, something that has not been done before.

The rhetoric of health/body/medicine addresses similar questions since it examines rhetoric associated with human bodies, but even though there is a rich and diverse scholarship within this field, no one has discussed in any kind of depth the rhetoric associated with PETs. Yet, arguments about PETs within sports culture are ripe for rhetorical analysis. This is an area of unclear and shifting understandings, a place where rules, regulations, definitions, and social taboos prescribe certain arguments and technologies but proscribe others. Premises underlying these arguments about what is acceptable and what is prohibited are rarely articulated, and when they are, the premises tend to perpetuate the same "naturalistic," unreflective arguments. Just like any other controversial issue, the arguments made in support/opposition not only function to define the boundaries of a topic but also inform social understandings. PETs are a complex topic, and social understanding of them is being negotiated by various discourse communities—popular sports culture, politicians, athletes, sports professionals, educators, sociologists, doctors, etc. The advantage rhetorical analysis has over other frameworks is that it can track and unpack the language used to construct these shifting discourses through multiple disciplines, stakeholders, and mediums. This kind of *border crossing* is necessary since our attitudes toward PETs are formed through cumulative communicative force—the weight of all the arguments made by all the discourses over time rather than by any one particular group's voice. How we perceive and adapt to PETs is shaped far more by the language and assumptions used to characterize and (ultimately) understand them than it is on any kind of empirical data. Rhetorical analysis is ideally suited for this kind of project.

My goal will be to provide a clearer understanding of how we as a society perceive PETs and what those perceptions say about our assumptions and priorities, but I also want to argue for a more nuanced and *posthuman* approach to PETs as we move forward. To this point, few have analyzed sports using a discretely posthuman approach, and to my knowledge, no one has applied Katherine Hayle's posthuman lens to sports as I intend to do. Although posthumanism can mean slightly different things to different people, at its core is a questioning of what we consider *naturally human* as well as an investigation of the nature and existence of borders between the human and other things (i.e. the animal, the machine, the digital, the social, etc.). Descartes's *humanism* posits that there is an essentialist humanity, a clear demarcation between what is and what is not *human*. Posthuman critics such as Hayles, Donna Haraway, Mark Hansen, Bruno Latour, Michael Foucault have tracked how this humanism has permeated our social consciousness since Descartes's "I think, therefore I am," and demonstrated how humanity is not natural but a social construction. Posthumanism as an approach seems appropriate since it will be my contention that an unconscious social humanism functions as a litmus test to determine what we see as foreign to competition and what is simply a natural part of it. To inform my understanding of posthumanism (in order to critique the humanism I'm analyzing), I will rely on several texts, including Hayles's *How We Became Posthuman* (1999), Haraway's *Modest Witness* (1997) and Hansen's *Bodies in Code* (2006). None of the texts address sports specifically, but I will apply their theories about embodiment and posthumanism in order to argue against humanism.

Core Research Questions:

- How are technologies characterized in conversations about sports? What qualifies? What is overlooked? What does not? And what are the implications of these definitions on perceptions about PETs? What happens if we apply a posthuman analytical lens to PETs?

- According to various discourse groups, which PETs are considered admissible and which are not? How do they come to these conclusions? And what do these shifting definitions about acceptability say regarding underlying assumptions about competition and the body? Essentially, why are some technologies that affect performance considered legitimate and others (like steroids) considered 'cheating?'

- How do the arguments about PETs get negotiated, circulated, codified, and replicated? What underlying assumptions/perceptions are those arguments based on?

Theoretical Framework & Chapter Breakdown

In order to address the core questions, I will use a methodology developed by J. Blake Scott in *Risky Rhetoric: AIDS and the Cultural Practices of HIV Testing*. Scott's work—an important text within the rhetoric of medicine—has nothing to do with performance enhancement or athletics, but the methodology he calls a *rhetorical-*

cultural analysis enabled him to apply rhetorical criticism to the broader cultural network that makes up Human Immunodeficiency Virus (HIV) testing technologies and practices. I plan to do the same thing with the network of PETs. Rhetorical analysis often examines specific texts within an individualized vacuum. With Scott's approach, the tools of rhetorical analysis are used to analyze not texts by themselves, but instead the entire cultural circuit[5] where arguments are created, circulated, transformed, and taken up by various cultural actors. When speaking about HIV home-testing policies, Scott claims that they are "shaped from complex relations among rhetorical, ideological, political, economic, institutional, and social forces" (5), and PETs function in much the same way. As the literature review showed, conversations about PETs occur in many forums and from many different authorities—medical labs to educational institutions to corporate entities to governing bodies to publishing outlets and to the steps of Congress, and from doctors to journalists to coaches to athletes and to the fans. But the voices themselves are only part of the story. The arguments about PETs are only made possible as a result of technological advancements and the products they generate. And the arguments are also shaped by extrarhetorical elements such as rules, physical bodies, statistics, results, training practices, and institutions. We are dealing with a material-semiotic network, and Scott's rhetorical-cultural methodology is an ideal way to unpack the various cultural conditions by "account[ing] for the various actors and conditions that make production possible, mapp[ing] the transformations of forms and their intertexts, critiqu[ing] forms according to their effects, and interven[ing] to enable

5 "Cultural circuit" as articulated by Richard Johnson in his article "What is Cultural Studies Anyway?"

the development of better forms" (5) In this way, I also see correlations between the rhetorical-cultural approach and Foucault's archaeological analysis. Foucault's use of *archive* referred to the unwritten discursive rules that connected to the "system of enunciability […] that causes a multiplicity of statements to emerge as so many regular events, as so many things to be dealt with and manipulated (Foucault 1972, 129-120). As summarized by Markula and Pringle (2006), "Archaeological analysis is, accordingly, concerned with excavating the *archive* to reveal the interplay between discourses and the associated sets of rules that shape/constrain reality, and guide social practices" (31). Both a rhetorical-cultural methodology and an archaeological analysis focus on discourses and how they shape perceptions and actions, but they do so by expanding beyond the "too-simple claim that language constructs reality" (Scott, 34). With archaeological analysis, the acknowledgement that many of the discourse's rules are "unwritten" and "emerge as so many regular events" will tie into my discussion of how black boxes form around major arguments about PETs.

Although I will be using a rhetorical-cultural approach overall, a significant portion of my project will be aimed at theory building. I plan to create a new framework for talking and thinking about PETs drawing on Foucault's "disciplinary power," and Scott's "disciplinary rhetorics." According to Scott, "Disciplinary rhetorics are bodies of persuasion that work with extradiscursive cultural forces and actors to shape subject positions and the ways that they are materially inhabited. Disciplinary rhetorics have relational agency, defying rhetorical determinism and its too-simple claim that language constructs reality" (33). Essentially, disciplinary rhetorics are persuasive language that attempt to mold perceptions and conduct but always in conjunction with cultural forces.

We can see this happening with PETs in the various ways that technologies are embraced or rejected in sports, and how those decisions effect not only expectations and attitudes, but also the game play itself. Of course, an obvious location for this disciplinary rhetoric is in the abundance of sports commentary that surrounds each and every professional sporting event, but we can also see it in things like the rules and regulations for each sport. As Shogan claims, “rules of games prescribe certain actions, proscribe other actions, and describe boundaries or contexts within which these actions make sense” (4).

Building off of disciplinary power and disciplinary rhetorics, I will construct a new framework for viewing sports, something I’m calling *disciplinary mythologies*. As a subset of disciplinary rhetorics, disciplinary mythologies are *black boxed*[6] rhetorics of idealized notions that shape arguments and guide or regulate actions while obscuring the underlying complexities. They are the oversimplifications that develop from a layering of narratives and that then govern our perceptions and actions. Ghosts from that past that still influence current arguments. "Idealized" is a key term for me since I see many of the arguments about PETs stemming from idealized notions of what sports competition is or should be instead of what it really is. Also, I think it is important that disciplinary mythologies (at least the ones I am looking at) hide the complexities by replacing them with simpler, essentialist *myths*. When it comes to sports, many of the disciplinary mythologies stem from the humanist roots I will discuss in Ch. 2. Two specific examples I will develop are the *nostalgia enthymeme* and the *level-playing-field*

6 Bruno Latour’s discussion of black boxing in *Science in Action* figures heavily in my attempt at theory building.

topos. The former critiques sports' desire to compare past benchmarks with current performance. Many arguments against certain PETs stem from this nostalgic desire (i.e., use of an asterisk for records set during the "steroid-era" in baseball), but any notion that we can accurately compare past performance with current performance is a myth that ignores sports' fused existence with technology. The level-playing-field topos explores the myth that there is ever an actual level playing field and how that impacts arguments about PETs.

Chapter 2:

Most of the "heavy lifting" for my project will come in chapters 2 and 3 because this is where I will build the foundation and then the structure for my disciplinary mythologies theory. Relying heavily on *posthumanism* in Ch. 2, I will attempt to unravel the various shifting definitions/attitudes toward technology in sports. As Debra Shogan argues in *The Making of High-Performance Athletes*, sports are *modern* constructions in a *postmodern* world, and I will explore how modern thought still influences our perceptions of PETs. I will show how sports and technology are inextricably intertwined at all stages of competition. At the same time, I will argue that attitudes toward sports and technology are *humanist* in a *posthuman* world, and these humanist myths impact which technologies we consider acceptable and which we consider cheating in sports. Lastly, I will attempt to show how a more posthuman perspective on PETs could impact real-world competition. To accomplish this argument, I will layer three theories and show how they apply to sports culture. First, building off of

Mikhail Bahktin's notion of a social language, I will show how the *sports social language* places technology, the body, and competition in an adversarial dynamic. Then I will incorporate Haraway's use of *fetish* to situate the sport social language as a fetishism of sport, or in other words, a deliberate forgetting of the role technology plays in sports in favor of a "pure" or "natural" sport. Lastly, I will expand on Latour's *black box* to discuss how technology gets subsumed into the large sport narrative (sport social language), essentially becoming invisible.

Chapter 3:

In Chapter 3, I am going to build toward the disciplinary mythologies theory by exploring the two key precursor terms: disciplinary power and disciplinary rhetoric. With disciplinary power, I will examine how our understanding of high-performance athletics and technology is intricately tied to the different notions of *discipline* and *discourse* that Foucault develops in *Discipline and Punish*. Then to bridge the divide between disciplinary power and disciplinary rhetoric, I will incorporate Kenneth Burke's notions of *piety* and *terministic screens* to show how the sport social language (developed in Ch. 2) leads to a type of deep conviction that can become a disciplinary mythology. Next, I link disciplinary rhetorics to sports through a case study of Spira Shoes, examining how the arguments, rules, marketing, realities of competitive competition, and the implications of this specific technology are both formed by and inform perspectives about the roll technology is supposed to play in sports. This will lead to a brief

explanation of disciplinary mythologies and how they shift the focus onto the layering of narratives that create myths and shape beliefs.

Chapter 4:

The fourth chapter will explore disciplinary mythologies in more depth by providing a case study for the arguments developed in Chapters 2-3. First, I will examine in detail the world of competitive swimming, focusing primarily on a two-year window where new swimsuits caused an uproar and led to claims of "technological doping." The texts I analyze will come mostly from popular media since that is what shapes perceptions about PETs the most. I will then move from the broader theory to two discrete bodies of persuasion that I consider subsets of disciplinary mythologies—the nostalgia enthymeme and the level-playing-field topos, both of which will continue to draw on the swimming case study. In this section, I will demonstrate how disciplinary mythologies have affected the acceptance of various PETs.

Chapter 5:

The final chapter will draw upon all the threads developed in chapters 2-4—sport social language, fetishism of sports, black boxes, disciplinary power, disciplinary rhetorics, disciplinary mythologies—ultimately attempting to merge them into a cohesive diagram for understanding sports discourse. Lastly, I will argue for a more encompassing perspective on PETs based on a posthuman perspective and offer a way

to move forward that will take into account how technology and sports are intricately and inextricably intertwined.

Project Goals:

1. Apply a Rhetorical-Cultural analytical lens to PETs. Several writers have applied a cultural analysis approach to PETs[7], and it makes sense as a critical tool since sports are intertwined with culture in myriad complex entanglements that reflect on not only sports, but also culture itself. However, no one has offered a sustained rhetorical analysis of PETs, and since the intersection of sports and technology is often a contested space where arguments, opinions, perceptions, and ideals shape action, a Rhetorical approach is needed to unpack the complex threads that merge sports with culture.

2. Argue for a posthuman understanding of technology/body in regards to PETs while shifting the emphasis away from steroids to take a more encompassing view of technology in sports. As Magdalinski argues, much of the controversy over PETs stems from an underlying fear of technoscience's incursion into a realm that is viewed as "natural" and "authentic," the human body and "spirit of the game" as something pure that technology corrupts. These fears drive many of the decisions that take place about what should and should not be allowed in sports. However, in the final chapter, I will show that by adopting a more

7 Shogan, Pronger, and Magdalinski all look at sports technologies using a Cultural Analysis lens in their various texts.

posthuman perspective, we can make judgments about which PETs should be acceptable based on desired outcomes rather than fear of technology.

3. Develop a new theoretical framework (*disciplinary mythologies*) for examining PETs, one that helps to articulate the underlying assumptions and shifting definitions that take place when considering technology in sports. Debates about PETs are often one-sided, relying on simplified “mythologies” that render the complex relationship between sports, the body, and technology invisible. The disciplinary-mythologies framework will place a magnifying lens on these “black boxed rhetorics” and open them up for inspection and critical analysis.

CHAPTER 2

My goal for this chapter is to explore how a more *posthuman* approach to viewing people and our machines can affect our perceptions, discussions, and decisions about performance enhancement technologies in sports. In chapter 3, I will build on my arguments from this chapter about the sports social language and fetishism of sports to dissect the disciplinary rhetorics (stemming from our humanist episteme) that often determine popular arguments and actions toward PETs, eventually leading to a definition of "disciplinary mythologies" and why they are particularly suited for analyzing discussions about sports.

However, in order to analyze perceptions, discussions, and decisions about sports, I must first address a definitional challenge. In sports discourse, debates (and, therefore, perceptions) about PETs erupt from murky, shifting definitions that often remain unarticulated and unexamined. For instance, let us begin with the central object of examination for this project: performance enhancement technologies in sports. On the surface, it is a phrase that many would characterize as straightforward. We all know what it refers to: technologies that enhance sporting performance. So we should easily be able to categorize what does and does not fit.

Anabolic Steroids? *Absolutely*.

Blood doping? *Yes, that's cheating.*

Hypoxic chambers? *Sure, they are pretty technical*.

Tennis racquets? Golf Clubs? *I guess if they are advanced enough.*

Running shoes? *Well…?*

Gatorade? Caffeine? Sunglasses? Diets? *Ummmm*…

Much of the debate around PETs is an issue of defending the definitional borders, deciding what makes one technology acceptable and another taboo, but finding a clear definition is difficult. Since all definitions are tied to their uses, it might seem a simple task to draw the line at any use that provides an unfair performance enhancement; however, each sport must confront each new technology and determine what an acceptable use is within the context of that individual sport, but the arguments for or against a technology are rarely articulated in these terms. According to Tara Magdalinski in *Sport, Technology and the Body* (2009), "despite an ostensibly clear distinction between accepted technologies and those determined to be 'performance enhancing,' the line between the two is ever shifting and there is remarkably little consistency in determining which innovations acceptably assist the body and which are considered thoroughly inappropriate" (7).

Part of the reason for these shifting boundaries is the difficulty in clearly defining the term performance enhancement technologies. Just a brief examination of the individual words in that phrase demonstrates the complexities that arise when delving into this topic. Take *technologies,* for example. How do we define it? We can all name a few dozen man-made objects that clearly fit into the technology category, but as we move further away from the realm of microchips, Bluetooth, carbon fiber, and batteries, what constitutes a technology becomes a bit trickier. In *Readings in the Philosophy of Technology*, David M. Kaplan explores this difficulty and comes to the conclusion that "there are so many different kinds of technologies, each designed for a different purpose, made from different materials, requiring different skills, and used in different

contexts that it is unlikely that a common set of defining properties could possibly apply to all of them." There are simply too many variables. Most everyone would consider a stick *natural*, the primary antithesis to *technology*. However, when the stick is used by a blind person to navigate through the world, both providing crucial input and output to the user, it can be rightfully conceived as a technology. The stick, in the latter situation, is intimately intermingled with the user, creating what Hayles (1999) describes as a reflexive feedback loop. In other words, without the human, the stick is a stick; with the human, a complex relationship of mutual constitution emerges. And this is the case for all technology. According to Kaplan, scholarly consensus has long moved away from the theory of technological *neutrality* where technology is defined solely by its technical properties, existing in a valueless, purposeless vacuum outside of human society. Instead (and for good reason), the theory of *social construction* of technology dominates, where humanity and technology are not treated as separate entities on parallel tracks but rather as one symbiotic entity. In this way, technology should not be viewed by its technical properties but instead by how it is used to extend human capabilities. If a stick allows a person to better perceive and interact within his/her environment, then that stick is a technology within that context. In his explanation of the theory of social construction, we see Kaplan begin to express the complex, reflexive relationship between people and technology. He claims, "Humans make, use, and assign meaning to things in a variety of different ways, in relation to a variety of different social contexts. Far from being applied science, technology, on this model, is more like *embodied humanity*. Technologies are part human, part material, and always social" (2009, xviii). And although Kaplan does not express the reverse of this equation, a

cadre of posthumanist theorists—including Haraway, Hayles, and Hansen—have argued convincingly that humans are part technology, part material, and always social as well. As Hansen argues in *Bodies in Code*, “all reality is mixed reality” (5).

Defining technology (and humanity) in such a complex symbiosis works seamlessly with many topics, but it is problematic when discussing sports in general and PETs in particular. As I will demonstrate throughout this chapter, the sporting world, more so than many others, routinely is trying to separate humanity and technology, to determine where the one ends and the other begins. This is a direct result of articulating sports as a purely human endeavor, a way to measure our “natural” capabilities without technology muddying the results.

Another complicating factor when attempting to define technology is that popular perceptions about what constitutes technology tend to be ahistorical (we will see how this affects sports in Chapter 4). The term “technology” brings with it a connotation that is biased heavily toward the present. When asked to consider technology, the average person most likely will think of the latest gadget or innovation to hit the market. For instance, if asked to name a “technology for reading,” electronic devices such as the Kindle or iPad would be common answers, but few would mention the printed book. There is a shelf life for technology, and once an item loses its new, innovative luster, its role as technology becomes translucent and unremarked. Yet, the effects of technologies do not disappear along with their acceptance into that category. The printed book not only changed the way we communicate and record information, but it altered how humans think and perceive, the effects of which are still with us today (Ong, 1982).

Like technologies, we can follow similar rabbit holes when trying to define the other two key terms in the phrase Performance Enhancement Technologies. For instance, in his critical introduction to performative arts, Marvin Carlson claims that performance (much like technologies), “has so many nuanced meanings in various contexts that it’s a contested term that resists definitional closure” (Carlson, 2004). For our current purposes, there is no need for me to tease out the various definitional threads, but it is important to note that performance is an enacted experience that extends well beyond the bounds of the athletes or playing surface to encompass the spectators and circumstances as well. Much like what we said about technology, performance does not happen in a vacuum. We cannot separate the athlete’s bodily actions from the circumstances surrounding them. In other words, performance is not just in the *doing*; it is also in the *viewing*.

This has several consequences when considering performance in the athletic realm. Drawing from the long history of performance in the creative arts, Magdalinski (2009) has a lengthy discussion of the nature of performance in modern athletics, and one of her conclusions is that “the audience determines the relative merit of the sporting performance that unfolds before them by comparing them to standard or invented measures (records), past athletic feats (by ‘the greats’) and ideal performances (a perfect ten). Their role is to establish success or failure” (62). The spectators are the legitimizing force behind the sport, which is why athletic accomplishments that are achieved without the audience’s tacit consent are roundly ignored and considered invalid. No one cares if Michael Phelps breaks a world record during practice or training; although he may have swum that particular distance faster than anyone else in the

world ever has, it is only acknowledged when he does so at a predetermined place and time designated by the audience. Magdalinski contends that athletic performances are co-created by audiences and performers, and therefore “the audience has a direct and essential stake in determining the authenticity of the performance, and, furthermore, ‘purity’ of the event” (63).

And finally, the term “enhancement” seems to raise more questions than it does answers. What qualifies as an enhancement? What enhancements are acceptable and why? How do we determine the effects of an individual enhancement without taking into account the entire sporting gestalt? The term “enhancement” implies a baseline measurement; otherwise, what are we enhancing from? There is a norming that must take place before we can intelligently discuss enhancing, but doing so for professional sports is problematic for several reasons. First, professional athletes are, by their very nature, far from normal. Not only do they possess natural abilities that break the mold, but also by the time they become professional, their natural skills have been so finely tuned and shaped (largely through technological means) that they have left normal (if there is such a thing) far behind. Additionally, all that training and shaping that takes place as they develop into high-level athletes creates comingled relationships with the technology used during that process. How can you separate the athlete from the technology that helped to create the athlete? Modern sports rely on technology; athletes rely on technology. If there is a norm, that is it. So to imply that there is some natural, baseline professional-athlete norm that we can then enhance beyond belies the fact that it took extensive technological enhancement just to get the athlete to that elite level.

Of course, we could continue to parse “performance” or “enhancement” or “technologies” into smaller and smaller pieces, trying to decode the definitional characteristics that unify each term, but analyzing the terms in such a way would reveal greater levels of contention rather than of unity. As Kaplan claims after attempting to define technologies, “Maybe we should heed the advice of Ludwig Wittgenstein and avoid the problem of definition altogether […] A concept can be useful and usable without being precisely determined […] It is more important to understand the role that a word plays in conversation than to search for the essence hidden behind a word’s meaning” (xv). Although Wittgenstein’s (and Kaplan’s) advice helps resolve the difficulty in attempting to define a complex, comingled phrase like Performance Enhancement Technologies, the “imprecisely defined” approach could be seen to be just as problematic. As we have seen, many of the debates about PETs involve making categorical decisions about what does and does not fit within definitional boundaries, but the basis for those arguments is not rooted in any clearly articulated definition. In other words, there is no consistent, definitive way to separate acceptable from unacceptable performance enhancement. Why does a shoe with a spring in the heel cause controversy (see discussion of Spira shoes in Ch. 3), but one with a spring-like foam heel gets ignored? Why are performance enhancement drugs (PEDs) banned and demonized, but supplements that attempt to achieve a similar effect widely accepted and encouraged? Why is carbon fiber allowed to revolutionize cycling equipment, but caffeine has been severely restricted8 at various times despite the fact that its impact

8 Before 2004, the International Olympic Committee has had strict restrictions on the amount of caffeine that could be found in a competitor’s blood, and if an athlete was found to exceed those amounts, (s)he could be eliminated from competition. Since 2004,

on the sport is far less significant than the former technology? Clearly, how we categorize various technologies and how we parse definitions have real-world implications. Attempting to apply a strict definition for PETs is impractical, especially considering the wide range of sports and sport governing bodies in existence. But without a precisely determined concept for PETs, the rules that are created to govern them can seem inconsistent, arbitrary, and/or biased.

To try to address this problem, I plan to follow Kaplan's final bit of advice—understand the roles that the words play. For the most part, rules are not determined through strict definitions. Instead, rules are created to proscribe and prescribe certain actions and desirable outcomes. In other words, the question is whether these rules are communally accepted and what values is the sport attempting to promote when it creates rules and definitions.

Sport Social Language

Another problem we need to contend with is that not all PETs are evaluated equally. Performance-enhancing technologies in general (i.e., anything that is meant to enhance human ability) and performance-enhancement technologies *in sports* are two different animals. "In sports" is a crucial modifier here as attitudes toward performance enhancement inside and outside of professional sports, and across different types of sports and competitions, differ widely. Take, for example, the preponderance of weight-

those restrictions have been lifted (due in part to the difficulty with testing and enforcement), and the medical community has largely agreed that although an athlete will receive some benefit from caffeine, there is a leveling off to how much benefit an athlete can receive as (s)he consumes more of the substance.

loss products, sexual-improvement products, and memory-retention products. All of these could be considered PEDs, and yet they enjoy a high level of social acceptance. In a survey of both professional athletes and the general public in Norway about attitudes toward PETs (Breivik et al, 2009), over 60% of the general population responded that they would be willing to use a PED that improves memory, 35% would use one that improves sexual ability, and 48% would use one that improves general physical fitness. There were also high levels of acceptance for PEDs that would improve creative thinking, stress tolerance, physical strength, and emotional understanding.

I find the responses toward physical fitness and physical strength interesting as the same respondents reported almost universal disagreement with using Erythropoietin (EPO)9, anabolic steroids, or amphetamines in professional sports. So the general public has a high-level of willingness to use PEDs themselves to improve performance of one kind or another, even if those performance enhancers carry health risks with them, but they do not want to see athletes use similar substances within sports competitions.

Clearly, there is a different set of criteria being applied to athletes and the rest of the population. Where PETs get scrutinized in one arena, they are embraced in another. How do we account for this? Let me turn first to Clay Spinuzzi's *Network: Theorizing Knowledge Work in Telecommunications*. In the opening chapter, Spinuzzi has a

9 EPO is a glycoprotein hormone that controls the production of red blood cells. Endurance athletes have been known to inject EPO in order to increase the number of red blood cells in their body. More red blood cells means more oxygen circulating through the blood. Theoretically, more available oxygen leads to greater endurance. Similar results have been attempted by using hypobaric chambers (also known as altitude tents/chambers) or by simply training at high altitudes. Research shows that when your body is exposed to lower oxygen levels, it creates more red blood cells to carry the available oxygen.

detailed discussion of Bakhtin's term "social language," particularly how it is incorporated into activity theory. Essentially, a social language (the language of a particular group, often connected by knowledge, work, interest, belief, etc.) is not acquired; it is enacted. What is important for our specific purposes here is that a group's attitude toward particular terminology (performance-enhancement technologies in this case) has little to do with its definitional boundaries. Attitudes are enacted and reinforced by the shared social language, and one group's social language is not reproduced in another. Spinuzzi remarks that,

> some evolutionary biologists go to church; and as we've seen above, some pastors go to work for telecommunications companies. When these people talk about origins, when they discuss conversions, we have to understand that a change in social language can mean a change in logic, assumptions, ideology, standards of proof, rules, tools, and so forth (27).

In the same way, someone within the social language of sports will view performance-enhancement technologies in a very different light than someone outside of that, and statistical evidence from Breivik helps to support this claim. Even more interesting, groups surveyed indicate that they would have fewer objections to steroid use by amateurs rather than professionals. Survey participants report that they see less of a problem if amateurs use steroids for their recreational activities or to improve bodily aesthetics, but they claim that the amateurs should stop using steroids if they become "professionals" (Dawes, et al., 2004). Here we see that the social language changes when *competition* enters the equation, and specifically the issue raises the most concern in "professional" competition. Although "health risks" and "safety" are often used as arguments against the use of PEDs, those concerns appear to fade somewhat

when removed from the competitive environment. Instead, competition brings with it concerns about the level playing field, and more so than health concerns, issues of fair play appear to be the driving force within the sports social language. We can see the difference in logic, assumptions, rules, ideology, standards of proof, tools, and so forth that Spinuzzi discusses in his work.

Before delving deeper into the implications of the sport social language, it is important to clarify what sports and technologies this analysis mainly focuses on. First, the sports discourse I am reading and commenting on stems mostly from the United States. Although I suspect that similar arguments are made in other nation-specific sports conversations, I would not want to assume that is the case without further exploration.

Additionally, even though I will refer to sports discourse and the sports social language as unified, monolithic entities, I am doing so for expediency and not because I am basing my claims off of an assumption that there is one single sports discourse or social language. Discourse is not as neat and tidy as that. I would not even argue that each sport has its own discourse. Both explicit and implicit arguments within any discourse relating to sports are shifting affairs that are negotiated and co-opted by various actors and conditions in order to accomplish differing purposes. Any detailed analysis of a specific argumentative thread should contextualize the rhetorics within their particular exigency. I have attempted to do in this project whenever I discuss a specific technology and sport. That being said, much of my own argument centers around a subtextual fetishism that I see as running underneath and informing sport discourses across many different sports and a variety of technologies. This is what I will

characterize as the sport social language, and as I will argue later in this chapter, this subtextual fetishism is often a ready-made entity that repeats and re-enforces certain claims and idealizations of sport.

Of course, each sport will draw on this sport social language in different ways and to different extents. What fits the best within this framework are sports that have a long and rich history (e.g., baseball, basketball, golf, etc.) and sports where technology has a less obvious role during competition (e.g. swimming, running, boxing, etc.). Nearly all Olympic events would fit into this group as well as they tend to fit both these criteria. What could be seen as outliers are more recently created sports (e.g., esports) and sports where technology exerts its presence in a more overt way. Auto racing, such as NASCAR or F1, would be an example of the latter. It is impossible to ignore the presence of the technology in auto racing; however, even with something like NASCAR, there is still a hierarchical relationship that emphasizes the human over the machine. For this reason, arguments concerning auto racing could still draw on a similar subtextual fetishism of sport; it just might not be to the same extent or applied in the same way that we would see in arguments pertaining to track and field or wrestling.

Also, the sport social language I will be identifying and describing here pertains more to the actual competition than the training before the competition. In fact, the sport social language hardly acknowledges training at all; it is almost an afterthought, or at least a footnote used to explain how an athlete was able to accomplish certain feats within a competition (i.e., “they hit as hard during practice as they do during the game, which has made them more prepared for the competition”). One thing I will attempt to show is how training gets black boxed within the sport social language.

Within the sports social language about competitions, judgments about issues like performance enhancement technologies are governed by often unarticulated and shifting boundaries. These boundaries come into existence and are (re)articulated and (re)enforced within the social language, and since they are enacted instead of static, they shift along with social forces and technological advancements. In *The Practice of Everyday Life* (1984), Michel de Certeau has a useful discussion on boundary formation as it relates to law. A judge's opinion (interlocutory judgment) is an "operation of making out boundaries" (122). What de Certeau focuses on is the judge's discourse and how the "narration is 'established' on the basis of 'primary' stories, stories that already have the function of spatial legislation since they determine rights and divide up lands by 'acts' or discourses about actions" (122) If we take this approach and overlay it onto discussions about steroids (or other PETs) in sports, we see the "primary" stories as those from the dominant voices (i.e., popular media, Congress, sports commentators, sports administrators, medical professionals) and the "acts" as the regulations against steroids and rhetorics about the dangers of steroids10. So, within a social language, judgments, which form the basis of attitudes and boundaries, are formed by the dominant voices and the enacted experience.

However, this is not a process of *beginning*; it is a process of *continuation*. As de Certeau claims, the judgments "operate within the aggregate of heterogeneous spaces that have already been created and established by the innumerable forms of oral narrativity […] preceding the judgment that regulates and settles, there is a founding

10 Within the rhetoric, "dangers" is only partially related to specific medical side effects. Just as often (if not more so), it has to do with ethical issues such as "fair competition" or the impact on youth.

narration" (126). In other words, judgments are the result of an always already-present layering of narratives. These layered narratives are what we can call the social language, and since they are always already present, when any new judgment has to be made, such as when a new technology emerges, it is never viewed through a completely new or unique lens. The weight of all the previous attitudes and boundaries shape the continuing narrative.

Layering, as we see with the narratives in a social language, is an interesting phenomenon. Consider what happens when various sheets of translucent colored papers are layered on each other. What starts out as individual, vibrantly colored rectangles start to become muted as they stack on top of each other, eventually becoming a uniform black. The rough edges of contextualization get smoothed out layer by layer, and what we are left with is a cumulative norm. A social language is nothing if not a norming process—norming the narratives (and therefore the perceptions) of those using the social language. Hayles has a relevant discussion when she addresses the difference between the *body*, which is always a normative construction and *embodiment*, which relates to lived experience. Hayles argues that "To explore how the body is constructed within Renaissance medical discourse, for example, is to investigate the normative assumptions used to constitute a particular kind of social and discursive concept" (196). Although she does not use the term specifically, Renaissance medical discourse would be a clear example of a social language. So, Hayles is arguing that to investigate a social language is to unravel the normative assumptions that are used to compose perceptions and attitudes. Interestingly, a perfect example of this in the sport social language is in the representation of the elite athletic body, which is "an

idealized form that gestures toward a Platonic reality" (Magdalinski, 31). In few other social languages is the body as reified as in the sports social language, and unlike much of the rest of culture, "where Botox, cosmetic surgery, prosthetic limbs and surgical interventions alter the shape, appearance, and function of bodies, it seems incongruous that there should be widespread concern about the technological modification of athletes." Although numerous technologies are used to engineer and hone these bodies over years of training and development, the sport social language continues to imagine the athletic body as natural and authentic.

Returning to de Certeau, he claims that "These 'operations of marking out boundaries,' consisting in narrative contracts and compilations of stories, are composed of fragments drawn from earlier stories fitted together in makeshift fashion. In this sense, they shed light on the formation of myths, since they also have the function of founding and articulating spaces" (122-23). I find de Certeau's choice of "myths" useful to describe the makeshift boundary formation that takes place within a social language11. Numerous poststructuralists have discussed myths in culture, a notable example being Roland Barthes's *Mythologies*. In a basic way, we can describe myths in this context as the narratives that remain unanalyzed yet (in)form our perceptions and boundaries. As we just saw, the athletic body is one such myth, and phrases like "a level playing field" and "integrity of the game" are artifacts of those myths. The myth of sports rises above the spectators, players, and regulators of sports, and although created by humans, idealized notions of sports and competition take on an objective

11 I will develop the idea of sports "mythology" more in Chapters 3-4.

humanist position that is outside subjective human perspectives.

Humanism & Sports

Because of this sport social language, I cannot productively talk about PETs independently of sports. One example would be the attitudes toward a PET like a synthetic limb. Outside of a sporting environment (we cannot simply say “competitive environment” because there are many competitive situations—such as competing for a job—where PETs are not scrutinized as thoroughly) few people have an issue with someone using a prosthetic limb. Even within the sporting environment, few have a problem with prosthetic limbs as long as the person is competing against others with the same prosthetic limb (e.g., Special Olympics) or the limb is not considered a physiological factor in the competition (e.g., someone with a prosthetic arm wanting to compete in a track race). However, intense scrutiny is placed on someone with a prosthetic limb (e.g., a prosthetic running blade) who wants to compete against “able-bodied” athletes in a competition that places significant physiological demands on that particular body part. Take South African double-amputee sprinter Oscar Pistorius, for example. With Pistorius’s success in the 2012 London Olympics and the murder indictment a year later, it is easy to forget that there was a lot of debate whether he should be allowed to compete in the 2011 World Championships despite having a fast enough sprinting time to qualify. In 2007, the International Association of Athletics Federations (IAAF) ruled that his two artificial limbs (dubbed running blades) gave him an “unfair advantage” because their springiness allowed him to push off the ground

more efficiently than does a normal human ankle, letting him coast along at higher speeds using less exertion than other sprinters. He was banned from able-bodied competition, and it was only after extensive legal battles throughout 2007 and 2008 that he eventually was allowed to compete in able-bodied competitions.

The impact of the sport social language is not merely academic. As we see with Pistorius and a myriad of other examples, it has real-world consequences on sport, affecting everything from rules and equipment to media coverage and social implications. However, knowing that there is a social language that governs narratives about sports is different from knowing the tenor of that language. What is it within the sports social language that causes us to question (or accept) Pistorius's legitimacy as a competitor? Why is it that some technologies are considered acceptable while others are not? My contention will be that the sport social language is decidedly humanist, and it is *humanism's* hegemonic presence that steers the discourse about sports and technology.

Before we examine how humanism directs the sports social language, it is important to establish a working understanding of how the term is being used here. Humanism is a term that is as elusive as it is all encompassing. From theorist to theorist, field to field, country to country, the various definitions, connotations, and implications of the term humanism will vary—sometimes slightly, often greatly. Yet, despite the transitory nature of this particular *–ism*, it is difficult to deny the stranglehold that humanism has had on Western culture for the last 500 years. Only in the twentieth century have we seen a concerted effort to challenge the main tenets of humanism, but despite the vocal outcries of many prominent theorists—from Marx and Freud to

Foucault and Lacan—humanism still thrives in a significant sector of the social unconscious (Badmington, 2000).

Reducing humanism to its least common denominators, we find three underlying premises:

1. A rational human is central to an objective essence. ("I think, therefore I am.")
2. The mind is separate from the body, and the body is separate from the surrounding environment. The mind is the seat of the Self, and the body is a tool of the Self that allows it to interact with the external world. Embedded in this is the notion of autonomy. Rational humans can act independently of the external world, making informed, un-coerced decisions.
3. Along with autonomy is the component of human agency. Humans can control and shape their experiences and environment.

Let me first address what may seem like a contradiction at first glance. As I have already argued, the sports world places primacy on the athletic body, but this is not in contradiction to humanism's mind/body split or the hierarchy of the mind over the body. Instead, where many other social languages simply ignore the body, the sports social language (and really any social language that centers around physical activity) places a spotlight on it. This is not an upheaval of the dichotomy; instead, it recognizes both parts of the dichotomy while at the same time positing a notion of best body as one that is fit and disciplined, which is a sporting ideal. However, the mind is still in control, and in fact the psychology in sports and athletes is often part of the discourse (e.g., an athlete's "mental toughness") as a significant factor behind a win or loss. In some

sporting activities, the goal is to clear the mind. For example, in a golf swing, athletes are taught not to think about all the complexities of motion and body position while they are drawing back the club; they should just swing and rely on rote physical memory. In situations such as this, complex thought is seen as an impediment to physical execution. However, even when this is the case, wiping the mind of thought is viewed as a mental activity, a blankness that is enforced by a well-trained mind. The dichotomy remains, and although the body may get much more recognition in sports than it does in other fields, it still remains a tool of the mind.

Moving on, the three above beliefs and their resulting implications of placing an individual person in a world that contains some sort of objective truth that could be rooted out through rational means have shaped Western ideology since Descartes spoke his immortal words. Humanism's clearly defined hierarchy—mind/body/environment—point toward an imagining of the world as a trichotomy rather than an ecology. Several consequences relevant to our current discussion flow from this top-down structure. First, the body is designated as the primary ontological access point to the world (Hansen 5). The mind is the seat of the Self, but it is the body and its sensory capabilities that provide the raw data to determine reality. Although we could argue that it is impossible to know anything without the body playing a role in sensing, the boundaries drawn by humanism's central tenets make it difficult to imagine a codetermining relationship between the body and other technical apparatus. As a result, the body remains distinct (and generally superior) to the technology it uses. Additionally, humanism places the human epidermis as the distinct boundary between the body and the world.

One consequence of the humanism inherent in the sport social language is that the autonomous athletic body (when they are perceived as being "pure") and technology are often placed in antagonistic or hierarchical relationships (sports, typically in the form of individual athletic body, in a privileged position over technology). A recent Gatorade campaign and slogan, "Win from Within," are good examples of this tension. The text of one such commercial reads,

> Your moisture wicking fabric isn't enough. Your zero-weight shoes aren't enough. Your carbon-fiber racquet isn't enough […] Nothing you *put on* is. It's up to *you (long pause)*; *You*, and what's inside you. What you put into it is what you get out of it. Simple as that. *You* explode into the record books. *You* show no mercy. *You* come back strong. You win from within.

The Gatorade commercial highlights the humanism within the sports social language. There is clearly a split between the athlete and the technology, the one being subsumed by the other. Although the shoes are on the feet, the racquet is in the hand—and it would be impossible to compete in the sport without these technologies—it is clear that the equipment is secondary to the user. Here the human epidermis separates *You* from everything else. "You win from within." Obviously, there are two distinct meanings when the ad discusses "what's inside you." On the one hand, it points toward the an inner spirit, a determination that is emphasized in the sport social language, but on the other hand, it clearly suggests that Gatorade becomes part of *You* once it enters your mouth. The implication being that Gatorade is also a primary factor in athletic success. Gatorade (or other "replacement" drinks) is one technology that is able to breach the humanistic boundary between the outside and inside worlds without causing alarm.

Although modern performance enhancement technologies and professional sports are intertwined in a recursive loop, as we shall see, the sport social language writes the narrative to disguise the role of technology in sports by “naturalizing” sports and relegating anything “artificial” to a minor (often overlooked or ignored) or contested position.

Fetishes & Black Boxes

Several important theories have been developed that can help us unpack the type of naturalizing that takes place when the sports social language distorts the relationship between modern sporting competition and technology. The first that I’ll draw on is Haraway’s notion of “fetishism.” In *Modest_Witness@Second_Millennium.FemaleMan_Meets_OncoMouse: Feminism and Technoscience*, Haraway discusses the fetishism of science, which she terms as “the culture of no culture, the language of no language, the trope of no trope, the one self-referential world” (138). Essentially, Haraway argues that science has bought into the myth of its own pure objectivity, and it propagates this myth as a way to bolster its own singular role as diviner of truth. Within the social language of science, the “forgetting” takes place between technoscience and culture/humanity. We create science only to forget our role in creating it. Science (from the viewpoint of the fetishists) is not made; it is discovered. Haraway calls these fetishes a “god trick” and claims they are where complex, codependent relationships between actors and actants become transparent,

mistakenly shading things as clear and under control. She says they “shape what millions of people consider common sense in thinking about human nature” (218).

We see a similar fetishism of sports taking place in the American consciousness, especially in conversations about PETs. Just as science and culture are irrevocably intertwined, so too are modern sports and technology. Yet, in both cases, the fetishism attempts to obscure the complex relationships by supplanting one term (*culture* in the first and *technology* in the second) with a nontropic, value-free manifestation of nature. Science seeks to discover purely what is true and natural while sports showcase natural human athletic ability. The essence of sports is distinctly separate from technology—or so the fetishes claim.

In sports commentary, fetishism of sports abounds. For example, in a column for *Sports Illustrated* magazine, famed sports writer Frank Deford laments how performance-enhancing drugs (PEDs) irrevocably taint the purity of sports by making us question the bodies we’re watching. He argues,

> Athletics, like the other performing arts, is primarily a function of the body. […] At base, we attend games and we become sports fans because we are enthralled that these young men and women are capable, with their bodies, of what we could never manage with ours. We envy and cheer their graceful superiority.
>
> When athletes take performance-enhancing drugs they destroy that basic truth. Imagine if there were a drug that could improve a tenor's or a soprano's voice, so the notes were purer -- that would devalue all opera because the art would be false, the cognoscenti unable to trust what they would be hearing as true human beauty […] in sports, the bodies must be honest, or what's the point?
>
> [PEDs] don't just poison the game, they poison our faith. It's only natural now that every rational person must at least wonder whenever any athlete, no matter how revered, does something exceptional. We've been surprised too often, disillusioned too often, suckered too often, hurt too

> often. So eventually, we might doubt all the bodies. And if you doubt the voices, there is no opera; if you doubt the bodies, there is no sport. It becomes just another entertainment with special affects.

Deford's comments, published not long after Lance Armstrong publically admitted to using PEDs, echo the cacophony of voices that have spoken out vehemently against the use of PEDs in sports. Here Deford's use of "bodies" is a substitution for a nontropic *nature*. When he discusses the honest body, it is clearly glossing over all the modern technologies that went into crafting that athlete. Instead, we have the conflation of modern athlete and Greek myth—athlete emerging fully formed, basketball in hand, with nothing more than determination and commitment governing the heights to which he can reach. PEDs poison Deford's faith because they call into question the naturalness of the myth he has created. His comments about opera prove the point. Take, for example, his argument that "true human beauty" is devalued if technology (in the form of some sort of PED) enters into the operatic performance. What Deford forgets is the bevy of audio equipment, structural acoustics, voice-strengthening techniques, medical equipment for healing and strengthening vocal cords, and a number of other technologies that all fuse into what the audience hears as a note. The forgetting we see here is the same kind of fetishism that takes place in sports when technology becomes transparent and only the pure, natural athlete remains. However, in Deford's myth, only the known technologies can be dismissed into transparency. It is the wondering that is dangerous, that makes us feel disillusioned and suckered. Is he using a PED or isn't he? We can see an athlete drink the Gatorade, put on the compression fabric, compete with specialized

equipment, or train using scientific techniques, but PEDs shake our faith because there is the air of unknown, of back-alley injections that create a Superman hidden under the skin away from critical view. Where the former technologies fade into transparency, the latter exert themselves due in no small part to the mythos surrounding them. Deford's final statement that PEDs transform sports into "just another entertainment with special effects" echoes the sentiment of many sports writers and enthusiasts that with some PETs the technology will supplant the athlete. Here we see another fetish at work, but this time it is a fetishism of technology. Once again, the fetish masks the fact that sports and technology are in a complex heterogeneous relationship and instead removes the body from the equation; the athlete becomes transparent and the technology is seen as the primary element competing in the game.

Whether we are talking about fetishism of the natural body or fetishism of technology, Haraway would label either as "corporeal fetishism," which she describes as "mistaking heterogeneous relationality for a fixed, seemingly objective thing." Such grossly oversimplified relationships deny "the ongoing action and work that it takes to sustain material-semiotic bodies in the world" (142). And there are real-world consequences to such corporeal fetishisms. They shape ideas about what an organism is and what its boundaries are, and as we have already seen, much of the debate over PETs exists in the shifting haze of unarticulated definitions and boundaries surrounding them.

In *Science in Action*, Latour develops a concept similar to Haraway's fetishes, but whereas the fetishist generally is unaware of the troping taking place,

a person “black boxing” makes a conscious choice (at least in the beginning) to ignore complexity and focus just on effect. As Latour explains,

> The word **black box** is used by cyberneticians whenever a piece of machinery or a set of commands is too complex. In its place they draw a little box about which they need to know nothing but its input and output […] That is, no matter how controversial their history, how complex their inner workings, how large the commercial or academic networks that hold them in place, only their input and output count (3).

However, Latour’s use of black box quickly evolves throughout *Science in Action* to encompass any claim, debate, belief, knowledge, etc. that has been settled (at least in the mind of the user) and become solidified. As subsequent voices take up these black boxes over time, their origins get obscured and they become routine choices, accepted without thought or question. It is what Latour calls a move from “science in the making” to “ready made science.” As the black box gains momentum and force, it becomes increasingly difficult not only to challenge it12, but, in some cases, to even recognize its existence. At this point it can look very similar to Haraway’s fetishes—transparent, depicting simplicity where there is complexity.

Latour developed his *unblackboxing* approach to analyze how science is created, but others have adopted the technique to discuss a variety of social and cultural points of contention13. Although analyzing how PETs originally became

12 Most of *Science in Action* is devoted to establishing the complex systems that lead to black boxes in science. In order to challenge a black box, you must challenge all those who have taken up the box, and to do that often requires an extensive network or resources and allies.

13 Specifically, Scott uses this approach in *Risky Rhetoric* to discuss arguments/issues surrounding at-home HIV testing. I’ll discuss Scott more in the next

black boxed is beyond the scope of this project, I find the image of a black box with its input and output a useful way to visualize the process that takes place when technologies get absorbed into or rejected from the black box of acceptable PETs.

If we take a specific event, say a tennis match, and consider it to be a snapshot of athletic competition, the fetishism of sports presents this match as a unified image, encapsulated in time (from the first serve to the last point), where one competitor faces off against another to determine the better player. It is an image that gets labeled as “pure competition,” bringing with it all the classic connotations that purity conveys—natural, essential, untainted truth. Within this particular social language, only equivocal ideals such as skill, athleticism, determination, strategy, execution and effort are accepted as contributing factors. All of these emphasize the athlete as the sole actor, intricately entwining purity with humanity.

However, as you zoom closer into the snapshot, you are forced to acknowledge that the once unified image is actually a gestalt. Competition is a messy, dynamic affair, and at any given moment, a mass of co-dependent, entangled forces are at work. It is what an actor-network theorist may call a node where human and nonhuman actants fuse together and resist easy separation or simplification. In addition to the previously stated equivocal ideals, every competition is constituted by a multitude of other forces, many of which are

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chapter.

external to the athlete and the encapsulated event. Obvious forces at work would include coaching, environment, game plan, field-of-play conditions, and crowd participation (the home-field advantage). And the forces extend beyond the match's start and finish to include such factors as training and preparation, an athlete's life and lifestyle, travel conditions, cultural, etc. Of course, an athlete's psychological state-of-mind and physiological condition are obvious factors, but I have argued elsewhere that the rhetoric inherent in all the media coverage surrounding professional athletes, especially when there is controversy or scandal, can have a significant impact during competition (Lamothe, 2012). And let us not forget about the technologies at play as well, not only those used during the match, but also those used to prepare the athlete before the competition.

When considering the snapshot of a tennis match mentioned earlier, it is impossible to differentiate what forces are at work at any given instant. Did the athlete score an ace on her serve because of better skill? Or because of a strategic game plan (her opponent plays too deep)? Or because a slight divot in the court made the ball spin off at a sharp angle? Or because she had the wind at her back and the crowd cheering her on? Or because the new composite strings of her racquet generate 2 percent more power than her previous strings? Or because her opponent had a subtle glare from the sun in her eyes? Or because her opponent's shoes slipped a fraction of an inch when she lunged for the ball because they had a circular traction pattern instead of ridged pattern? Or because her opponent's reaction time was slightly decreased due to an argument with her spouse leading to a restless night's sleep? Or was it all of these things at once?

The complexity of a sporting competition is irreducible in any kind of determinant way; however, that is exactly what the sports social language attempts to do—reify a vast jumble of forces into a unified and dissectible *thing*. Although this process may make discussing the sporting event more manageable, the consequence is a forgetting or ignoring of many of the forces at work. Latour discusses this process when analyzing laboratories. As a scientist studies an as-of-yet unidentified phenomenon, the 'thing' is defined by its performances. For instance, Latour gives the example of a microbe, which before it was named as such, was known by its actions of transforming sugar into alcohol in Pasteur's lab. The thing is exposed to various environments, and its performances are noted—it breaks down sugar in the absence of air but stops when air is introduced. This "science in the making" does not last long as each performance presupposes a competence, which retrospectively explains the actions. According to Latour, "The [thing] is no longer a score list of actions; he, she or it is an essence slowly unveiled through each of his, her or its manifestations" (89).

We can draw a parallel here between science in the making and *sport in the making*. As the event is occurring, it is defined by the performances: a swing of the racquet here, a sliding forehand there. But very quickly those actions are co-opted into the overarching narrative, a narrative that remains constrained by the sports social language. It is no longer a sliding forehand but instead a momentum-changing point; no longer a swing of the racquet but instead a finely tuned strategy to attack the opponent's weak backhand. In other words, the competition becomes *ready made sport*. Latour argues that

> As long as anaerobic microbes are shaped by the list of trials I summarized above, it is easy to relate to them: tell me what you go through and I will tell you what you are. This situation, however, does not last. New objects become things: 'anaerobic microbes,' things isolated from the laboratory conditions that shaped them, things with a name that now seem independent from the trials in which they proved their mettle. (91)

This process, what Latour refers to as routinisation, is very common. It occurs in everything from simple tasks like using a can opener to more complex operations like driving a car. We consider the car and the skill to handle it as a black box, "which means that it is unproblematic and does not require planning and attention" (92). We forget about all the challenges we encountered when learning how to drive, forget about the complex interaction that takes place between the thousands of mechanical/chemical operations at any given moment and the human interface. We just drive14.

Although black boxing is quite common, and perhaps even necessary for humans to process all the complex relationships we encounter daily, it does have consequences on how we perceive those nodes of interaction. As discussed earlier, sport competitions are a fusion of intricate forces acting in constantly varying and unknowable proportions at any given moment, and those forces extend well beyond the confines of the event itself to include what an athlete has done leading up to the competition as well as larger personal and social influences. However, as the sport in action transitions into the ready made sport (through the black boxing process), the newly created thing becomes increasingly

14 We just drive until we are confronted with an obstacle or situation that forces open the black box. I will discuss what happens in these situations in more detail in Chapter 4.

isolated and independent from the forces that forged it. If we diagram this transition, we would start with the forces acting on the individual athlete (Fig 1).

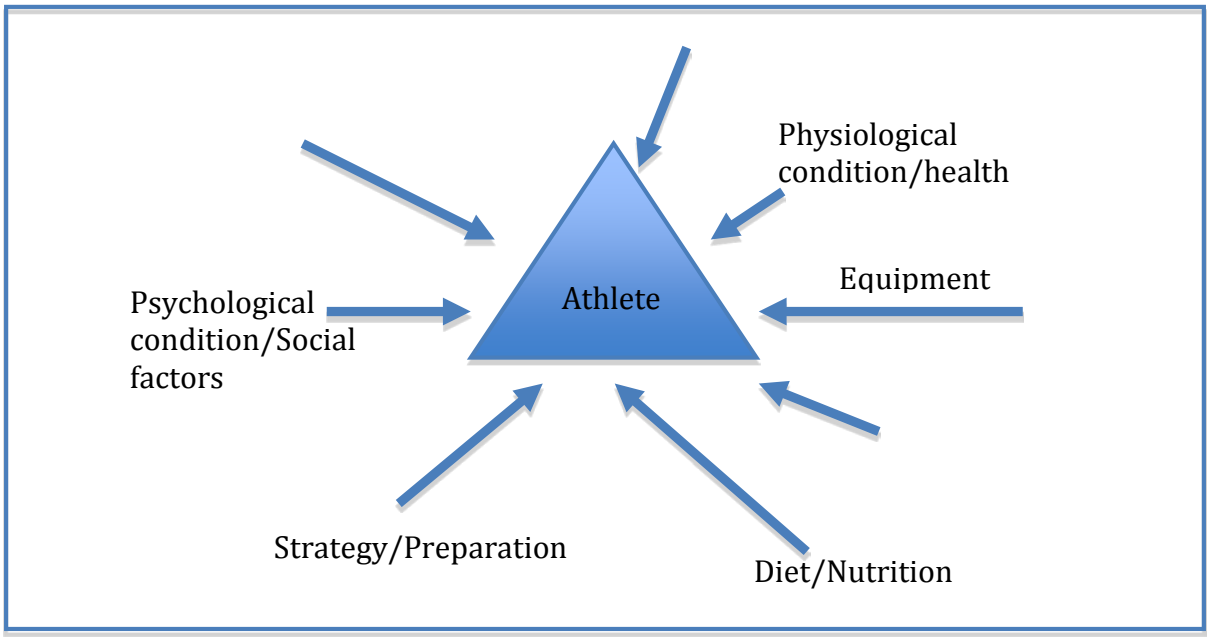

Figure 1: Diagram of the various forces at work on an athlete before and after a competition.

Here we see the athlete with various forces drawn as vectors, meaning they have magnitude and direction. As the forces interact with each other, they shape the athlete. This is a process that extends well beyond the confines of any specific competition, and each of them has a litany of techniques and technologies at their core.

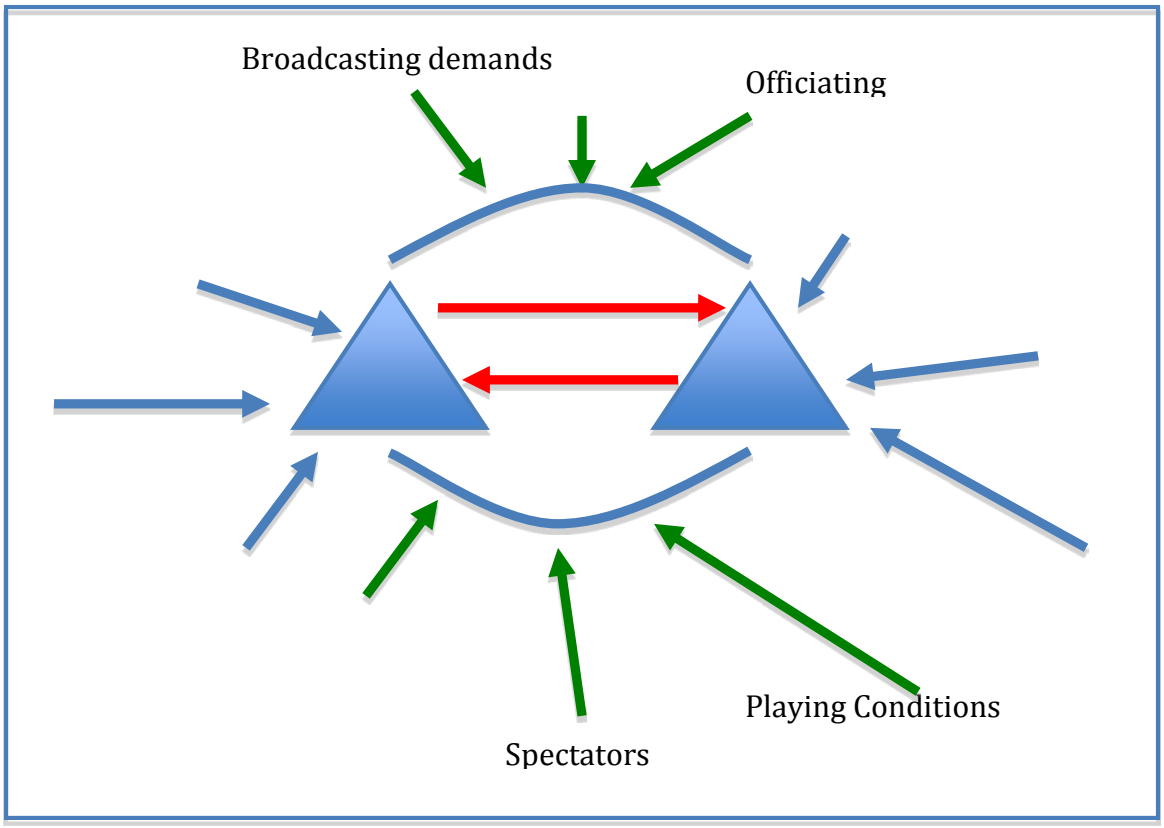

Figure 2: Diagram of forces acting on the competitors during the athletic competition

When athletes meet in competition, the forces acting on each person merge with environmental forces (i.e., playing conditions) and must also respond to the forces of the other athlete (Fig. 2). For example, the weak ankle from a previous injury, perhaps having limited force on the athlete as (s)he enters the competition, may gain magnitude as it interacts with rainy court conditions and/or an opponent who forces the player to change direction quickly and often. The extra hours the other athlete spent reviewing tape of the opponent's previous matches gains magnitude as (s)he is able to more quickly respond to the

opponent's tendencies. At this point, we are still dealing with sport in the making. Action and reaction; interacting forces with their varying magnitudes and direction. This is a dynamic node with layers upon layers of complex interactions.

However, as spectators (including commentators, sports reporters, fans, etc.) attempt to interpret what is happening, moving it from sport in the making to ready made sport, a black box forms to help simplify the complex interactions (Fig 3).

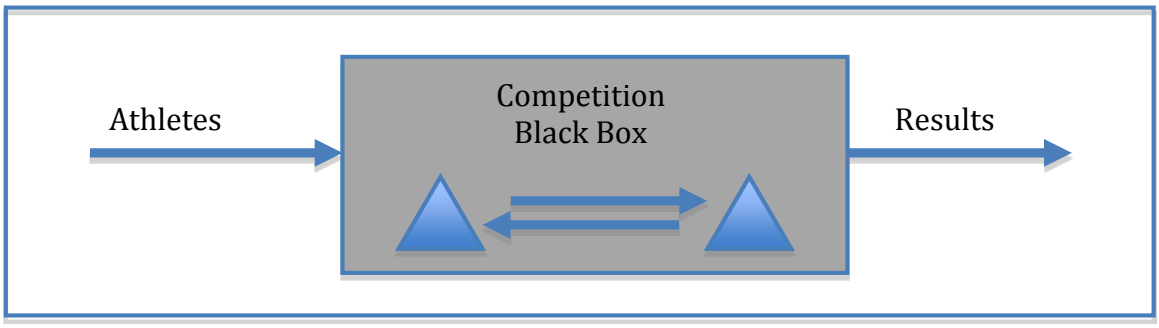

Figure 3: Diagram of an athletic competition being black boxed.

As a result of this routinisation, many of the forces at work fade into the background and become transparent, especially those forces that extend beyond the confines of the actual competition (i.e. training, conditioning, diet/health, social

factors, etc.), and only those forces with a particularly evident magnitude remain apparent. These are times when one force or another is so apparent it emerges as part of the story, escaping from the black box to become part of the output narrative. Pistorius's running blades (or any non-normalized body) would be an obvious example of an evident magnitude as they are difficult to ignore since they disrupt the normalized body so dramatically. A more common example would be when an athlete has a dominating performance, such as when a hockey goalie has a 50-shot shutout or when a football defensive back has a four-interception game. In those situations, aspects of the competition become part of the output narrative (i.e., the Bruins won because of Tukka Rask's all-star performance) and the sport social language marks the results as exceptional but pure. Conversely, when windy, wet conditions, for example, affect a quarterback's accuracy or when a referee makes a controversial call that is seen to affect the final score, the force is never perceived as synchronous with the dominant sport social language. To put it differently, the referee's bad call is not seen as just another contributing factor toward "pure" competition. It disrupts the purity.

With any black box, the only thing that remains is the input and output, but even these two components are simplified and representational. The athlete comes to embody all the forces acting upon him/her, creating a unified image from one that is greatly fractured, and in a similar way, the results come to represent the action during the competition.

There is a reason scientists use black boxes, and the same goes for sports spectators: it is useful shorthand. By hiding the intricate complexities that would

bog down understanding and instead focusing on a few key simplicities, we facilitate mutual conversation and, eventually, mutual meaning…that is as long as the input and output are clearly understood and agreed upon. In the case of technology in sports, the black box is not simply reductional (condensing complexity into simplicity); it is transformative. Technology enters the black box as a part of the athlete, the sport, and the competition, but once inside, technology is rendered inert, a non factor, and what exits the box is the perception of "pure human competition" (Fig. 4).

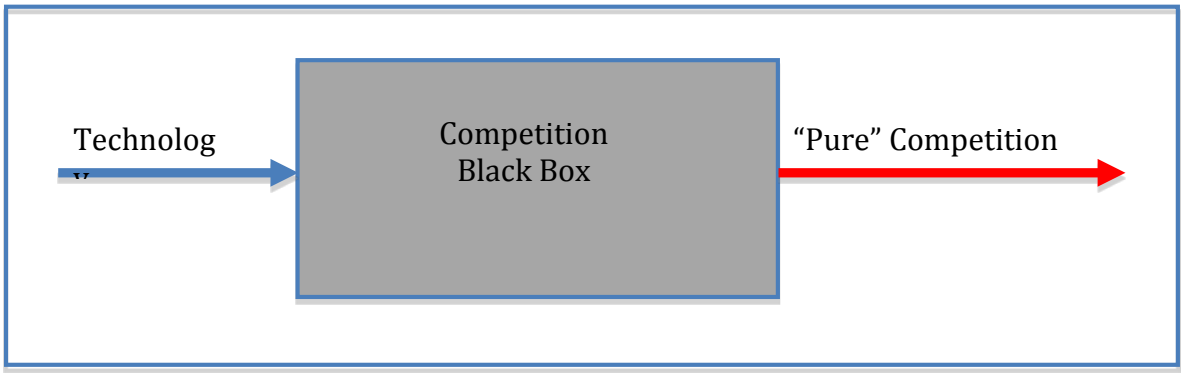

Figure 4: Diagram of how the black box simplifies the complex forces at work.

However, as we have seen in the contested space that is "technology in sports," what enters and exits the black box is not always clear and is often

contentious. As I have argued earlier in this chapter, technology is intricately intertwined with the athlete on the micro level and sports on the macro level. They are inseparable. And yet some technologies are allowed to enter the black box as a subsumed part of the input, thus rendered less visible (or even invisible), and others are not. Take, for example, compression materials in clothing, which testing has demonstrated have a positive impact on performance because, among other reasons, they decrease lactic acid buildup and reduce muscle oscillation, both of which contribute to fatigue. The benefits are so prized that most athletes in nearly every professional sport incorporate some kind of compression garment into a base layer or even into the actual uniform. Here is a clear example where technology merges with and affects athletic performance, and yet this is a technology that has faced little to no resistance. Even early in its development, no significant voice claimed that compression materials provide an unfair advantage or are unnatural. Yet, other technologies, especially those classified as PEDs, are rejected before they ever enter the black box.

In the Breivik survey about attitudes toward performance-enhancing substances and body modification techniques, both Norwegian professional athletes and general public reported almost unanimous acceptance of vitamins, minerals, and supplements for use by professional competitors, but they reported almost unanimous rejection of anabolic steroids, EPO, and amphetamines (2009). On the surface, these results are not that surprising, but when you take into account the fact that many supplements are used to create performance effects

similar to those gained from using the banned substances15, the difference in how they are viewed and accepted is revealing. The banned substances never make it into the black box, but supplements, which are just as much of a technology as any banned substance, glide in without resistance and become transparent along with all the other technologies used to shape the athlete and competition (Fig. 5).

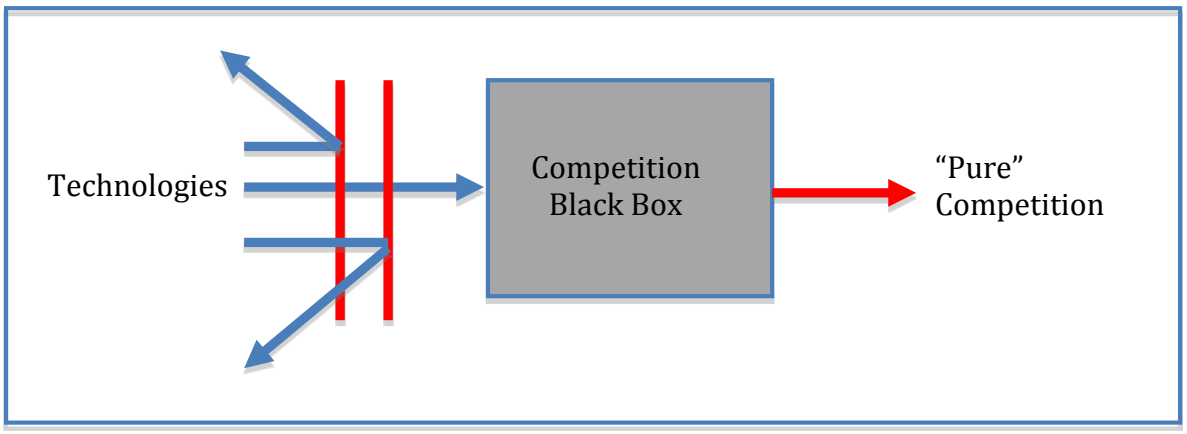

Figure 5: Diagram of technologies being rejected from entering the black box.

15 For instance, creatine is a common supplement used to gain strength and lean muscle mass, similar to what can be gained from anabolic steroids, and nitrite (in the form of OTC supplements like NO2 or prescription Viagra) helps to increase blood flow and oxygen delivery, which is what EPO is used for. I realize that some would balk at the comparison since there are differences in potential risks with these various substances, but risk factors aside (and all of these can have serious negative side effects when misused) the intended performance gains from taking them are similar.

Clearly, something is occurring before the technologies enter the black box, but what? Why do some technologies get routinized and others get demonized? One answer resides in the transition from sport in the making to ready made sport through a process of creating narratives. The list of actions, statistics, and data that make up sport in action get contextualized as they are reflected upon, which means that the black box does not form in a vacuum; it is not asocial. And since nearly all talk (i.e., narratives) draw from the same sport social language, the black box exists in a cloud of the dominant sport discourse (Fig. 6).

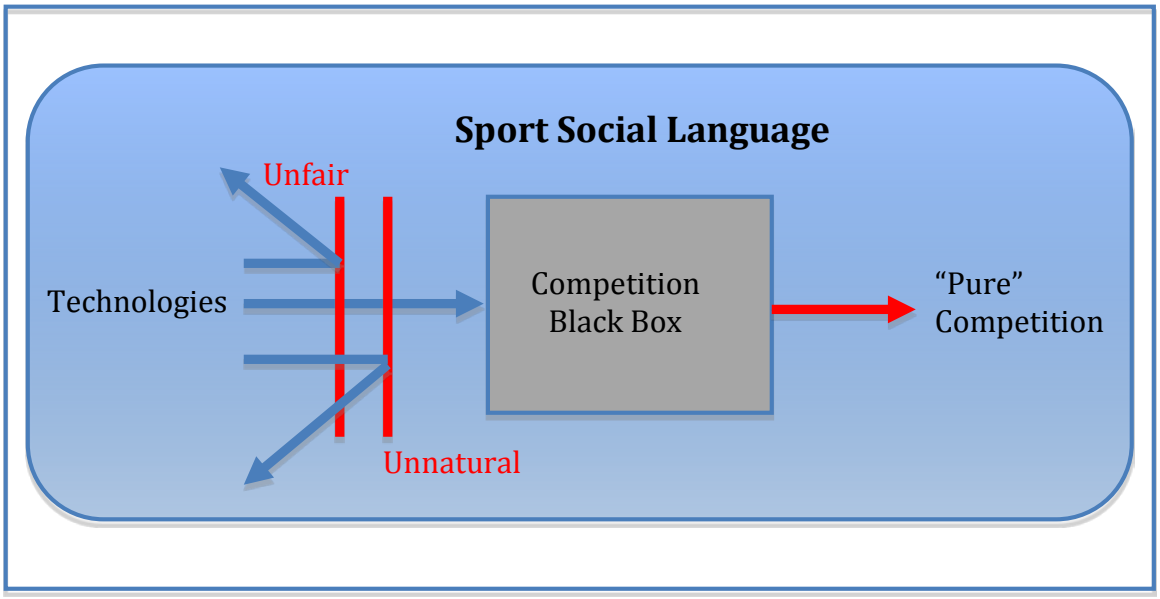

Figure 6: The sport social language is the substrate in which the PETs black box exists.

As we have seen, the sport social language is decidedly humanist. It is infused with notions of what is natural and pure, and these work as filters for both what enters and exits the black box. Decisions about what technologies should and

should not be acceptable in sport competition are not determined strictly by their effect on the athlete or performance. Technologies that are perceived as *unnatural* or *unfair* get rejected before they enter, even if they are no more unnatural or unfair than a similar technology that is considered acceptable. Everything else makes it in, and what leaves the box (now in the form of ready made sport) is considered pure competition.

In the case of anabolic steroids, EPO, or other PEDs, the dominant social language deems them both unnatural and unfair, so they get rejected quickly. However, supplements carry the aura of "natural" with them. Even the term "supplement" implies that it is subordinate to what is natural or essential within the athlete. It adds to the athlete, but not in a primary way. The category of supplements carries this connotation in part because of great marketing, but also because many supplements are derived from naturally occurring substances. Creatine, for instance, is a nitrogenous organic acid that occurs naturally in vertebrates, so athletes can increase their creatine levels by eating more animal meat. However, the concentrated, refined version of creatine that is sold as a supplement and is far more potent than its naturally occurring cousin is anything but natural. An athlete could not eat enough meat to get the same levels of creatine that (s)he gains from the supplement. Claiming that the supplement version of creatine is natural because I can get creatine naturally by consuming certain foods is like saying that a tanning bed is natural because I could get the same effect and Vitamin D by laying on the beach.

The process of determining what counts as unfair or unnatural can sometimes take a while and is not always predictable. For example, the Breivik survey showed a favorable response to hypoxic rooms, with 65.4% of athletes feeling they are acceptable and an even higher percentage among the general population (2009). Essentially, a hypoxic room or tent replicates high-altitude conditions with lower oxygen levels. When an athlete trains at high altitudes, it forces the body to create more red blood cells in order to carry more oxygen through the blood stream. The ability for the body to circulate more oxygen has obvious advantages for endurance-related competitions. In fact, that is the goal of using the banned substance EPO. The World Anti-Doping Agency (WADA) considered adding hypoxic rooms to the list of banned substances in 2007, but at this point it has not, and a majority of those surveyed in Breivik did not see a problem with the technology. Hypoxic rooms slip past the unnatural and unfair filters. However, although similar results can be achieved by training in high altitudes, that does not make a hypoxic room any less technical or more natural. Artificially lowering the oxygen levels is still very artificial even if those levels exist somewhere else on the planet. One of the popular arguments against PETs is that they offer a short cut to lazy athletes who want to get the same results as their more dedicated competitors. Why spend hours in the gym when I can simply pop a pill and get the same results? It is a popular position and one that helps to mark some technologies as unfair or unnatural. However, what is a hypoxic room other than a technology that offers a short cut? Why go through the time, expense, or hassle of traveling to the mountains and training when I can simply

jump on a stationary bike in a hypoxic room? It also cannot be viewed as fair since not all competitors have equal access to the technology.

As we can see, the impact of the sport social language on how we perceive and determine what is and is not an acceptable technology within sport is as important, if not more so, than the actual impact that the technology has on the athlete or competition. At the same time, the sport social language works to hide the role of technology in sport, making it transparent through a black boxing process that generates a false narrative, one that replaces the real character of professional sports with one that depicts it using humanist ideals of “pure sport,” “natural,” and “level.”

Posthumanism

In *The Making of High-Performance Athletes*, Shogan’s underlying argument can be summed up with, “the making of high-performance athletes is still quintessentially a modern project despite the fact that high-performance sport competitions now occur in a post-modern context or condition” (9). Although Shogan is speaking specifically about power structures and discipline (therefore embedding the conversation in a modern/postmodern discourse), a parallel argument could be made that the making of high-performance athletes is a humanist project despite the fact that it occurs in a posthumanist context. Shogan hints at such a claim when she quotes Foucault, “over the whole surface of

contact between the body and the object it handles, power is introduced, fastening them one to another" (29).

We have seen how the sport social language is governed by humanism and a fetishism of the body, but I will argue that posthumanism offers a potential alternative.

As indicated by its prefix, Posthumanism suggests a succession to or leaving behind of Humanism, but at the same time, as Foucualt and others point out, the very *post*ness of the term irreparably constrains the posthuman with the language of Humanism. We cannot speak of the posthuman without creating a binary between *human* and its *post*. Therefore, even though the idea of "-post" implies an open ended horizon for which the posthuman can expand into, the term itself—at least in its current theoretical state—generally stands as a resistance to the two main tenets of Humanism and not as something separate, distinct, and new. If we were to ask the question, "What is the posthuman?," the answer would most likely run parallel to "That which offers a deliberately contrary perspective to that of Humanism." As a result, theorists such as Foucault and Donna Haraway address the posthuman in order to challenge the essentialist view of humanity, and theorists such as Katherine Hayles and Jean Baudrillard use Posthumanism to problematize the mind/body split and the subordination of the body to the mind.

However, as Badmington states in the Introduction to his collected work titled *Posthumanism*:

> If, the anti-humanists argued, 'we' accept humanism's claim that 'we' are naturally inclined to think, organize and act in certain ways, it is difficult to believe that human society and behavior could ever be other than they are

> now. Humanism was therefore to be opposed if radical change, the thinking of difference, was to become a possibility (7).

In addition to fixing humans with an essence, which restricts the ability to change, modern thinkers also recognized the various influences that humanism did not account for—i.e. society/culture's impact in shaping humans; the unconscious, prenoetic, and irrational influences on the self; the role of subject positions that challenge any objectivity, etc. Posthumanism seeks to rectify this oversight.

A significant result of this essentialist view in regard to sports is the *naturalizing* of sport competition. This is a prime example of where the sport social language, fetishism of sport, and the black boxing of PETs join with an essentialist Humanism to shape the narrative about athletic competition and technology. It begins with the notion that the human16 is *natural* and technology is *artificial*. The dichotomy sets up a clear division between human and technology, and in the humanist episteme, it privileges human over technology. As Magdalinski claims, "It is clear that within sport, there is an assumption that the body is natural, and the apprehension that performance enhancing technologies provoke derives from a primary fear of contaminating its purity" (10). I would argue that what Magdalinski is really talking about is the sport social language. Sport itself does not assume anything about nature and technology; how we talk about sport does. And when speaking about the natural in sport, the fetishism of sport takes over. The complex technological interventions used to create the elite athlete are forgotten, and a narrative that stresses purity remains. The history of sport is rife with examples how the naturalizing of competition, and Magdalinski provides a useful

16 Of course, arguing that a professional athlete is a natural creature is a deeply flawed argument.

overview of its development from the spirit of sport in nineteenth-century constructions of Muscular Christianity and amateurism. The end result is that anxieties toward technology in sport are "provoked by a 'technophobia' that values 'natural' products more than human-made or artificial exemplars (Barilan and Weintraub 2001), and are reinforced by the mythology of sport as a purely natural enterprise" (15).

Introducing a posthuman perspective could challenge the nature/technology dichotomy so entrenched in the sport social language. If instead of seeing man and technology as separate we recognize their co-evolutionary trajectory, we challenge the fetishism of sport that hides technology in favor of purity. Hayles argues that one defining characteristic of posthumanism is that "the posthuman view thinks of the body as the original prosthesis we all learn to manipulate, so that extending or replacing the body with other prostheses becomes a continuation of a process that began before we were born" (3). Without using the term posthumanism, Magdalinski echoes this sentiment when she says, "Rather than fixed, the body is flexible, the boundaries of the 'natural' stretching as easily as the skin that encases the corpus" (10). Whereas humanism subordinates technology to the body, Hayles claims, "obviously, if the body and technology are involved in a coevolutionary spiral, neither logically has precedence over the other; debating priority is about as useful as discussions about the chicken and the egg, for once coevolution begins, both partners are bound in co-temporal recursive cycles with one another" (108). There are no modern sports without technologies, and technology's import is multiple. Equipment may allow for the sport, such as golf clubs in golf; technologies may enhance the sport, such as sneaker technology in basketball shoes or timing equipment in swim meets; the sport may even be born of technology,

such as NASCAR. And the evolutions of sports and technology are truly intertwined. Sports adapt to advancing technologies (i.e. advances in carbon fiber create lighter, faster bicycles), and the demands of sports prompt new technologies (i.e. moisture-wicking antimicrobial clothing or football helmets to help reduce concussions, etc.).

CHAPTER 3

In chapter 2, I discussed how the sport social language is embedded with a hierarchical dichotomy between nature and technology, preferencing what is considered natural over what is perceived as technological in keeping with a humanist trajectory. We saw how social languages are key in shaping black boxes, but in chapter 3, I want to develop a theoretical model that examines how several specific black boxes related to sports shape our attitudes toward PETs specifically and sports generally. To do that, I am going to build from Foucault's *disciplinary power* to Scott's *disciplinary rhetoric* to my own term that I will call *disciplinary mythologies*.

The Various Uses of Discipline

In *Discipline and Punish: The Birth of the Prison*, Foucault argues that in our modern disciplinary society, both the individual and societal bodies are controlled through observational practices, through techniques and procedures, through rote homogenization. This disciplinary power produces what Foucault calls 'docile bodies,' and numerous scholars have latched onto this term to discuss the modern athletic body with its constant training, sculpting, monitoring, and tracking (Markula and Pringle 2006, Shogan 1999). Athletes are indeed good examples of disciplinary power at work. Foucualt's chapter in *Discipline and Punish* entitled "Docile Bodies" starts by discussing how eighteenth-century soldiers became "something that can be made; out of formless clay, an inapt body, the machine required can be constructed" (135). Although Foucault is not speaking specifically

about athletes, the history of sport is rife with analogies between the athlete and both the soldier and the machine. The analogous relationship is warranted. Whether we are talking about a soldier, a machine, or an athlete, the end product results from meticulous shaping, fine tuning, and testing. Through rigorous control and constant monitoring, a 'docile body' can be created, one that "may be subjected, used, transformed, and improved" (136). It is due to this idea of creating the docile body through "disciplining" that Foucault's term 'disciplinary power' is developed. The idea of 'docility' conventionally conveys a sense of weakness, something that would rarely ever be associated with modern professional athletes or soldiers, but Foucault's use of the word is more about "pliability," and he makes it clear that a disciplined body is one that can exert significant force and skill. Without great discipline over years of development, a modern athlete would not be able to achieve the physical feats that she is able to accomplish during professional competition. Not only is she disciplined in what she consumes and how rigorously she trains, but also every action is monitored by a coaching staff (oftentimes recorded and meticulously dissected), body movements are tweaked, strategies are honed, team synchronicity is built, and statistics are analyzed.

In *The Making of High-Performance Athletes: Discipline, Diversity, and Ethics*, Debra Shogan examines how technologies of docility are used by coaches and trainers to create high-performance athletes. At the heart of Shogan's claims is the assertion that constraints—what we might call the embodiment of disciplinary power—are productive for athletes because they prescribe certain actions and proscribe others, and it is this channeling of action that creates focus and skill. As a former coach, it is her assertion that

Foucault's theories operate almost as a 'how to' manual for modern coaches. Shogan's central goal is to:

> detail the technologies that go into the production or 'making' of high-performance athletes and show that, through subjection to elaborate and minutely detailed organization of their movements, powerful athletes are made or produced. By powerful, [she means] not only that an athlete is able to perform skills with strength and at great speed, but also that an athlete is able to produce skilled performance that makes it possible to act on others' actions (3)

Shogan claims that the training of high-performance athletes is still a "modern project despite the fact that high-performance sports competitions now occur in a post-modern context or condition" (9); however, as historians of ancient-Greek athletics would be quick to point out, the roots of precise training go far deeper than modern times. In *Bodily Arts: Rhetoric and Athletics in Ancient Greece*, Debra Hawhee demonstrates how the Greek gymnasium, which is where both athletes and rhetoricians were trained, was a place that emphasized the three Rs of sophistic pedagogy: rhythm, repetition, and response (ch. 6). Hawhee uses an ancient wrestling treatise to comment on Greek training techniques and claims, "by going through micro-motions over and over, the wrestler will acquire a bodily rhythm that enables a forgetting of directives. In other words, as rhythm is achieved, knowledge of fundamentals becomes bodily rather than conscious, and habituation ensues" (ch. 6). Although a modern coach will use ever more sophisticated means to track, measure, and parse athletic movements, it could be argued that at the core of the training are still the same three Rs of sophistic pedagogy.

Shogan uses a broad definition to 'technologies' similar to the one I developed in chapter 2, which includes as many 'techniques' as it does physical technologies. In doing

this work, she details how discipline in the coaching world—similar to the army, school, hospital, and workshop described in *Discipline and Punish*—proceeds "according to individuation of private space; codification of 'correct' actions in relation to a strict timetable; routinization of activities according to a training schedule of increasing difficulty, followed by an examination to test abilities; and synchronization of individuals into a collective" (19).

However, a docile body is not solely formed through physical manipulation. As Shogan notes, there are two meanings of "discipline" in this context, one being the technologies and techniques used to train the athlete's body, and the other being a body of knowledge—a discipline. It is this second meaning of discipline that I am also concerned with in this chapter as it has to do with discourse. For Foucault, analyzing discourse was central to understanding how knowledge is formed. It is through discourse (as the building blocks of a discipline) that the perception17 of stability and continuity can be achieved in human sciences and social structures (Markula and Pringle, 2006, 29). Of course, as with most of Foucault's theories, power relations come into play, and he writes "there is no power relation without correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time power relations" (1979, 27). In interpreting this power-knowledge relationship, Shogan claims that "discourses of the discipline of high-performance sport provide the information that makes control of bodies possible. Through this control more knowledge is generated for coaches and scientists. This

17 Although Foucault makes it clear in *The Archaeology of Knowledge* that stability and continuity are only outward projections. Performing an archaeology of knowledge shows the many gaps, contradictions, and confusions in a work or discipline, and it is only discourse that smoothss over those inconsistencies.

is knowledge about the athlete—observed, measured, and recorded by experts—but it is also knowledge embodied by athletes who can, then, exercise power through skill" (11). So Shogan recognizes the importance of discourse in our perceptions and use of PETs, and disciplinary techniques are made possible first through disciplinary discourse.

Although there are numerous consequences of this kind of disciplinary power, one is that once a discipline (a body of knowledge that one studies and specializes in) is formed, its boundaries are guarded through power relations. Not just anyone can have a voice within a discipline. Foucault wrote "medical statements cannot come from anybody; their value, efficacy, even their therapeutic powers, and, generally speaking, their existence as medical statements cannot be dissociated from the statutorily defined person who has the right to make them, and to claim for them the power to overcome suffering and death" (51). Shogan expands on this by saying, "statements by doctors within the discourse of medicine are taken seriously as knowledge, statements by patients are taken less seriously, and statements by homeopaths are not countenanced at all" (12). When speaking of the health field, I do not disagree with Shogan in her evaluation. Perhaps it is because of the level of schooling and technical knowledge required to become a doctor or because of the intricate inner workings of the human body that are, for the most part, withheld from average sight (and, thus, remain mysterious) by a layer of skin to all those except a select few, but medical discourse is one area closely regulated by disciplinary boundaries. However, to equate the position that doctors hold in the medical field to the position that coaches or sports scientists hold in the sports field is a bit misleading. Shogan claims "by virtue of their expertise, coaches and sport scientists control the discourse of high-performance sport and

determine what is to count as legitimate talk or truth about sport discipline" (12-13). Perhaps Shogan is correct here if we are speaking narrowly about discourse on how to hone an athlete into an elite professional. Much of that process is governed by scientific data from the disciplines of sports science and health science and best practices established by experienced practitioners. However, to extend this claim beyond the bounds of strictly the training of elite athletes to encompass discourse about sport in general would be a mistake. As we saw in Chapter 2, many voices—such as sport writers/commentators, fans, athletes, administrators, sport governing bodies, and even congressional members—comprise the discourse around sports competition and PETs more specifically. For instance, rules committees that are part of sport governing bodies are primarily the ones that decide what PETs will and will not be incorporated into the fabric of the game at a professional level. Those committee members are often made up of administrators that have limited or no experience actually coaching or training elite athletes, and their decisions evolve out of discussions concerned with far more than simply scientific data or best practices, such as what the product will look like on television, what the fans want and what will generate more viewership, corporate endorsements and sponsorship, safety issues, player unions and ownership interests, and a cadre of other concerns and stakeholders. These discussions are informed by coaches and sports scientists, but also just as much by athletes, fans, corporations, sports commentators, and other interested parties. One cannot say that any or all of these other voices are considered valid within the context of the sport-science discipline or even using the language of a discipline. Of course, you could argue that there are many voices that speak about a discipline from outside the

legitimized interior. Shogan mentions one when she cites homeopaths, and we could add a whole host of voices that include family members of sick individuals, social commentators, insurance corporations, and others. But whereas the inner workings of the human body are restricted from view accept by an elite few, many can watch a sport and make judgements about the competition or result. Millions of people participate in sports from a young age and/or watch sports religiously every week. There is a sense of knowledge, a sense of ownership that comes with sporting knowledge that does not exist with health knowledge[18]. And although these voices may not be considered "experts" from within the sports-science discipline, they are, nonetheless, contributing to the discourse that shapes our perceptions about sport. Whereas few question the expertise of an experienced doctor, every single disgruntled sports fan will question the expertise of the team coach.

The other problem with looking through the lens of an established discipline is that there is often a sense that those within the discipline are diviners of "truth." Shogan echos this when she says "coaches and sport scientists control the discourse of high-performance sport and determine what is to count as *legitimate talk or truth* about sport discipline" (12-13). Again, this may be true when it comes to determining what fits within the classification of sports discipline, but the use of the word "truth" implies a value-free divination that simply does not exist. Here we see echoes of what Harraway calls the culture of no culture; it is a fetishism of sport science, and those within the borders of a discipline often suffer from this sort of fetishism. Shogan also claims, "when legitimate speakers of a discourse communicate their knowledge and this knowledge is taken seriously by participants in the

18 It is worth noting that sports are intended to be viewed widely, whereas medicine is not.

discourse, what they say is also understood to be true. In producing knowledge, power produces truth" (12). By saying later that coaches and sports scientists control the discourse of high-performance sport, Shogan is claiming that only coaches and sports scientists shape what we perceive to be true about sport, but that simply is not true.

Here it would be useful to draw a distinction between Shogan's purpose and my own. As evidenced by the title of her book, *The Making of High-Performance Athletes*, Shogan is speaking from within the discipline that is concerned with how to train and create athletes. We can call it the sports-science discipline, and as she claims, sports scientists and coaches form the core of those accredited to speak from within this discipline. However, as I have attempted to show, the discourse of sports expand well beyond this narrow discipline. My own purpose is more clearly articulated as an analysis of the discourse around sports competition than strictly the sports athlete. To frame this perspective, I will turn to Hawhee's discussion of the *agôn* in the opening chapter of *Bodily Arts*. Hawhee claims that in ancient Greek culture, the importance of the *agôn* cannot be overemphasized. Translated as a "gathering" or "assembly," the *agôn* was the place where a struggle or contest took place. This is differentiated from the *athlios*, which is the term the Greeks used for the actual outcome-driven competition. We could characterize Shogan's approach more in line (although not precisely) with *athlios*. The Olympic Games as a whole are the exemplar for agonism, with its gathering of athletes, judges, and spectators. Hawhee argues that agonism is tied inextricably to *aretê*, "a kind of virtuousness that in its own way drove agonistic encounters, as Greeks sought after the esteem of others through competitive engagement and display of their abilities" (ch. 1). Hawhee goes on to

characterize *aretê* as "virtuosity," instead of its more traditional description as having to do with "virtue." *Aretê* requires onlookers, an audience that can confirm the virtuosity of the performance. Thus, *aretê* is linked to agonism since the *agôn* presents the athlete with an appropriate time and place to achieve *aretê.* To put it into terms I developed in Chapter 2, the *agôn* is the place where *sport in the making* occurs, where all of the various forces at work in a sports competition come together and allow an opportunity for an athlete to achieve virtuosity. However, the *agôn* does not end at the border between sport in the making and *ready made sport*. As Hawhee explains, "agonism denotes an encounter, the production of a response, and a subsequent change in both substances" (ch. 1). If the *agôn* is the place where athletes and onlookers meet, where an athletic event causes an interaction and change among all interested parties (i.e. coaches, athletes, fans, sport scientists, commentators, corporations, etc.), then that is where the sports discourse gets (re)negotiated and where sports myths flourish. For that reason, agonistic competition and training is the primary discursive-material context for my analysis.

Discourses are one of the building blocks of a discipline. They occur at a more basic level, one that is more accepting of various voices. Foucault uses the term discourse in several different ways and suggested that this varying use was not caused by imprecision but was a strength of the term because it shows the concept's complexity. Markula has a useful discussion of Foucault's three uses of discourse and how they can be viewed in a sports context. The first use refers to general statements that come together in specific social contexts to form meaning. For example, certain descriptions, which would be considered discourses, can be used to describe a soccer ball. That doesn't mean that a

tangible soccer ball does not exist, but without the discourse, we would not be able to recognize it as such. Foucault argues that "the objects of discourse (e.g. soccer) and the discourse that constitute those objects (e.g. discourses of soccer) emerge at the same time" (30). The second use of discourse refers to "an individualisable group of statements or to statements that refer to the same phenomenon" (30). In this case, we would be talking about all the discourses that make up soccer. Far from being unified, these discourses can reflect a wide range of cultural, social, and practical perspectives (e.g. the way we perceive soccer in the US is different from the way they view soccer in the UK), but they work to distinguish soccer from everything else (e.g. it is soccer, not American football or hockey). Foucault's third use of the term discourse is defined as a "'regulated practice that accounts for a certain number of statements.' By this usage he is referring to the unwritten 'rules' that guide social practices and help to produce and regulate the production of statements" (Foucault, qtd in Markula, 31).

It is this third use of discourse that is most relevant to my current analysis as I will attempt to show how the unwritten rules are interwoven with myths. We can draw a lot of parallels between Foucault's use of discourse here and the use of 'social language' that I developed in Chapter 2. We can consider both of them as a way to describe the medium of exchange for conversations within individualized spheres. Although they are not exactly the same, in the context that I'm using them, Foucault's third definition of discourse and my development of social language could be used interchangeably. However, I prefer using social language because it more effectively implies an enacted experience. Since it is 'social,' it conveys a dialogical interplay; it shifts with the crowd. A discourse, like a canon, can

seem fixed, as if it were determined by committee and is now immovable. Of course, that clearly is not how Foucault would interpret the term since discourse, according to him, is situated in a particular moment and context. Still, the term often has that connotation. And using social language helps to avoid confusion between Foucault's differing definitions of discourse.

In either case, if a speaker wishes to converse about a particular subject, he should be fluent in the social language in order gain entrance into the dialogue. The discourses, spoken through the social language, can become codified into a discipline by those credentialed to do so, but unlike a rarified discipline, anyone can speak into the discourse as long as they use the proper social language. You don't need to be credentialed. There is no way to control the discourse, at least not in regards to barring someone from entering it. Instead, effective use of the shared social language works as the key to open the door to the discussion. When speaking of disciplinary power, Shogan says, "within any discourse only certain statements are possible because they and not others are prescribed by the rules of the discourse," and although I disagree with Shogan's later statements that coaches and sports scientists control the discourse, I agree with her here as long as we acknowledge that the "rules of the discourse" is another way of describing the social language.

Of Piety and Terministic Screens

As we have seen, disciplinary power is created both through practices and through discourse, but the discourses within particular spheres and contexts is what allows us to understand the practices. Discourse, or social language, is the undercurrent of a discipline, and as we saw in Chapter 2, a social language is highly associative. Sports are associated with the 'natural' and the 'normal' despite the fact that modern sports are neither natural nor normal. However, I would argue that to think of these relationships as merely associative is to underestimate their strength and endurance. Simple associations can be made and broken routinely. For example, if I have a bad experience with a particular food, say a bout of food poisoning, just the smell of the food in the near future can cause my stomach to tighten. But given enough time, will power, or an equally positive interaction with that same food, and the association is broken. The idealized relationship between sport and nature—in that sports are expressed as pure only when they are perceived as natural—is not an association that can be easily changed. It is embedded deep within our social psyche, and it affects our perceptions of all things sports related in ways that are both subtle and profound. A more effective way to view this relationship than mere association is to consider Burke's use of the term 'piety.' Breaking the term out of its usual religious connotation, Burke describes piety as "the sense of what properly goes with what" (1954, 74). And although these connections are clearly associative, Burke uses the word 'linkage,' which I feel better expresses the deep emotional and formative connection between the paired perceptions. Burke spends time showing that pious linkages do not follow what we might consider typical logic; they follow a logic all their own, governed by the social language. In describing this relationship, Burke states, "if a man who is a criminal

lets the criminal trait in him serve as the informing aspect of his character, piously taking unto him all other traits and habits that he feels should go with his criminality, the criminal deterioration which the moralist with another point of view might discover in him is the very opposite of deterioration as regards to the tests of piety" (77). Thinking in terms of Burke's piety offers some justification why the connection between sport and nature, which when exposed appears blatantly illogical, can have such deep roots in the social language. These are linkages that one unknowingly adopts when taking up a social language and entering a conversation within a particular sphere, and Burke believes that it takes an act of will to adopt a deliberately impious perspective (72). In a sense, piety is the default position, and you must break with the social language and its piety in order to challenge the logic of it.

More than just linking two ideas together, Burke claims that a pious linkage creates an associative chain that builds perceptions. He says,

> It leads to construction in this way: If there is an altar, it is pious of a man to perform some ritual act whereby he may approach this altar with clean hands. A kind of symbolic cleanliness goes with altars, a technique of symbolic cleansing goes with cleanliness, a preparation of initiation goes with the technique of cleansing, the need of cleansing was based upon some feeling of taboo—and so on, until pious linkages may have brought all significant details of the day into coordination, relating them integrally with one another by a complex interpretative network (75).

So one association leads to the next which leads to the next, eventually creating a world view. We could show a similar construction using a PET example. For instance, we can say *the human body is natural. Since sport involves natural bodies challenging themselves for supremacy, the spirit of which is as natural as human nature, anything that makes the body*

unnatural taints both the human and the sport. A technology (which by definition is unnatural) that alters the natural human body must therefore be considered both unnatural and unfair. A PET such as an anabolic steroid, which clearly alters the body, is thus an unfair advantage and contrary to the spirit of sport. This type of advantage needs to be regulated out of sports and marked as a plight on society. There are many flaws in this statement's logic, not the least of which being that modern sports are anything but natural and that technology is not contrary to the spirit of sport (in fact, it is often through technology that sport is made possible), but the pious linkages abide by their own logic. According to Hawhee when discussing Burke's use of the term piety, "in other words, practices lead to habits that lead to more associative practices; over time the accumulation of associations produces a radically transformed yet finely tuned piety. Thus the body is where something like beliefs and even morals are formed" (2009, 70). As habits lead to practices that then in turn reinforce the pious linkages, Burke claims that "they drive one into ruts, and these ruts in turn reinforce one's piety," which leads to a sort of deep conviction (78).

The metaphor of deep ruts is useful for imagining another aspect of these pious linkages. If you imagine a rut deep enough for an entire body to fit in from head to toe, you can start to picture how limiting such a rut would be. You are limited in not only where you can go (i.e. straight ahead or straight back, but only along the path that the rut has laid out), but also in what you can perceive. Nearly everything outside the rut would be obscured from view. Foucault claims that a discourse (the third meaning of discourse) operates in a similar way. Markula summarizes Foucault's definition by stating, "he is referring to the unwritten 'rules' that guide social practices and help to produce and regulate the

production of statements that, correspondingly, control what can be understood and perceived but at the same time, act to obscure" (31). Markula then goes on to provide a sporting example that illustrates this obscuring, citing how in some countries the discourse surrounding soccer is decidedly masculiniste and works to "limit recognition that females may enjoy or even participate in the sport." At the same time, in other countries, such as New Zealand, the soccer discourse positions it as a game for "foreigners, gentle males, or as a girl's sport," instead positioning masculinity in the aggression and physicality of a sport such as rugby[19]. The social language in the given context (i.e. sporting discourse within particular nationalities, in this circumstance) works to shape perceptions not only by showing what properly goes with what, but also by obscuring and excluding other possibilities. In some sense, the second part of this equation is reminiscent of another of Burke's theories: *terministic screens*. In *Language as Symbolic Action*, Burke claims that, "even if any given terminology is a reflection of reality, by its very nature as a terminology it must be a *selection* of reality; and to this extent it must function also as a *deflection* of reality" (1341). He goes on to use the example of a man who reports his dream to a Freudian, Jungian, or an Alderian therapist; although in each case he would relate the same dream, how it is perceived is based on the discourse that the therapist is immersed in. Burke comments, rather slyly, that, "it is commonplace that patients soon learn to have the kind of dreams best suited to the terms favored by their analysts." The patients in this

19 Of course, social language is constantly shifting as the sporting discourse expands and evolves, and significant world happenings (often in the form of major sporting events) can have particularly significant impact on the current social language. Take, for example, the 2015 Women's FIFA World Cup, where there was significant discourse arguing that the female competitors were tougher than their professional male counterparts.

example could be said to develop pious linkages as a result of the terministic screens that the therapists are using. It is not simply a matter of reporting a dream in a particular way; the patient develops a deep conviction that this *is* what was in the dream.

From Disciplinary Rhetorics to Disciplinary Mythologies: The Case of Spira Shoes

Terministic screen is a useful concept as it highlights the role language plays in both shaping and obscuring perception, and when combined with piety, we can see how disciplinary discourse leads to deep conviction; however, my attempt to merge disciplinary power, discourse, social language, piety, and terministic screens requires a conceptual framework that highlights the formative relationship between our language and perceptions but at the same time shows how these beliefs are often formed far from the critical gaze and unbeknownst to the individual engaged in the social language. Scott's development of the term *disciplinary rhetoric* is a good place to begin. In *Risky Rhetoric*, Scott counters the trend in rhetorical theory to view subjects as simply the encoders and decoders of discourse by shifting focus to how subjects are "constituted and shaped through language" (7). He uses disciplinary rhetoric to highlight this shift, and he defines the term as "discursive bodies of persuasion that work with extrarhetorical actors to shape subjects and to work on and through bodies. They are defined relationally and measured by their symbolic and material effects. In using the word 'disciplinary,' I call attention to the ways rhetorical frames and appeals help condition, interact with, and are conditioned by other cultural practices that produce subject-related effects" (7-8). My intent in this project

has never been to conduct a close reading of individual texts to determine their rhetorical tactics, which is more in line with a traditional rhetorical analysis. As I have attempted to show, our perceptions about PETs run deeper than that. They are part of cultural networks and practices that transcend a strict analysis of the language used to describe them. The social language around PETs work with a range of other practices and actors; for instance, the physical manipulations of an athlete during the training process are (in)formed by the technologies in use, which in turn are shaped by the sport's rules, the sponsorship agreements between the athlete/team/sports governing body and corporations, and the medical health of the athlete. Although rhetorical analysis offers useful theories and analytical frames for unblackboxing PETs, it is Scott's 'hybrid' approach that combines rhetorical theory with cultural theory that I feel best accounts for the fusion of theories that I have attempted to develop thus far. According to Scott, disciplinary rhetorics "have relational agency, defying rhetorical determinism and its too simple claim that language constructs reality. Disciplinary rhetorics are always already part of larger cultural interfaces and power alignments" (33-34). It is clear to see that the discourse surrounding sports in general and PETs in particular have relational agency as the pious linkages extend far beyond the confines of the sports arena. As shown by the congressional committees on steroids, the hype that follows professional athletes, the billions of dollars that circulate professional and collegiate sports, and the sports scandals that have made the front pages of tabloid magazines, sports and their relationship with PETs are part of larger cultural interfaces and power alignments. More so than that, Scott's claim that "disciplinary rhetorics do more than simply represent or persuade subjects; they transform them,

shaping their self-perceptions, bodily practices, and material circumstances" rings true when it comes to the formative influence that social language—with its pious linkages and terministic screens—has on our perceptions and actions toward PETs.

In order to investigate how disciplinary rhetorics can aid in understanding PETs, let us consider the case of Spira running shoes. In 2001, Andy and David Krafsur, two brothers who quit their jobs as a lawyer and aerospace engineer, started a small athletic shoe company called Spira. Several years later, they released what would be become their primary offering in the industry—a running shoe that incorporated a proprietary mechanical spring design in the heal and sole of the shoe. The company's claim is that the spring design is intended to improve a runner's recovery time by decreasing the amount of physical stress felt by the body from each foot strike. The spring absorbs some of the strain, which allows the runner to feel less fatigued and help with soreness and recovery, especially during longer runs. Currently on Spira's website, they have linked a published research study conducted at the Northern Alberta Institute of Technology (Riess 2014) that tested whether a mechanical spring design would have any effect on a runner's economy, and the study found that runners using the mechanical spring design did have a lower oxygen consumption, indicating an improvement in running economy over traditional running shoes. The study goes on to claim that the results indicate a marathon runner could reduce her time by four minutes using a shoe with the mechanical spring design. So if a mechanical spring does improve an athlete's performance, what prevents all manufacturers from producing shoes with similar technology? This is where the controversy begins.

USA Track & Field, which is the governing body for most sanctioned running events in the US, has an extensive rule book that applies to any of its events. Rule 143.3 reads:

> A competitor may compete in bare feet or with footwear on one or both feet. The purpose of shoes for competition is to give protection and stability to the feet and a firm grip on the ground. Such shoes, however, must not be constructed so as to give the competitor any unfair additional assistance, including the incorporation of any technology which will give the wearer any unfair advantage, such as a spring or similar device.

The rules for the International Association of Athletics Federations, the international governing body for running events, reads the exact same way as the USATF except that in 2005 the IAAF rule was amended to remove the specific reference to springs and instead states that all shoe types must be approved for competition. Here we see where a document not intended for persuasive purposes (a rule book) has a tremendous impact on how we perceive technology in relation to sports. It uses both the phrases "unfair additional assistance" and "unfair advantage" without ever clarifying what it means by "unfair." The use of the word unfair implies an imbalance between competitors; one athlete has access to a technology that another athlete does not. However, the rule clearly is not about addressing an accessibility issue. Spira will sell its shoes to anyone, and they are not even any more expensive than any other high-end running shoe. This is not an issue of one athlete having access to a technology that another does not. Instead, this is an issue of the USATF concerned that technology is infringing too much in what is imagined as a purely human endeavor. The phrase "unfair additional assistance" is telling in this regard. The unfairness comes when the technology provides assistance beyond what is considered "natural." The fact that the USATF rule indicates springs specifically presupposes that a

spring by its very essence is both unfair and provides an advantage. The other issue with the rule's wording is that it declares a running shoe's only acceptable purpose is to provide protection, stability, and grip. However, if that was the real purpose behind a competitive shoe, why even have an industry for athletic sneakers? A pair of walking boots could provide just as much protection, stability, and grip as any running shoe. The fact is that running shoes have seen tremendous technological development over the last 30 years, and shoe companies are constantly attempting to provide a more technologically advanced shoe that will reduce running times. The goal is not just protection; it is to impact performance. They even incorporate spring-like technologies into the heal; they have just done it though means other than actual springs up to this point (e.g. cushioned heels of various designs and materials that provide spring and impact absorption—I personally own a pair of competition running shoes with a carbon fiber "shank" that is supposed to add more forward spring to the runner). All running shoes are intended to affect performance, but the language of the rule implies that the shoe (and technology by extension) must somehow remain a non-factor in the race results.

Although Spira lobbied to have the USATF rule amended, it remains the same[20]. This prompted Spira to launch its "Banned for Boston" ad campaign before the 2006 Boston Marathon, offering a $1 million award for anyone who could win the marathon while wearing a pair of the "outlawed" shoes. The campaign brought Spira a lot of attention, and they were featured on ABC, NBC, and Fox News networks at the time. Several runners even competed in the marathon wearing the bright yellow Spira shoes. To date, no first-

20 The 2014/2015 USATF rule 143.3 reads the exact same way, and the organization has made no claim that they have any intention of altering its wording.

place finisher in any USATF or IAAF race has been disqualified for wearing Spira shoes, and the USATF has claimed numerous times that the Spira shoes are not actually banned. However, Andy Krafsur, who was a lawyer before starting Spira, has stated in numerous interviews that it does not matter what the USATF claims publicly; the rule itself bans any use of a spring since it specifically mentions springs as a technology that provides an unfair advantage. Krafsur believes that anyone who finishes second to someone wearing a pair of Spiras would have legal grounds for winning a lawsuit based on how the rule is phrased.

Reactions to the "Banned in Boston" campaign were mixed. On the one hand, sales of Spira shoes jumped immediately after the marathon, from a typical 300 orders per day to 5,700 immediately after the race (Mrkvicka, 2007). The company's website received an average of 150,000 hits per day during the weeks following, up from an average of 20 visitors per day beforehand. Clearly, much of this attention can be attributed to the national media coverage the company received as a result of the marketing campaign, but just the novelty of a spring in the shoe does not seem like enough to generate such a large spike in the sales. As I have said, numerous other companies have spring-like running shoes, including Nike's Shox launched in 2000. It would seem that the "Banned in Boston" slogan along with its corresponding tagline, "Ban Me! If you can catch me" was effective because it lends credibility to the performance-enhancing claim of the shoe. If consumers believe the shoe has been banned, they will feel it must have been banned for a reason (even though it was not officially banned at all). The implied reason why any sneaker (or equipment or substance) is banned is that there is clear evidence that it provides a performance enhancement significant enough to be considered unfair. Many runners were drawn to the

sneaker for exactly the kind of performance enhancement that the "banned" slogan promises. This is especially true for amateur and casual runners since society does not hold them accountable to the same standards of fair play that it does for professional athletes. As for professional runners, the threat early on of being disqualified for wearing Spiras was something that had to be considered, and many top-tier runners already had endorsement contracts with rival shoe companies. Nonetheless, several runners were seen leading the 2006 Boston Marathon early on while wearing Spiras (they faded later in the race), and as the specter of disqualification lessened in the coming years as USATF demonstrated that they clearly had no intention of disqualifying anyone for wearing the shoe, more professional runners adopted the Spira sneaker. In the 2008 Olympic marathon, at least three international runners used Spira to compete. On their website, Spira claims that over 200 races have been won with their footwear.

Whether professional or amateur, Spira convert or not, the shoe technology and Spira's ad campaign altered the way many runners approached training and competition. "Energy transfer" and its effect on minimizing fatigue and improving performance became a more prominent consideration. The trend in competition footwear over the last few decades was toward more minimalist shoes—lighter and more breathable was where it was going. And although shoe weight and breathability are still important factors, many runners are now looking for a shoe that also reduces the concussive forces felt by the muscles during a race. As demonstrated by the Riess study, "running economy" has become an issue that runners now monitor and attempt to improve on through training and technology.

Although Spira saw a jump in its sales after the Banned in Boston marketing, not everyone was receptive to the campaign. Many long-time runners disapproved of what they saw as a blatant disregard for the rules. Others railed against the performance-enhancing qualities. In an article published by ESPN, Steve Vaitones, a referee for the Boston Marathon in 2006, remarked that Spiras were clearly performance enhancers because "if you recover faster that means you can run more easily, which means that over time you can run faster and farther. Steroids don't allow you to see the baseball better, but if you hit it, it might go 20 to 30 feet more, which could be the difference between a home run and an out" (Rovell, 2005). Vaitones's comments are representative of the kind of technophobia so prevalent in discourse about PETs. It fears the emerging technology as an encroachment on what is otherwise considered pure or natural; however, in order to accomplish this argument, a 'forgetting' must take place of the role that current technology already plays in the sport, technologies that have already been accepted—blackboxed—and can therefore become transparent. Vaitones's first statement about Spiras allowing a runner to recover faster, which in turn allows him to run faster and farther, could be applied to a number of technologies. What is Gatorade if not a way for an athlete to recover faster in order to perform better? One could argue that Gatorade[21] only replaces what the body naturally loses during competition, but the fact remains that the effect of competition on the body is part of competition. No sporting event attempts to only measure the athlete at peak performance; it measures the athlete throughout the course of the event, and athletes are praised or critiqued based in part on how their body is able to respond after

21 Gatorade's own advertising over the years does not position the product as *merely* a way to recover what the body has lost.

extensive physical exertion. Gatorade is a technological mediator for this process of loss and replenishment, and the sport social language allows a certain level of technological mediation in this process[22]. A pair of running shoes that reduce the amount of impact, and therefore fatigue, that the body feels could be said to be fulfilling a similar role. Gatorade helps a runner recover faster, and so do Spiras (if the company's claims are believed). The same could be said for compression fabrics, which have been widely accepted within running culture and have been shown to improve blood flow, reduce vibrations, and, as a result, reduce fatigue. And to a lesser degree, the same argument could be made for moisture-wicking materials.

The discourse embedded in the Vaitones quote exemplifies a dividing practice, one of the three modes of objectification that Foucault argues are part of knowledge creation. It separates what is considered acceptable or 'normal' technological intrusions in sport from what could be called 'abnormal.' In other words, 'normal/natural' and 'abnormal' are mapped onto 'fair' and 'unfair.' Foucault claims that dividing practices are established primarily through the workings of discourse and the related development of institutions (e.g. prisons or asylums to separate criminals or the mentally insane from normal citizens). As I have attempted to demonstrate throughout this chapter, the discourse part of the equation is fairly clear here, and although we cannot point to a traditional "institution" (government sanctioned) as part of this sport discourse, there are definitely corporate institutions at work. When it comes to sports technology and equipment, no other company has the global domination that Nike has, and Nike has a significant role (even if that role is

22 If science were able to prevent athletes from losing electrolytes at all, I'm sure this would be seen as an unacceptable PET, at least at first.

passive) in creating the knowledge-power that shapes perceptions about PETs. In the specific example of Spira, Krafsur has claimed in numerous interviews that Nike's relationship with the USATF has contributed to the organization's refusal to change the language in the sneaker regulation. It is hard to deny the close relationship between Nike and the USATF. Nike is the official apparel sponsor of the USATF, and the former CEO of the USATF, Craig Masback, who ran the organization when Spira originally attempted to get the rule changed and during the 'Banned in Boston' campaign, eventually resigned from his job to take a position as Director of Business Affairs at Nike (Johnson, 2008). Although Krafsur does not believe that Nike is actively attempting to block Spira (Spira is too small for Nike to take notice), he has claimed that, "Masback and his legions have been working to protect their main benefactor against any real or perceived threats […] those in the industry who depend on Nike and feel the need to protect them, like the USATF, are very concerned and threatened by us […] The same holds true for the big marathons and races and their directors who wish to protect their shoe sponsors and the USATF relationship" (Johnson 2008). We can only speculate how the Spira wave-spring technology would have been received if it was introduced by Nike instead of a small start-up company in El Paso, Texas, but we can get a hint by looking at Nike's Shox sneakers that were released several years before Spira was formed. In Nike's own literature, the Shox technology is described as "a revolution in cushioning and impact protection. Nike Shox technology provides an optimal environment for cushioning, a slower rate of impact loading (helping reduce the risk of impact-related injuries) and a uniquely responsive feel. The highly resilient foam in Nike Shox columns is made of energy-efficient material that enhances durability and spring […]

The springs in the Nike Shox are specially patented, hollowed-out columns." It is interesting that even though the Shox sneakers do not use a traditional metal spring like the Spiras use, the columns are still referred to as 'springs' in the Nike literature, both in how the column is termed and the effects that it provides. Despite the fact that Shox are described similarly to the Spiras in both the technology used and the intended benefits (reducing impact-related injuries, energy efficiency, etc.), the Shox received none of the controversy that the Spiras received. Of course, much of the controversy was of Spira's own making with the 'Banned in Boston' campaign, but you have to wonder if the USATF would have been more willing to adjust the language of the sneaker rule if Nike had been the one requesting the change. Would Vaitones have made the same performance-enhancement claims against the Nike Shox that he did against the Spira shoes? At the very least, it is clear that Nike plays a significant role in the knowledge-power that generates discourse about PETs in sports, especially when it comes to sporting equipment.

Another way Vaitones's quote demonstrates a dividing practice is that it uses discourse that groups together technologies that are considered highly objectionable. We see this in the second half of the quote where he implies a connection between the Spira technology and steroid use. Although he is not saying that the Spira sneakers are the same as steroid use, by placing the two technologies next to each other, he is making a case against Spiras by drawing on the same narratives that shape arguments about PEDs. Interestingly, the ESPN article where Vaitones's quote appears uses the tagline "Juiced shoes" to promote the story, clearly drawing on the same discourse used in conversations about PEDs. In fact, many of the arguments about PETs are built on previous narratives,

oftentimes where the link between narratives is specious. The link between a spring inserted in a shoe and a performance-enhancing drug is tenuous at best. And yet, the sport social language is one that routinely draws on past narratives to build current arguments. The sports world is an industry fixated on story-telling, and the stories are central to the creation of power-knowledge. The retelling of a sports event is never strictly about the results or statistics; it is about narratives of heroes and villains, about overcoming incredible odds or crumbling in the face of adversity, about human excellence or human frailty. Latour remarks that science discourse generates narratives in a similar vein—legendary figures in science. These narratives build on one another, layer upon layer, and any new sporting event is measured by the narratives of the past. Is this championship team better than the 1986 champions? Is he the best in the sport today, or is he the best in the sport ever?

Up to this point, analyzing the discourse of sports technology through the lens of disciplinary rhetoric has been effective at showing how the discourse "compel[s] the classification, measurement, and management of subjects" (Scott, 34). However, although disciplinary rhetoric or disciplinary power (or even Foucault's archaeological methodology) could be used to analyze the layering narratives so prominent in sporting discourse, neither of those terms place the focus squarely on how the entwining of new narratives with older discourses affect the way we perceive and internalize the new narrative. To accomplish this shift in focus, I want to develop a new term: *disciplinary mythology*.

I am using "disciplinary" in the same Foucauldian sense as we see with disciplinary power and disciplinary rhetoric. With "mythologies," let me first be clear that I am not using the word in the sense of true or false. I am not making any judgments about the correctness or legitimacy of a claim or discourse by saying that it is a 'myth,' but I will say that mythologies generally idealize. Instead, I am drawing on two primary senses of the word. First, as suggested in de Certeau, myths mark out boundaries and are formed by a layering of stories on top of each other. He claims, "these 'operations of making out boundaries,' consisting in narrative contracts and compilations of stories, are composed of fragments drawn from earlier stories and fitted together in makeshift fashion (bricoles). In this sense, they shed light on the formation of myths, since they also have the function of founding and articulating spaces" (122-23). The narrative, always already present in the discourse, is what is important here, and as new narratives are formed, pieces of the discursive mythology are used to attach significance to the new story. But this is more than simply a comparing of old and new narratives. Mythologies that look back do not just provide a context for understanding the present; they shape how we perceive the present. Take, for example, the Vaitones quote. By juxtaposing his claim about the performance-enhancing aspects of Spira with a statement about steroid use in professional baseball, he is drawing on the narratives that present PETs in a controversial and potentially illegal light. At the very least, it implies that Spiras are contrary to fair play and the "spirit of the game." At its most basic level, this is a clear guilt-by-association fallacy, but to reduce this claim to a simple example of poor logical reasoning would be to underestimate the mythological discourse surrounding PETs, especially the use of PEDs in baseball. Myths are

formative—like terministic screens, they direct and deflect possibilities—but they also are elusive. Here I draw on another sense of the term developed by Roland Barthes in *Mythologies*. Although they shape our perceptions, myths often remain unacknowledged and unexamined. In this sense, they are similar to black boxes that have been closed. All we care about is the input and output; the inside remains unseen. We assume that they are a solid and reliable foundation, but as Latour would argue, this is a house of cards. In this context, I use the term disciplinary mythologies to describe a disciplinary rhetoric that shapes through entwined narratives an idealized kind of knowing. They map the way things are onto the way we want things to be based on the values embedded in our shared social language. Like disciplinary rhetorics, these mythologies transform subjects by shaping perceptions, actions, and circumstances.

In the next chapter, I will focus more specifically on how disciplinary mythologies effect our arguments about PETs by exploring the specific example of LZR swimsuits during the years surrounding the 2008 Beijing Olympics. I will show how mythologies are what allow us to create a term like "technological doping," and I will explore two specific types of disciplinary mythologies that are particularly prevalent in the PETs social language: The Nostalgia Enthymeme and The Level-Playing-Field Topos.

CHAPTER 4

What Does the Posthuman Wear to the Pool?: A Case Study for Disciplinary Mythologies

In early 2008, Speedo released a new line of swimsuits aimed at the competitive athlete and called them LZR (pronounced “Laser”) Racer Suits. Over the next two years, as world records fell left and right to swimmers wearing the new generation of swimsuits, controversy over the role of technology in swimming steadily increased, eventually leading FINA, the international regulatory body for swimming, to ban the LZR and other such swimsuits from international competition at the start of the 2010 competition season. In the process, discourse that condemned the swimsuit grew in intensity. This two-year period marks an interesting case study for disciplinary mythologies in sports as swimming, a sport that historically has remained somewhat sheltered from controversial conversations about PETs, wrestled with how to define the human in light of this effective performance-enhancing technology. This chapter aims to examine discourse surrounding the LZR swimsuit in order to explore the significance of disciplinary mythologies in shaping our beliefs about PETs. First, I will show how the main opposition to the LZR technology, which often took the form of discourse claiming that the suits were “technological doping,” stem from a disciplinary mythology entrenched in other doping discourse. From there I will then examine two other forms that disciplinary mythologies often take, what I am calling the level-playing-field topos and the nostalgia enthymeme.

The LZR was an advancement from Speedo’s previous generation of competitive swimming suit, the Fastskin bodysuit, that was released in 1999 and

marketed as a significant evolution in competitive swimwear. When introduced, the Fastskin altered the way swimmers viewed the purpose behind a swimsuit. Far from the minimalist swimsuits seen during the 1980s and 1990s (including the Fastskin's predecessor, the Speedo Aquablade) that merely (and barely) covered sexual organs, the Fastskin—with its neck to knee coverage and compression-material construction—claimed to offer a competitive advantage over all other swimsuits available at the time. In her chapter titled "Enhancing the body from without: Artificial skins and other prosthetics" (2009), Magdalinski examined the arguments made about the Fastskin and the early reception of the LZR. She cites how in both cases, the technology sparked concerns "about the body, the level playing field and the integrity of sport that dominated public discussion of elite performance sport throughout the 1990s. In short, there was confusion about which side of the nature/artifice binary this 'device' should reside" (112). Magdalinski claims that much of the discussion revolved around the 'fairness' of the swimsuit, generally concerning issues of accessibility (i.e. one athlete having access to the suit while others did not). Not long after the Fastskin's initial release in late 1999, USA Swimming banned the suit from the 2000 National Trials while citing "fairness to all participants." However, athletes were eager to gain any racing advantage, and the Fastskin soon became a mainstay in competitive races. When the LZR was released in 2008, "the primary concern about fairness again focused on the 'level playing field' in terms of access" (113). This time around, the main issue seemed to center on athletes who were prohibited from obtaining the suit because of exclusive apparel contracts with other manufacturers, but this issue faded quickly as coaches urged athletes to forgo the money in favor of the gold medal. By the time the

2008 Beijing Olympics began, nearly every competing swimmer was wearing the LZR swimsuit. Magdalinski claims that “few have questioned the broader relationship between sport and technology and what it may signify within the context of Fastskin […] Despite isolated efforts to link Fastskin technology with performance enhancing drugs, the fundamental concept of the suits has not been interrogated in the same way that chemical or hormonal manipulation regularly is” (113-14). However, as I will show, Magdalinski was making this claim before swimming records started falling and the clamor of “technological doping” grew to its peak.

Technologically, the LZR was released and developed in conjunction with a cadre of engineering and scientific testing firms including NASA, who ran the various suit components through wind tunnels to test drag and fluid dynamics. The resulting LZR suit was a giant leap forward in swimming technology even beyond its Fastskin predecessor. Among its various innovations, the suit did away with traditional seams and used an “ultrasonic welding” process to merge the materials together, thus reducing the drag caused by stitched seams. It used compression technologies in key areas of the body, which accomplished several goals: 1) It compressed the swimmer’s body into a more streamlined positions; 2) Muscles that are compressed have more efficient oxygen flow, which causes less fatigue and pain; 3) The compression reduces muscle vibration in the water.

When it came to improving race times, the LZR suit was an unprecedented success. Within the first week of its launch, three world records were broken using the suit. At the 2008 Beijing Olympics, 94 percent of all races won were from athletes wearing the LZR, including the winner of every men’s event (“Time’s Best”). More

interestingly, 23 out of 25 world records broken during the Olympics came in the LZR (Paxman).

As a result of the LZR's success, other manufacturers raced to catch up with the technology, releasing suits soon after that used 100 percent polyurethane (the LZR is 50 percent polyurethane and 50 percent woven elastane-nylon) and incorporated strategically placed textured panels (similar to shark's skin or riblets for yachts) to reduce viscous drag (Smith). In the following 2009 World Aquatics Championships, another 43 records were broken. By the time new restrictions were placed on swimsuits (effectively eliminating the LZR and similar suits from competition), only two world records remained out of 90 possible from the pre-2008 technological innovations.

Even though FINA decided early on not to rule against the LZR suits, the influx of broken world records perpetuated by the new technologies (especially the 100 percent polyurethane suits) garnered a lot of criticism within the swimming community. One of the most outspoken critics was British swimmer Rebecca Adlington, who won gold medals wearing the LZR suit during the 2008 Beijing Olympics. In a *New York Times* article that printed just as FINA had voted to ban the suits, Adlington is quoted as saying, "I would never in a million years take a drug to help me, so why would I wear a suit just to improve my performance?" ("Swimming Bans). Here Adlington makes clear reference to the "technological doping" discourse by explicitly comparing the LZR suits to a PED. The underlying claim is that performance enhancement—no matter what form it takes—runs contrary to the sporting ethos. Similarly, Dave Salo, who coached American swimmer Rebecca Soni, argued that the suits devalued athleticism, saying, "A lot of kids who aren't in very good shape can put on one of these suits and be

streamlined like seals" (Swimming Bans). In this way, the suits were viewed to be a type of shortcut, something that less developed athletes could use to pull even with competitors that have spent more time honing their physique and technique. Due in large part to arguments such as these, FINA abruptly reversed its early ruling and changed the regulations for the start of 2010. At that time, the regulating body ruled that suits could no longer be the full body-length type, that the fabric must be a "textile" or woven material, and that there couldn't be any textured surfaces other than what was necessary for normal construction. Many predicted that the records set during the LZR era would stand for decades without being challenged; however, nine world records were broken during the 2012 London Olympics alone, and as of June 2015, 53 world records have been broken at least once (multiple times in some cases) in world competition after the restrictions that banned LZR and similar suits. That is approximately 58% of the total world swimming records that have been broken since the end of 200923. Although it does not approach the onslaught of new records that were recorded during 2008-2009, the number of records that have fallen since the ban have surprised most critics who thought that the times set by the LZR technology would be nearly impossible to reproduce without the suits. According to FINA executive director Cornel Mar-cul-es-cu, "This demonstrates that at the end of the day it's the quality of the athletes and the preparation" (Dampf).

The LZR is an interesting case study for several reasons. First, not only did the

23 As of June 2015, one record (set in 2001) remains from before the introduction of the LZR technology. All other records were either set during the 2008-2010 LZR period or have been broken since then.

technology have a dramatic effect on the sport, but it also came in a sport, swimming, that on the surface has remained rather sheltered from the "technology in sports" debate. As far as competition goes,[24] all that's needed is a swimsuit, goggles, and a body of water, and until 2008, the impact that the swimsuit had on race times was considered minimal. To a causal or unreflective observer, there are very few places where technology could exert itself, and for these reasons, swimming maintained a sense of "purity" in regards to its competitive essence. Perhaps only running or gymnastics could rival swimming as the height of human physical accomplishment, a perfect amalgam of physical conditioning, technique, and determination. Additionally, the LZR situation is a useful case study for disciplinary mythologies because of how concentrated the timeline is and how extreme the impact it had. The case is not unique; nearly all sports have had to struggle with the impact that an emerging technology has had on competition, but it is less common for one single technology to topple records as quickly as was seen with the LZR, and from a case-study standpoint, the concentrated timeline (only lasting two years) makes it easier to analyze the impact both before and after the rule change.

Writing before the LZR suits were banned, Magdalinski argues that the key reason why it received less opposition than performance-enhancing substances is precisely because the technology is only skin deep. She claims:

> Unlike performance enhancing substances, apparel or prosthetics provoke fewer concerns that the boundary between nature and artifice is being irreconcilably blurred. Whilst the ingestion of banned pharmaceuticals is thought to disrupt the purity of the athletic body, the application of technologies to its surface does not threaten the body's integrity in the

24 Of course, a lot more technology goes into the training process.

> same way. It would seem that the very externality of these devices confirms the discrete athletic body as legitimate and, above all, natural. In a sense, then, the purity of the body is ensured by the stability of its exterior border, the site where inside and out is established, where the body simultaneously begins and ends: its skin (110-11).

Essentially, Magdalinski's argument centers on the technology's non-permanence. An athlete can remove the suit and return to his 'normal,' 'unaltered' body, whereas performance-enhancement substances that are internalized physically will alter the body on a fundamental level (although perhaps only temporarily). Of course, to claim that a highly trained professional athlete is either normal or unaltered no matter what he is wearing is a clear example of a fetishism of sport discussed in chapter two, and Magdalinski acknowledges that she is referencing the view of technology and the human as expressed "in the popular mind" (112). Regardless, her observations about a technology's interiority/exteriority as an important dividing line between what is commonly accepted or rejected as a PET has merit, and as I will show later in this chapter, I believe it is tied to humanism's centrality in the sport social language.

However, clearly the story does not end there. Despite the fact that the LZR is external to the body, it was still banned at the end of the 2009 season. Additionally, there are numerous technologies—Spira Shoes, for example—that have been embroiled in controversy despite the fact that they are used externally to the body. Referring back to the diagrams in Chapter 2 (Fig. 6) will be useful here. The sport social language shapes our understanding of technologies, fairness, and naturalness. If a technology is not seen as being either unfair or unnatural, it enters the black box. As Latour describes, with a black box, only the input and output are of a concern; the inner

workings become invisible. When it comes to the fetishism of sports, only “pure” competition is allowed as the output. However, the LZR example requires an expansion of the above image. As Magdalinski claims, the LZR suits received only limited opposition to their use. There were some concerns about the fairness when its accessibility was in question, but once that issue was resolved in the minds of the users, the technology was accepted into the competition black box. The fact that nearly every competitor was wearing an LZR or similar suit at the 2008 Olympics demonstrates that point. The reason why the LZR was eventually banned was not on the input side of the equation; it was on the output. Too many records fell too quickly, and this exposed the black box. The real impact was not felt until the World Aquatics Championships the year following the Beijing Olympics, but it was clear at that point that technology was playing a role in the sport. Taking this into account, we need to redraw the diagram as (Fig. 7):

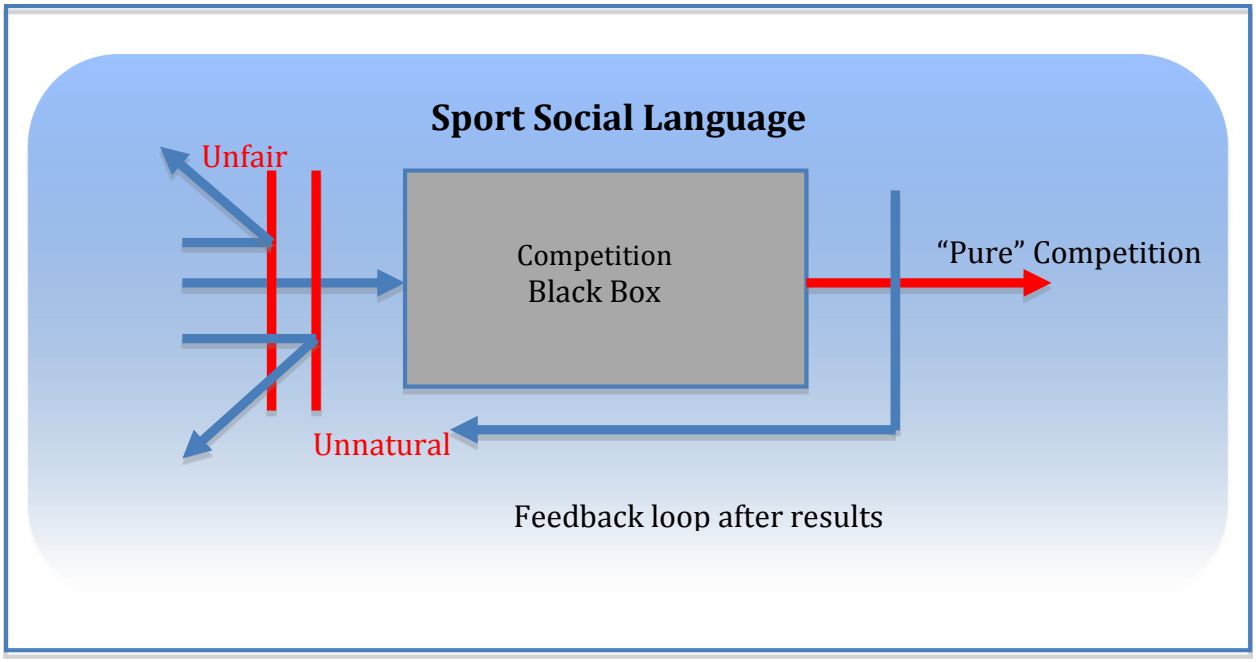

Figure 7: If the competition results are so extraordinary that audiences question the event's "purity," there is a feedback loop that reopens the black box and allows the technology to be re-examined.

Although a technology is able to enter the black box, meaning that the predominant discourse has not marked it as unfair and/or unnatural, once the competition happens, if the results appear too exceptional, it brings the technology back into focus, disrupting the perceived "purity" of the output. In this way, the technology becomes a rupture from the otherwise seamless purity narrative. Technology inserts itself, no longer invisible, and this causes a reevaluation of the unfair and unnatural filters on the input end.

During the 2008 Olympics, very little was said about the LZR suit other than to remark on its aesthetic and predominance. Most of the narrative involving technology and swimming was taken up by the Beijing "swimming cube," which was touted as the most advanced swimming facility in the world to date. However, when the records continued to tumble at the World Aquatics Championship in early 2009, it became

impossible to ignore the role of the LZR technology in the competition. If the results had been less dramatic, if the number of broken records had been more in keeping with past championships, it is likely that FINA would have stuck with its original decision not to ban the technology, but when the technology moves from the hazy background into focus, it forces open the black box and challenges the purity narrative.

Of course, the narrative about swimming as a pure and natural athletic endeavor is both ahistorical and humanistic. Magdalinski acknowledges this when she says

> The swimmer's body, increasingly exposed as the rules of modesty relaxed and the laws of physics were applied, visibly confirmed that the performance was untainted. Of course, the reality is certainly different as swimming has experienced extensive technological innovation. Through the development of, for example, low wash lane dividers, deep gutters that control turbulence, movable floors and bulkhead that adjust the depth and length of a pool, uniform recirculation of water, temperature regulation and air and lighting systems (Masters 2007), 'fast' pools are modified and adapted to ensure that the environment's impact on performance is negligible. Similarly, swimmers' bodies are technologically constructed as they are biomechanically, physiologically and psychologically analysed and modified to maximise their output. (112)

And Magdalinski is only referencing modern innovations to the sport. Swimming, like every other sport, has a long and intertwined history with technology. Human beings are not well suited for swimming. Our upright positioning and body shape do not translate well to moving horizontally through water in an efficient manner. For this reason, the development of the modern stroke has a long and progressive history. Early on, swim stroke was refined through observation, generally by observing how small social groups (often indigenous tribes) conducted themselves in the water effectively. Although we certainly could characterize this type of "scientific" observation as technological development, a more obvious use of technology came in 1928 when swimmers were

first filmed under water to study swim stroke (“Development”). Around the same time, the Japanese used photographs to study world-class athletes, and the Japanese swim team went on to dominate in the 1932 Olympic Games, winning nearly half of the gold and silver medals. Training regimens also underwent a technological revolution as techniques were borrowed from track coaches trying to help runners break the 4-minute mile. Closer to our current time, research into the forces acting on the body as it moves through water (hydrodynamics and fluid mechanics) has again caused swimmers to change swim stroke and training techniques.

As we see in the LZR example, the problem is not always with technology itself; the problem occurs when technology makes its presence known and shatters the “natural” narrative. The LZR suit launched itself onto the scene so dramatically—with world records falling left and right—that it was impossible to ignore the technological origins. But no one questioned technology’s role in swimming when swim coaches used digital equipment to dissect every minute detail of an athlete’s positioning or turned to scientists to unravel the hydrodynamics of a human body in water or used simulation technologies to test various strokes or turned to medical science to develop performance-enhancing diets and training regimens or any number of other points where technology fused with swimming. As long as technology remains invisible in competition, no one deems it excessive. Australian swimming star Libby Trickett commented that the new suits have “taken the limelight from people’s performances and that’s not right” (BBC), and in an article titled “Five reasons FINA needs to ban high-tech swimsuits,” Chris Chase lists as one of his reasons “Because this is what people are talking about.” The problem thus articulated is that there is a blurring going

on between where the athlete's accomplishments end and the technological implications begin, but if we reconfigure our viewpoint to one aligning with posthumanism, those two aspects are no longer distinct and needing of demarcation.

'Technological Doping' and Other Myths

Even before the 2008-2009 racing season, some commentators had christened the Speedo suits as "technological doping," but the condemnation intensified after the 2009 World Championships. This claim about the LZR and similar suits led to the charge that eventually resulted in the technology being banned from competitive swimming. The question is how does this represent a disciplinary mythology?

The first part of "mythology" as I am applying it here is that it consists of a layering of narratives that form boundaries. In this use, "doping" is a complex term that involves numerous discourses. Although the exact origins of the word are not fully known, it first appeared in an English dictionary in 1889 and referred to a mixed remedy including opium that was used to "dope" horses (Muller 2009). There are also connections to a stimulant used by the Zulu warriors during fights and religious ceremonies. By 1900, it also referred to the illegal drugging of race horses to either inhibit or enhance performance. So from its beginning, doping has had the connotation of coming from outside legal or ethical bounds. During the 1960s and 1970s, doping became intricately tied to anabolic steroid use, partly due to the stories of steroid use among Olympic athletes (especially eastern-bloc countries where it was feared government-backed steroid programs had been developed and encouraged) and also

because of the rise in prominence of bodybuilding competitions. Since the controversy in the 1990s about illegal substances in professional sports, doping has come to stand in for a variety of PEDs, including EPO and genetic modification (dubbed “blood doping” and “gene doping,” respectively). Not until the Speedo swimming suits did the term technological doping gain traction.

Clearly, technological doping draws more from the layers of connotation attached to doping than it does any resemblance to the original use. First, there is the obvious issue of the LZR not being a PED. Until “technological doping,” the term has always represented some sort of internal chemical reaction. Doping was done through ingesting or injecting, not from wearing. There is merit to Magdalinski’s argument about the internal/external discourse taking place, and until the LZR was banned, you could claim that the reason why the “technological doping” did not have any material effect on the competition rules is because of its exteriority; however, remaining outside the body clearly was not enough of a distinction. Additionally, whereas doping has historically referred to an illegal or unethical practice, the term technological doping was applied long before the swimsuits were banned. They were certainly legal (athletes could not hide the fact that they were wearing the suit), and except for a few rare exceptions, the swimming world had accepted the suits as long as everyone had sufficient access to them.

As discussed in Barthes, here we see how doping became a myth by becoming a second-order semiological system. Originally, the signifier “doping” referred to the signified drug that was used to impact performance. If we borrow Barthes diagram from *Mythologies*, it would look like this (Fig.8):

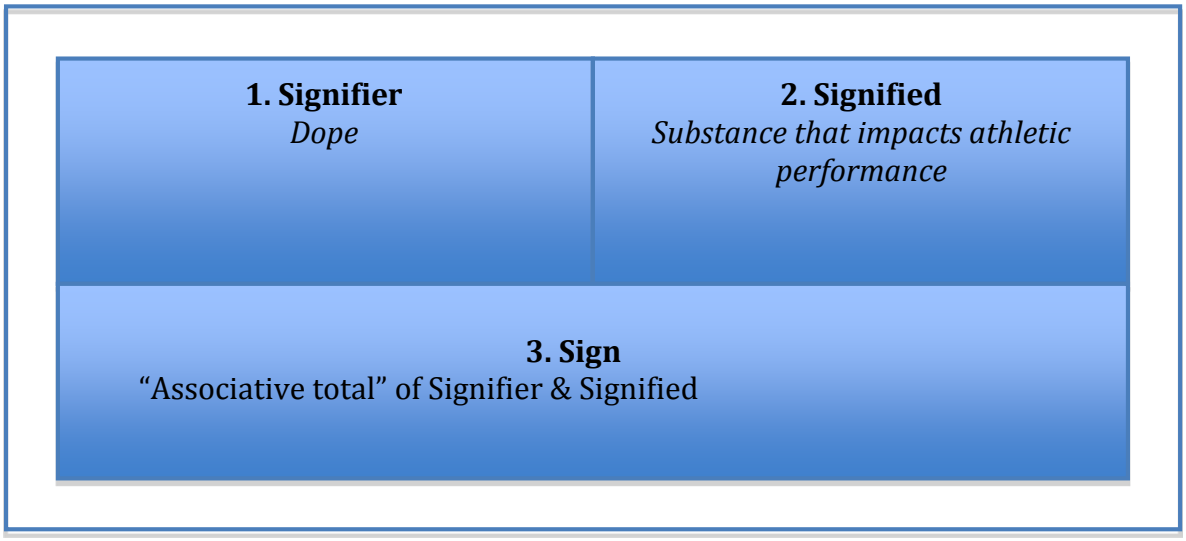

Figure 8: Recreation of Barthes's first myth diagram.

As Barthes explains, the signifier and signified are not seen as two separate entities. They become a sign, which is the associative, relational total of the signifier and signified. So in this case, we have a sign that conveys the act of drugging in order to achieve athletic effect. As the sign is used socially over the years, it becomes pregnant with other relational associations: questions of legality, images of monstrous and

superhuman figures, controversy and scandal, fallen heroes and tainted records, etc. When that sign drifts into the realm of mythology, we have a second-order semiological system. In this way, the original sign becomes the signifier for the myth. It would look like this (Fig. 9):

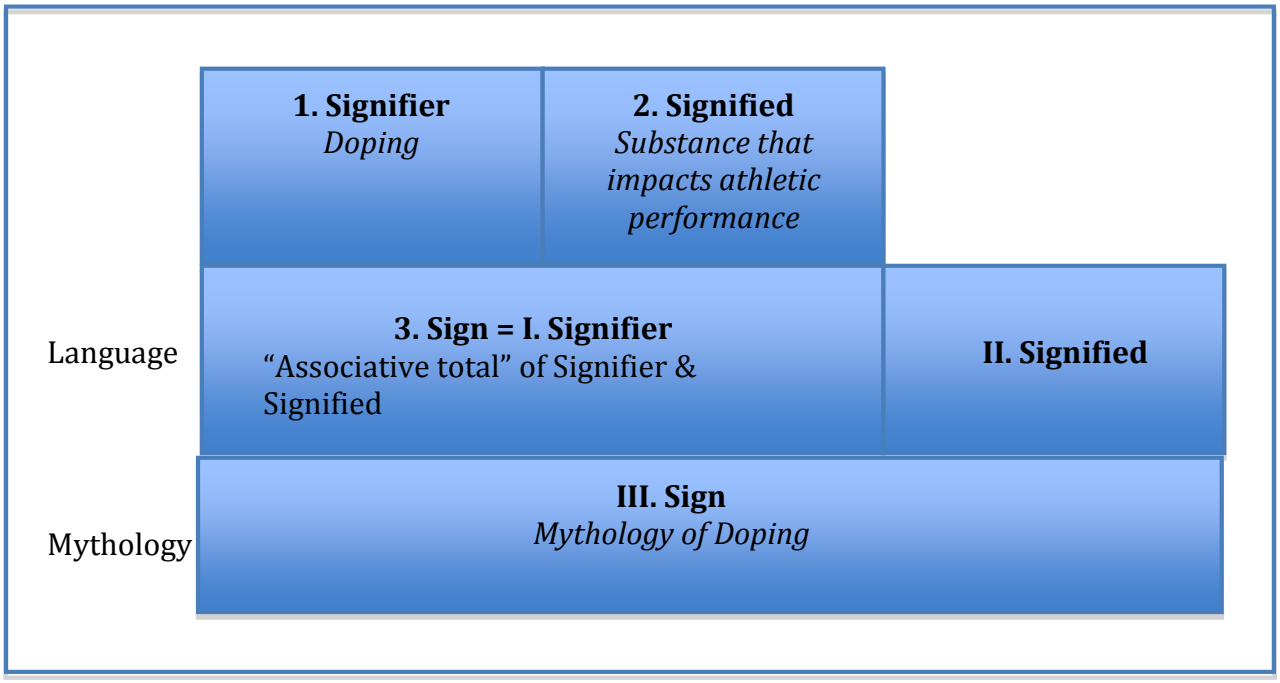

Figure 9: Recreation of Barthes's second myth diagram.

When something enters the realm of myth, the sign in the original construction becomes the signifier in the mythological construction, creating a new formation that builds from the associative relations of the first while also robbing the original of its history. Since the signifier in the myth stems from the sign of the original, the meaning is already thick

with the layers of associations that contributed to the sign. There is a knowledge in myth that is always already present. For instance, technological doping draws on the long history, implication, and connotation of all forms of doping, and you cannot understand the term separate from these meanings. But it is a deceptive knowledge because the "meaning is already *complete*, it postulates a kind of knowledge, a past, a memory, a comparative order of facts, ideas, decisions" (Barthes 117). And Barthes claims earlier that myth "points out and it notifies, it makes us understand something and it imposes it on us." This is not an open knowledge; it is a *certain kind* of understanding. When we are talking about the mythology of PETS, it is a knowledge that technology must be an infringement on *natural* sports by the very essence of technology's artifice and sport's naturalness. When we talk of "technological doping," it brings a knowledge that technology, regardless of whether everyone has equal access to it, is unfair if it is seen to play too big a role in the outcome. These generally are not knowledges that are open for debate. They impose their meaning on the discourse. Barthes explains how when the sign in the first order (what he calls *meaning*) becomes the signifier in the second order (what he calls *form*), the myth drains the sign of its meaning, creating an empty, almost transparent shell. In this way, Barthe's description of myth and Latour's description of a closed black box are reminiscent of each other. They both replace complex relationships with a simplified knowledge. They both close down lines of inquiry and obscure what is at the heart of them. However, a key difference is in what they represent. Latour argues that black boxes in science are tested through a whole network of empirical results, citations, scholarly publications, etc., and if the black box is seen to run contrary to the observable evidence, the box is opened and (re)examined.

In this way, a black box represents reality, or at least our current, generally agreed upon understanding of reality. However, since myth functions within discourse and is not as easily challenged through laboratory experiments or observable data, it is not constrained by demonstratable reality. According to Barthes, "what is invested in the concept (what Barthes calls the second-order signified) is less reality than a certain knowledge of reality […] In actual fact, the knowledge contained in a mythical concept is confused, made of yielding, shapeless associations" (119). I would not go as far down the road as Barthes does in saying that the associations used in mythical concepts are shapeless since those employing disciplinary mythologies have specific rationales based on values and reasons; however, I do feel Barthes is on the right path. In Barthes' model, something cannot be a myth until it has become untethered from its primary signification; it loses its original context and is replaced (generally over a lengthy period of time) with a chain of layered associations. Imagine a tight grouping of atoms that take the form of a coffee mug. If this image can be said to be the original signifier and signified, which has shape and substance in the form of a specific meaning and context, a myth occurs when those atoms start to drift away from each other, losing their original shape as they spread and link up with new, adjacent atoms. The result is more of a cloud than a solid object. Yes, even a cloud still has a shape, but it becomes much more difficult to determine the external boundaries and internal substance of that cloud.

"Technological doping," therefore, exemplifies a type of disciplinary rhetoric that also incorporates characteristics of mythology. It transforms subject positions, classifying certain actions and human/technology interactions as outside the bounds of

ethical and natural sports, and, in the process, shaping everything from perceptions and arguments to game play and rules. But these rhetorics are themselves shaped by the disciplinary structure of mythology. Technological doping engages in boundary formation, casting judgment on a particular kind of human/technology interaction and doing so by piecing together in a makeshift fashion narratives (and their chains of associations) that are already present in the discourse and may have very little to do with the current subject. However, as Barthes claims, once a sign is grasped by mythology, it becomes a second-order semiological system. Although it draws from layers of narratives, within the context of myth, those narratives lose their historical grounding, and the concept (the mythological sign) is made of shifting, formless, and narrowed knowledge. “Technological doping” frames the conversation in a way that severely limits possible counterarguments. Doping is so vilified in the sport social language that anything drawing on the doping mythology becomes tainted with layers of negative connotation. It is a term that has immediacy, making it ideal for sound bites and newspaper headlines. “The meaning is *already* complete” (117), says Barthes, and the meaning in this particular example is one that draws on the same fetishism of sport that is so prevalent in the sport social language—technology as antithetical to the “spirit of sport.”

The Level-Playing-Field Topos

Disciplinary mythologies frame the debates taking place about PETs and direct the course that the arguments take, eventually resulting in real-world implications like

rules and perspectives. They accomplish this through a variety of means, such as establishing the metaphors used to foreground claims and shaping the premises and appeals that form the logic behind PETs discourse. To unpack how this often occurs in conversations about PETS, I am going to analyze two dominant disciplinary mythologies, the level-playing-field topos and the nostalgia enthymeme, and in relation to the LZR controversy.

A common claim about the LZR suits (and technology's role in sports), especially when they were first released, was that they do not allow for "a level playing field." Magdalinski remarked on this several times as an issue of access to the technology, and she claims that this particular argument mostly died down by the time of the Beijing Olympics. However, as it became clear that the LZR suits and similar technologies were playing a significant role in records falling, the level-playing-field metaphor became prominent again. In 2009, double Olympic champion Rebecca Adlington remarked about the technology "I think it's a shame to be honest. Swimming always used to be a level playing field. The technology […] has come from nowhere. We need to go back to putting rules in place, just to make it a fair playing field for everyone" ("Hi-Tech"). The metaphor of the level playing field is used extensively in the sports discourse in a variety of contexts, from PETs to rules to spending caps. It goes hand-in-hand with "the spirit of the game" and "nature of sport."

As for topos, Lawrence Prelli defines the term as a "'perspective from which to argue' and a specific 'vantage point from which to view issues, ideas, and facts'" (Scott 61). More importantly, topoi are a way to frame debates and arguments, which is what the level-playing-field topos does in PETs discourse. Aristotle describes topoi in terms

of general and specific, with a specific topoi being situated in a specialized discourse (e.s. discourse of science or law or sports). In *Risky Rhetoric*, Scott identifies the scales topos, which he argues is one of the most prevalent forms of disciplinary rhetoric in HIV-testing discourse. Essentially, the scales topos envisions the classic balance beam with two dishes suspended on each end (i.e. scales of justice), and it is used to weigh pros against cons. Through critiquing arguments within HIV-testing discourse, Scott shows that far from being a clear method to weigh the issues at stake, "the topos oversimplifies and distorts the issues surrounding testing by unnecessarily structuring them within a series of false binary oppositions" (69).

We can visualize the level-playing-field topos as a playing field (a plane) that is tilted in one direction or the other, forcing one set of participants to have to run uphill while the other set gets the advantage of running downhill. Of course, the unbalanced field is simply a metaphor for any kind of advantage that a competitor may obtain. It does not refer exclusively to the field of play. For instance, an athlete who does not have the same access to a technology, such as a LZR swimsuit, would be said not to be competing on a level playing field even though she would be swimming in the exact same pool as everyone else. The playing field can represent any number of environmental or technological advantages. There are some similarities between the scales and the level-playing-field topoi. Both metaphors hinge on a form of equilibrium, and as I will show, they both have the same end result of oversimplifying and distorting the issues at stake. However, whereas the scales topos is used to show pros and cons in an effort to persuade toward one side or the other—the scales are never completely balanced, nor are they intended to—the level-playing-field topos seeks total equality. It

is not about balancing a simple binary; there are any number of factors that come into play, including access, opportunity, and equality. For instance, the “deflategate” controversy points toward the importance of equal expectations and knowledge. During the 2014 NFL playoff game between the New England Patriots and the Baltimore Ravens, game footballs in the first half were deflated to pressures beneath the amount specified in the rulebook. Although everyone on the Patriots’ side has denied the allegations, the claim is that New England deliberately deflated the balls to make it easier for the quarterback to throw and receivers to catch. Even though New England and Baltimore would be using the exact same balls on the exact same field, if the allegations are true it would mean that the Patriots had foreknowledge of the deflated balls and could construct a game plan around this knowledge, something the Ravens were not privy to. This would mean the game is not played on a level playing field.

Although the level-playing-field topos has been used in other specialized discourses (i.e. business, politics, etc.), sports give the metaphor the most direct correlation because they are performed on an actual field of play; and the topos makes logical sense when it is applied to the sports playing field and environment. Magdalinski develops a lengthy discussion of how the sports field is shaped to ensure a level playing field. She claims,

> Without standardized arenas, performances are not easily compared, for the results may be influenced by external factors that essentially detract from the athlete’s ability to showcase their ‘true’ ability. Nature, then, must be perfected to create a fair setting that allows for the pure expression of biological potential. In this respect, ‘fair’ performances are thought to be unadorned, unaided and uninfluenced and are embedded in the idea of the ‘level playing field.’ This notion insists that a true measure of performance can only occur if all obstacles external to the competing body are removed from the field of competition. It is a delightful concept

> because it embodies the relationship between sport, performance, the body and landscape, and suggests that the internal motivation, or essence, of sport is essentially to compare the physical capacities of participating bodies. Neither the playing field, nor any other external force, should influence the outcome, so that the recorded performance is a pure reflection of the athletic capacity of the competitors […] Tracks are leveled, pools lose their wash, clothing becomes lighter so that the victory of the athlete is purely a function of their unrestricted physical efficiency. (26)

Every effort is made to ensure the environment is controlled. When competing at the same time on the same field, participants will switch sides of the field throughout the game to make sure the same conditions (i.e. wind, sunlight, rough spots on the field, crowd noise, etc) are imposed on all athletes equally. Even in competitions where the conditions cannot be controlled fully (such as in surfing or long-distance ski jumping where the athletes compete separately and where part of the sport is the athlete negotiating these sometimes challenging environmental factors) steps are taken to mitigate the environment as much as possible so the athletes have similar, if not equal, experiences.

Rules serve the same purpose of leveling the playing field. If all players abide by the same rules, and those rules are applied equally, then, theoretically, all players are competing on a level playing field in the eyes of the rulebook. In discussing disciplinary power, Shogan demonstrates how game rules “prescribe certain actions, proscribe other actions, and describe boundaries or contexts within which these actions make sense” (4-5) in an effort to “organize space, time, and modality of movement and seek to homogenize participants” (8). Part of making sure the rules are applied equally is ensuring that all participants have equal access to technology, which as we saw with early arguments against the

Speedo swimsuits was an issue.

Applying the level-playing-field topos to the actual field of play and rulebook (including access to technology) makes sense since it ensures that all athletes have an equal opportunity to compete. However, problems arise when the topos is extended beyond the field of play and rules to include the actual athlete, suggesting that all participants should have an equal chance at success. Magdalinski claims that "the natural body is similarly regarded as immutable and sporting prowess innate. As such, it is not only the sporting arena that must be 'fair;' the sporting body too must appear to be 'natural' and similarly unaided in the pursuit of excellence" (26). When Olympic medalist Rebecca Adlington made here comments about the LZR suits that "Swimming always used to be a level playing field […} We need to go back to putting rules in place, just to make it a fair playing field for everyone" ("Hi-Tech"), and in a separate interview conducted around the same time she said, "I would never in a million years take a drug to help me, so why would I wear a suit just to improve my performance" (Crouse, 2009), she is not applying the level-playing-field topos to the field of play or the rules or even to the accessibility of technology since by that time any professional athlete could easily get their hands on a variety of advanced swimsuits; she is applying it to the actual athletes, implying that the technology in some way distorts what would otherwise be natural human endeavor, free from technological intervention. Here the level-playing-field topos is used to say that technology is somehow making a mockery or hurting the integrity of the sport. This usually has to do with the fear that the technology takes over and is what's

really competing (i.e. the athletes become a vehicle for the technology). However, in this particular case, the LZR suits do not propel the athletes forward; they make the athlete more efficient and effective in the water. We are not talking about some couch potato stepping into the pool for the first time and giving the professional athletes a challenge; we are talking about top-tier athletes using a technology that helps them perform even better, but without the athlete's years of training and dedication to the sport, the swimsuit would be nothing more than an odd fashion statement. As I have attempted to show throughout my argument, there is no such thing as a 'natural' athlete, at least not when we are talking about the modern, elite athlete. Technology is too intertwined with professional athletic performance. Magdalinski echoes this claim when she says, "Of course, within elite sport, there is no such thing as 'untamed nature' as participants have each been transformed by a range of technological and disciplinary practices. Rather than embodying freedom and expression, athletes are poked and prodded, tested and tamed, and measured and modified with the latest scientific gadgetry" (27). So if we accept the claim that all elite athletes are shaped on a fundamental level by technology, thus shattering any notion of a natural athlete, then as long as all competitors have equal access to equivalent technology, the technology cannot be said to have any bearing on the level playing field.

More insidious is when the level-playing-field topos is used as an exclusionary tool. This occurred with Oscar Pistorius early on when he was prohibited from competing with 'able bodied' athletes on the grounds that his running blades gave him an advantage because they provided more spring than

a human ankle joint. More interesting may be the situation of Indian sprinter Dutee Chand. At 18, Chand was India's 100-meter champion in the 18-and-under category, but she has since been banned from competing on an international level against other female athletes. Chand was born with hyperandrogenism, which means her body produces natural levels of testosterone that are significantly higher than the range considered normal for women. As a result, the International Association of Athletics Federations, the governing body for track, has prohibited her from competing unless she lowers her testosterone levels below the male range by either taking hormone-suppressing drugs or having surgery to limit the amount of testosterone her body produces (Macur, 2014). Chand has refused to do so, and as of June 2015, she is in the process of appealing the prohibition. What is interesting about this case is that Chand's condition is naturally occurring, and yet the level-playing-field topos is being applied in order to argue that Chand has an unfair advantage. When she steps on the track with other elite athletes, the playing field is tilted in her favor. That might very well be true, but the level-playing-field topos should never extend beyond the playing field and rules to imply that all athletes should have the same chance of success as their competitors. Athletes are not born equal, and sporting events would be much less interesting if they were. Natural, genetic gifts are part of athletic performance. You cannot say that a seven-foot-tall basketball player does not have a distinct advantage over someone who is six-foot-tall. Much has been said about Michael Phelps' body proportions and double jointedness. He has a longer 'wing span' than is typical even for an elite swimmer, and his joints

allow for a much wider flexibility range. He has a physical advantage over most swimmers when he steps onto the pool deck, and in a sport where winning and losing is often separated by milliseconds, his physical proportions play a role. Far from being 'unfair,' this is an essential part of athletic competition.

The level-playing-field topos, when it is applied to every aspect of sport, equates positive *effect* with *unfair*. If something is believed to potentially impact results, it must be tilting the playing field in one direction or the other. Of course, this is especially potent when the effect is believed to only be achievable by a minority population, such as in the case of Dutee Chand, or when the effect appears to extend beyond what is 'naturally' attainable, such as with the LZR suits.

The Nostalgia Enthymeme

Complicating the situation is that sports are never solely concerned with a "level playing field" in this situated time and space; it also has a fascination and commitment to sporting ghosts. How current athletes and performance stack up against those in history is a significant concern to many sports enthusiasts, and some of the most intense sports debates center around the hypothetical comparison of today's athletes against the greats from the past. Some sports are more concerned about this than others, but it's certainly central to those where records and statistics figure prominently in the enthusiasts' minds. Swimming, with its emphasis on world records, is one such sport. One of the biggest arguments against the LZR technologies is that it skews an

even comparison between the records set before the technology and those set with it. In fact, once the technologies were banned in professional competitions, the debate began over how the records set during the “technology doping” age should be handled. One popular suggestion (borrowed from baseball) was to place an asterisk by all the records set between 2008-2009. The problem here is that any thoughts of an equal comparison between today’s athletes and those of the past is always a fiction. According to Michael Bond in a *New Scientist* article titled “Should technology be allowed to tumble records?”:

> You could argue that technological "fixes" like this diminish the value of modern sporting records, making it unfair to compare the performances of this year's athletes with those through history. Some critics have suggested, for example, that since the reduced friction suits used by runners and swimmers give them an undeniable advantage over previous competitors, their race times should be adjusted downwards to reflect this. The problem with this line of reasoning is that there is no end to it. Technology—science too—has always been part of sport, from the design of runners’ shoes and aerodynamic bikes to the development of improved training regimes and performance-enhancing diets. What matters is not whether today's athletes have an unfair advantage, but how they use what's available to them—so long as it's within the rules.

An excellent example of this comes again from the Beijing Olympics. Before the swimsuits’ significance became apparent (not until the World Championships the following year), a lot of attention was paid to the technology behind Beijing’s Olympic swimming pool, often referred to as the Water Cube and given the moniker “the world’s fastest pool.” The pool’s architecture, which is deeper and wider than any other competitive pool, was designed to help dissipate the turbulence caused by a swimmer’s movements, and the result is less resistance in the water and faster times. Competitors of the past did not have the benefit of swimming in such a pool, but no one argued that asterisks should be placed by the records set in that environment.

Drawing on Jeffrey Walker's "The Body of Persuasion," Scott describes an enthymeme as "a body of persuasion that presents a claim, foregrounds a stance, and motivates identification with that stance by invoking a chain of premises and cluster of value-charged proofs. The enthymeme's force depends not on a strict sequence of deductive reasoning but on the persuasive power of a wider web of premises and appeals, not all of which are 'logical'" (43-44). He goes on to liken an enthymeme to a topos in that it allows for certain arguments and not others, but it is different and more than a topos in that it "draws its force from the movement of an argumentative chain and its surrounding complex of appeals" (44). Like a more general mythology, the enthymeme often relies heavily on commonplaces and shifting, particular knowledges within its chain of associations.

The nostalgia enthymeme posits *comparison* as an essential part of sports. The argumentative chain could be diagrammed as something similar to (Fig. 10):

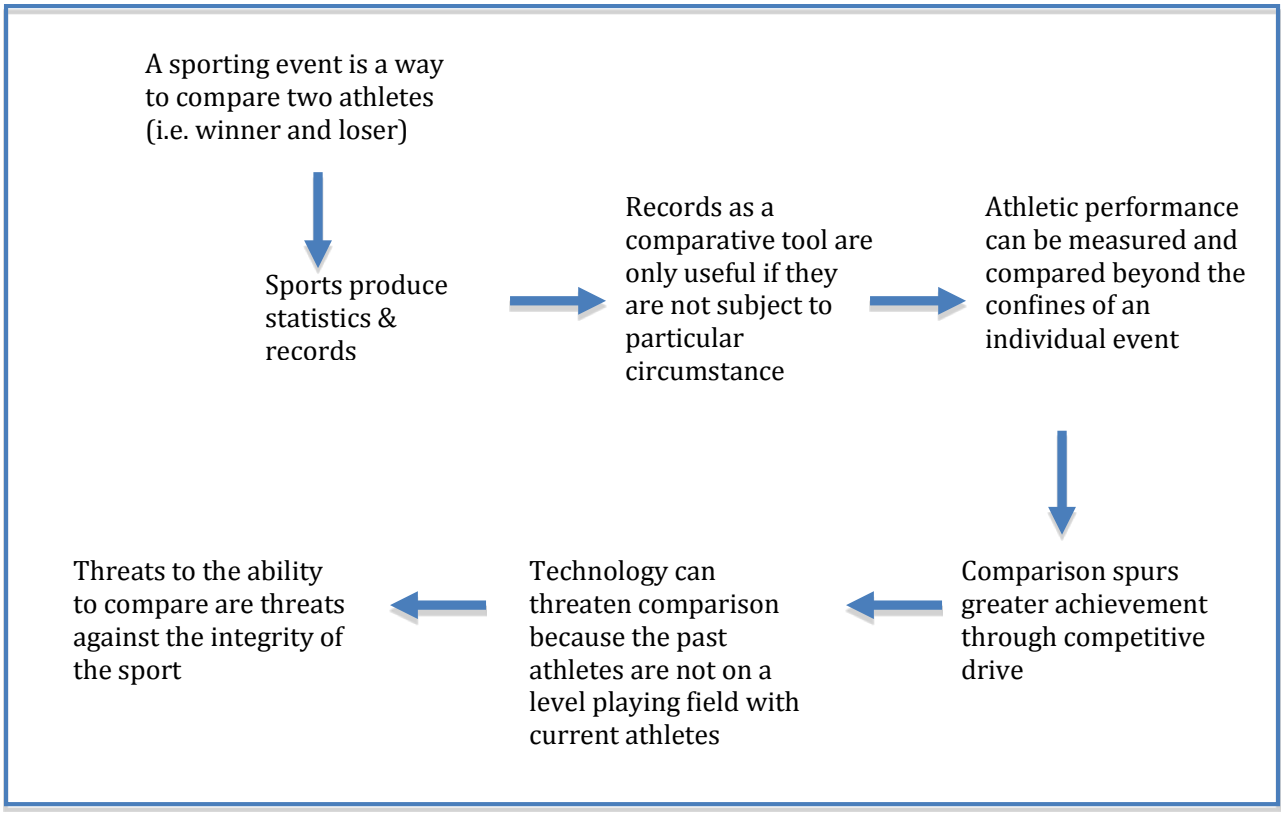

Figure 10: Diagram of the nostalgia enthymeme when applied to sporting discourse

These arguments are echoed throughout PETs discourse, especially when there is some sort of controversy. In the Mitchell Report, which concerns steroid use in professional baseball and is one of the most influential documents written about PEDs in sports, the nostalgia enthymeme is drawn upon when it reads, "the illegal use of anabolic steroids, human growth hormone, and similar drugs poses a significant threat to the integrity of the game of baseball. The widespread use of these substances raises questions about the validity of records and their comparability across different eras" (4). Additionally, when Adlington was making her comments about the LZR suits in

swimming, she added that, “I can remember watching when they were just in trunks and 100 percent textile suits, whereas now it’s very, very different.” The implication here is that swimming was better off before the current technological innovations. In both statements, the implicit claim is that sports lose value when the specific event is restricted to its own ends and no longer serves as a yardstick by which to compare athletic performance in general. In the Adlington quote, there is the additional nostalgic quality of longing for a simpler, more natural past. Perhaps we could say that the nostalgia enthymeme is a subset of the level-playing-field topos since it seeks to establish a balance between athletic performance from era to era.

However, this is an illusory comparison because the technology of today is never the same as the technology of the past, so the only way to feel that you can have a fair comparison between past athletic performances and current ones is to overlook the situatedness of embodiment and performance or to erase the role of technology in the history of sport.

Mythologies are marked by their disconnect from a clear situated history, their reliance on layered narratives and relational associations, and their existence as already present, completed knowledges. They function within a social language, but distort the role that discourse plays in shaping perception by oversimplifying complex relationships in favor of commonplaces. PETs discourse is consumed by disciplinary mythologies that stem from the fetishism of sports—sports as natural human endeavors, the antithesis to which is technology. As in most mythologies, there is a specious link between the reality of technology in sports and the perception held by the larger

discourse community. Only by rearticulating this relationship can we challenge the disciplinary mythologies that shape our understanding of PETs.

CHAPTER 5

This dissertation attempts to make several contributions, both in rhetorical theory and analysis and in the cultural theory of sports. The earlier chapters attempted both of these tasks simultaneously, but in this final chapter, I will tease out the primary threads of each and eventually explore what a rearticulation of the relationship between PETs and sports competition could look like when applying a posthuman lens.

Methodological Contributions

An early goal of this project was to extend the rhetorical-cultural method first articulated in Scott to the subject of sports culture. As discussed in the introduction, there are a small but crucial number of texts that develop what I would consider a cultural analysis of the relationship between technology and sports, and I have drawn on them throughout this project (Shogan, 1999; Pronger, 2002; Magdalinski, 2009). However, I am unaware of any published research that applies a rhetorical methodology to PETs. Yet PETs seem particularly well suited for some form of rhetorical analysis because the understandings, definitions, and boundaries are rarely articulated explicitly by sports media and other actors even though they are enacted regularly through rules, sports commentary, and social interactions. Rhetorical analysis has the advantage of tracking these shifting discourses through multiple disciplines, stakeholders, and mediums.

One complication for such an analysis is the multitude of sports competitions, PETs, and sport discourses. Each sport deals with technology in a different way and

negotiates those relationships through any number of rhetorical situations. To attempt what would be considered a traditional rhetorical approach (i.e., close reading of a specific text or event) would only have limited usefulness as it would speak to only a very narrow swath of PETs circumstances. For instance, we might be able to analyze documents related to swimming and technology, but those conclusions would not necessarily apply to NASCAR or football or rugby because technology is used by and incorporated into each sport in very different ways. Despite this challenge, my project was intended to make some observations about PETs in sports competition more generally. In other words, although every sport is different and uses technology in a variety of ways, I was attempting to show that there are underlying assumptions and perceptions about sports competition that underscore most sports and transcend individual sporting boundaries. These are notions about the nature of modern human competition, and the rhetorical-cultural method developed in Scott seems ideally suited for examining sport/technology interactions in this broader cultural domain. To focus only on the discourse would fail to address the many actors (athletes, coaches, commentators, fans, etc.) and actants (equipment, rules, techniques, etc.) that make up crucial elements of the cultural circuit relevant to PETs. An analytical method that is focused less on the discourse of individual sports and is instead focused on how these conversations about sports and technology get rearticulated and transformed as they move across culture is better suited to the purposes of this project; the rhetorical-cultural method accomplishes this goal, and its usefulness for this kind of analysis should be acknowledged by scholars interested in broadening the applicability of either

rhetorical or cultural analysis. My project was an attempt to demonstrate that usefulness.

Additionally, my project attempted to build a new theoretical framework for looking at how some discourse—and as a result, perceptions—are formed through a layering process that often remains unarticulated and unexamined. Derived first from Foucault's disciplinary power and then Scott's disciplinary rhetoric, I created the term disciplinary mythologies to emphasize this formative layering effect. Essentially, a disciplinary mythology is a discrete unit of persuasion that both constructs and constitutes claims by drawing upon layered narratives and shifting associations that lose their context when entering the realm of myth. Mythologies mask complex relationships by burying them underneath a simplified "truth;" they replace a critical analysis with what is already "known" in society. This is a particularly useful framework for exposing the types of underlying assumptions that I see as driving cultural attitudes and decisions about PETs. My analysis of technological doping in Chapter 4 was an attempt to develop the term disciplinary mythology within the context of PETs. In the case of the LZR swimming suits, arguments about whether to keep or ban the technology often centered around doping mythology despite the fact that the LZR and similar suits shared little in common with illicit PEDs. As I showed, disciplinary myths are similar to black boxes in that they replace complex relationships with a simplified understanding. They both restrict lines of inquiry and obscure the underlying assumptions that inform them. Although the LZR swimsuits were originally black boxed (subsumed into the sport social language that often attempts to gloss over technology's role in sports), the dramatic effect they had on swimming performance forced the black box open and lead

to a feedback loop that brought it back to the start of the black boxing process where a technology is deemed either appropriate or unfair and unethical. At this point, the popular discourse lumped the LZR together with doping discourse, which drew on the mythology surrounding doping that has evolved since the 1960s, and the eventual result was that the technology was deemed unfair and unethical and led to its being banned. Disciplinary mythology engages in boundary formation, but it is a bricolage construction pieced together from narratives already present in the culture and absent from their historical and contextual groundings.

Disciplinary mythologies could be used to frame analysis of many discourses within sport. I identified two specific disciplinary mythologies in Chapter 4—the-level-playing-field topos and the nostalgia enthymeme. Although they are particularly relevant to arguments pertaining to PETs, they could also be applied to other debates within sports discourse. Take, for example, the debate over whether NCAA football and basketball players should receive payment for playing. Depending on which side of the argument a claim falls, it often draws on one or the other disciplinary mythology. For those arguing that players should not be paid, claims about amateurism and the integrity of the game pull on nostalgic comparisons to the past. For those who feel players should be compensated monetarily because of how much money the school makes off of these athletes, a level-playing-field topos often is used to show the imbalance between the two factions. Additionally, disciplinary mythologies (both the ones I have identified and others not identified) could be used to frame analysis of issues outside the sports world. The purpose of the disciplinary-mythology lens is to dig below the individual texts and search out the threads that influence those texts and yet

remain unarticulated. In that way, it is fulfilling the objective of a rhetorical-cultural method in that it emphasizes the interrelatedness of discourse with other cultural forces and material entities.

Cultural Theory of Sports Contributions

The methodological approach I used led to the contributions I was able to make toward a cultural theory of sports. Although there are a handful of texts that analyze the relationship between sports and technology using a cultural-theory framework, none could be said to draw explicitly on a methodology stemming from rhetorical theory. Drawing upon rhetorical theorists, primarily Bakhtin and Burke, I attempted to show how PETs discourse stems from a sports social language that is heavily rooted in a humanistic fetishism of sports, and that these pious relationships create ruts in our thinking that both conditions and is conditioned by the resulting discourse. And the sport social language has real-world consequences on sport, affecting everything from rules to equipment to media coverage to social implications.

In Chapter 2, I made the connection between this fetishism of sports and a sports social language that is steeped in humanism, and in Chapter 4, I strived to show how the backlash against the LZR suits was in large part because they forced us to question this humanism. The notion that technology could infringe on a sport assumes that there is some essential quality to sport that is singularly flesh-based, effectively maintaining and perpetuating the human/machine dichotomy. What posthumanism and embodiment theories demonstrate is that humans are never separable from their tools or

technologies. As Haraway claims, we have always been cyborgs, and “the polemical advantage of the cyborg, for Haraway, is that it resists being encoded as natural. ‘The cyborg skips the step of original unity, of identification with nature in the Western sense’” (Bukatman 102). There is nothing “natural” about modern swimming competitions, and certainly nothing natural about any modern professional sport. When I began this project, one hypothesis I sought to examine was whether or not there was a boundary stemming from the humanist sport social language that placed interior technologies as opposed to exterior technologies in a more gray area ethically. This is something that requires further research; however, in the case of the ‘technological doping’ arguments, we see that the technology’s exteriority did not make it immune to controversy and eventual banning. Magdalinski makes the argument that the LZR’s exteriority is what allowed it to become acceptable within the sport, but she was writing that before the records started falling and the technology came under scrutiny once again. Instead, what we see in this particular case is that the controversy that eventually led to the technology being banned occurred when the black box was reopened. Initially, the exteriority may have been a key factor in allowing the LZR to pass through the ‘unfair’ and ‘unnatural’ barriers and make it into the black box, but once the technology exerted itself into the swimming discourse, thus forcing the black box back open, the boundary that got crossed was one of effect rather than interior versus exterior. It was still a humanist boundary, but one that transgresses the humanist ideals of sport as a purely natural human endeavor.

As we move forward from this project, an important question would be where do we go from here? Understanding how the sport social language functions and recognizing that it is drawing upon humanistic attitudes only opens the door to rearticulating the relationship between sports and technology. According to Scott, "the ultimate aim of a rhetorical-cultural study is ethical intervention, however tentative and local […] rhetorical analysis can and should have a political role in reshaping the discursive practices it studies" (229). Although at this early stage making concrete recommendations may give way to unpacking, revealing, and creating better understandings that can inform deliberations in sports discourse, the analysis should lead to some kind of change. Therefore, two important questions that need to be addressed at the end of this study are whether there needs to be a change in how society perceives the relationship between technology and sports, and how could a better understanding of disciplinary mythologies enable a more informed rule-making for competition for different sports? If a change does need to occur, in what direction should that change take us?

My intention throughout this project has been to try and demonstrate that a change does need to occur. In her closing chapter, Magdalinski offers a useful perspective on the current confusion in sports when she says,

> Modern sport is a paradox. It seeks to surpass established records with astonishing performances that push the body beyond its current limits […] At the same time, sport adheres to strict, and, for some, archaic, principles that rely on conservative notions of chivalry, amateurism and gentlemanliness. These are seemingly at odds with the realities of contemporary elite and professional sport, and the conflict between these priorities has generated a series of moral panics (157).

It would seem that these moral panics would only increase as technology advances, and since sports technology is a multibillion dollar a year industry, there does not appear to be any desire to move toward a more "pure" humanistic competition (i.e., one without technology). This really is not possible anyway. Magdalinski goes on to say, "an aversion to performance technologies, as substances and techniques, applied directly to the athletic body or utilised within the conduct of sport for the sole purpose of enhancing performance, represent, for many, the most exigent crisis currently facing sport" (157). There are no easy solutions to address the relationship between sports and technology, but if, as many claim, performance enhancement is the most significant crisis that sports are facing, continuing to use the same PETs discourse that contributes to these moral panics seems ineffective.

Transitioning to the Posthuman

Based on the rhetorical-cultural analysis I conducted in this project, a useful first step would be to reconfigure the notion of the human and technology using a posthuman perspective. If, as I have claimed, PETs discourse is steeped in a humanism that attempts to minimize or ignore the role of technology in sports, posthumanism offers a framework for conceiving of humans and machine in a co-constituting relationship. As Katherine Hayles has claimed about the posthuman view,

> [The posthuman] thinks of the body as the original prosthesis we all learn to manipulate, so that extending or replacing the body with other prostheses becomes a continuation of a process that began before we were born […] the posthuman view configures human being so that it can be seamlessly articulated with intelligent machines. In the posthuman, there are no essential differences or absolute demarcations between

bodily existence and [technologies]" (3).

Returning to the swimming example from Chapter 4, if we rearticulate the discourse to align with posthumanism, something like the LZR suit becomes an appendage of the body, a new layer that makes the body more efficient and effective in the water. The LZR is simply an extension, the next evolutionary step in a process that began with stroke and technique development—making the human body faster in the water.

Of course, a reframing such as this may evoke in many a deep, humanistic outcry that technology is corrupting the purity of human competition. This fear that technology will make the competition moot leads to a common slippery slope fallacy—"where will it end?" Chase characterizes this argument when he lists as one of his five reasons for banning the high-tech LZR suits as, "Technology is only going to get better. Where does this end? What happens if TYR makes a suit that fully repels water and allows a swimmer to float across the water like a hoverboard?" ("5 Reasons"). His underlying question about the end goal of technology in sports is legitimate, but the way he framed it and the impetus for it is not. Clearly, there have to be some restrictions on technology in the sport; otherwise, what would stop athletes from strapping a propeller to their back and motoring across the pool? When the act of swimming is secondary to the technology, there is a clear problem. Currently, much of sports discourse has the pendulum swung all the way to the humanist side where technology is ignored or at best placed in a subsidiary role. However, sports seem to lose their significance if the pendulum swings to the other extreme where the human becomes secondary to the technology. This is not an issue of ethical boundaries as I do not feel either side of the spectrum is more or less ethical in the sense that it is right or wrong. Instead, this is an

issue of taking a realistic approach to what we want sports to measure. Yes, sports are a spectacle; they are about entertainment; however, at their core they are also a way to measure athletic achievement. Otherwise, sports would not need points and winners and losers; they would just be an artistic performance. Much of sports discourse is unrealistic because it attempts to ignore and minimize the role of technology in the competition, instead opting for a fantasy of pure and natural human achievement. But we also do not desire a scenario where technology takes over and what we are measuring is technological innovation without the athlete being a significant factor. Sports still need to be about the athletes, not just the engineers. What would be more desirable is a posthuman approach that seeks a symbiosis between human and machine, one where technology is used—and its role is recognized—to extend and improve human athletic performance. Chase's argument, which epitomizes a common argumentative thread against technology in sports, comes from a fear of all technology and its assault on the essentialist myth. It is the fear of the "rabbit hole," the unknowing of where things will go from here. Certainly, eliminating the use of technology all together will result in the end of that fear…at least until a new technology comes around that threatens the essentialist myth, and there is bound to be another technology. The better way to balance technology in sports is first to articulate the relationship between humans and technology, and that should come from a posthumanistic perspective. If we understand that technology is not a threat to the essentialist human because there is in fact no essential human that can be articulated without technology, then we are free to move forward and address how we want technology to be used in a particular sport. I would argue that this should be accomplished from a communitarian perspective,

meaning that the key stakeholders for each sport would negotiate what they want the end product to be for the competition, and this would include an articulation of how and what technology should be used to facilitate the process. For swimming, we could express this as *technology is meant to help swimmers become more effective and efficient in the water*. With that articulation, the human body becomes the central technology to be mastered within swimming.

One ethical line that I would draw would have to do with player safety. Athletes are known to be highly driven individuals, and that drive can sometimes push them to make choices in training or competition that would threaten their own safety or that of another competitor. Although I am arguing for a rearticulation of how we approach sports and PETs, including PEDs, I am not claiming that we should ignore ethical behavior and precautions when it comes to health and safety. Some PEDs have been shown to be dangerous, especially when used without proper monitoring by a physician. For that reason, certain PEDs should be regulated or banned from sports, but not strictly because there is a fear that they are effecting performance and disrupting the level-playing-field topos. However, clearly there is some risk involved in any sport, and the sport stakeholders have often determined that removing all risk from the given sport would adversely effect the end product they want to showcase (otherwise, there would be no hitting in either American football or hockey). What should be sought is equilibrium between safety and spectacle, and if a PED can be shown to have minimal health risks, a posthuman perspective would offer fewer objections to incorporating that technology into sporting competition.

Additionally, part of transitioning to the posthuman would be to define technology

so that it refers to all aspects of technological advance, not just equipment or gadgets, which is how it is often envisioned. This would include such things as training techniques, apparel, player tracking tools, film to breakdown athlete performance and competitor strategies, dietary sciences, and a host of other technologies that are commonly ignored when considering PETs. The posthuman is not only more historically and semiotically accurate, but it also allows for technology and the human to advance without the artificial essentialist restrictions. Taking this step makes visible many of the metaphors and myths that underlie modern sports, and it allows for a clear articulation of the interweaved relationship between humans and technology, effectively shattering the human/machine dichotomy that influences our perceptions of PETs in sports.

Furthermore (and probably more difficult), I would want to express the situatedness of all phenomenological experience, including sports. Although debating who the most accomplished swimmer of all time may be an enjoyable rhetorical experience, unless it is clear that the entire debate is a fiction based on a false and impossible comparison, the desire to maintain balance between the past and present will restrict the progress that sports can make and perpetuate the human/machine dichotomy.

Determining the ramifications of such a rearticulation on sports as a whole is difficult. Not only is humanism deeply embedded in sports discourses, but also the remnants of humanism are woven throughout much of larger cultural discourse. Those strands are not easily disentangled. However, when it comes to PETs discourse specifically, we might point to a few possible implications. First, technology would no longer be viewed as the antithesis to “pure” sports, and this would result in more

nuanced conversations about what each sport wants to achieve through the use of technology. With this kind of articulation, many specific technologies—such as the LZR suits and the Spira shoes—would be more likely to become accepted into the sport. Additionally, although debates about ethical use and health concerns will still occur, the door may be opened for selected PEDs to become incorporated into sports. As we saw with the Deford article in Chapter 2, arguments against PEDs often claim that the drugs cheapen the sport by adding artifice to what would otherwise be natural competition. Rearticulating the PETs conversation within a posthuman framework effectively disrupts the "natural" discourse, emphasizing the cyborg construction of the human and human sports.

Disrupting the "natural" discourse would have an effect on another area of the technology in sports conversation that I have not addressed as thoroughly up to this point—disability and technology in sports. Shogan argues convincingly in her chapter "Hybrid Athletes" that participants in sports that require a technology (e.g. a synthetic limb) in order to compete in "normal" competition are constructed as "unnatural" as opposed to the "natural" able-bodied participant (71). As I discussed previously, the early rulings that prohibited Oscar Pistorius from competing in able-bodied competition bear this out. His running blades where rhetorically constructed as a competitive advantage, and it took lengthy court proceedings before these claims were thrown out. Shogan goes on to argue that the PED-related claims about what is unnatural and unethical create category confusion and allow for arguments that position the disabled athlete as unnatural and unable to compete against athletes only using "natural" technologies (i.e., able-bodied athletes). Although Shogan does not use the term

posthumanism specifically, she echoes my argument for a rearticulation away from the humanistic view when she says,

> When, however, it is recognized that all participants rely on technological intervention as they aim to meet or surpass the standards or norms for their activities, not only is the dichotomy between the 'natural' able-bodied participant and the 'unnatural' disabled participant called into question, there is potential to disrupt the specious link that is sometimes made between technological intervention and ethical impropriety. Some technologies such as performance enhancing drugs are arguably ethically problematic, but linking technology to the 'unnatural' and then to the unethical not only commits the 'naturalistic fallacy,' […] it undermines physical activity for people with disabilities who rely on technology (71-71).

As I have attempted to show, and I think Shogan would agree, a rearticulaiton of the PETs conversation using a posthuman perspective would be an effective way to disrupt the natural/unnatural discourse that permeates not only PETs conversation, but sports discourse as a whole. Although I have cited a few examples of how this could change the dialogue, the ramifications of this type of reframing would be far-reaching and complex. Sports social language, more so than many other social languages, is enmeshed with humanism, placing technology as an interloper that must, when its presence becomes apparent, be guarded against and, when its presence is ignored, remains black boxed and out of sight. However, technology is not going away, and in the world of high-performance competitions where technology is increasingly relied upon to dissect the professional athlete in an effort to improve performance, the paradox of modern sports will become increasingly difficult to maintain. For this reason, rearticulating the PETs discourse is a productive way to move forward.

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