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Abstract

The tendency of sport towards excess is recognised in this paper as a self-annihilating teleology, unless radical forms of technological enhancement are accepted within sports. It is argued that the influence of the spectator will require sports to accept such technologies as genetic engineering to sustain an audience and thus, provide performances that tend towards the *extreme spectacle*, an activity that describes cyborgian achievements in sport and that perpetuates sport's dependence upon the spectator's experience of excitement. It is recognised that other means towards maintaining excitement may transpire that would prevent the of the extreme spectacle, though it is argued that each simply prolong its inevitable manifestation.

Achievement-oriented sports depend upon the spectator, whose attention is generated by sports arousing excitement, which is achievable only through the demonstration of an extraordinary performance (tending towards the extreme spectacle). However, the ability of sports to provide such excitement necessarily requires the athlete to continue to surpass the previous performances of sports persons. Yet, it is not possible for the unehanced athlete to continue to provide limitless enhancement. Consequently, sports and athletes must embrace technological enhancements if sport is to continue to evolve in its current form.

Performance enhancement has been a central issue in sports related literature and sports science for many years. Sport philosophy has concerned itself particularly with the problematic matter of drug taking and doping as examples of unacceptable performance enhancement, recognising the ethical issues that their use evokes. From such ideas have emerged arguments about the appropriateness of these methods in the contexts of fair play (Gardner, 1989), paternalism (Brown, 1984), dehumanisation (Hoberman, 1988; Simon, 1984), and social-contracts (Fraleigh, 1984), whilst others have written about the intractable situation that describes performance-enhancing (Eassom, 1995). However, the context of such arguments appear to make an implicit distinction between acceptable and unacceptable methods of enhancement, taking for granted that acceptable methods of performance enhancement cause no concerns for sport.

Of course, the concept of 'performance enhancement' has had (deliberately suggesting that this may not continue) strong associations with elite competition, where the importance of competition and winning is paramount for many reasons. Whether it is characterised as the 'performance principle' (Hoberman, 1992) or 'achievement-oriented sport' (Elias and Dunning, 1986), the cultural, indeed, global edifice that is elite sport undoubtedly places great emphasis upon the ability to excel[1]. As such, opportunities to enhance performance do not fail to be central to the praxis of elite competitions. For this reason, aspiring to performance enhancement seems to have gained some kind of legitimacy – except of course when the means through which enhancement is gained are identified as unethical or unfair, as has been the case with drug-taking and doping. It has been recognised that such terms as 'fairness' and/or 'ethics' present a discourse in themselves, with much literature examining ethical issues within sports settings.

The interest of this paper is not dissimilar, though the intentions here are to make some argument to examine the appropriateness of performance enhancement *at all* within sports. The paper is curious to identify whether or not performance enhancement, the struggle for surpassing human limits, and the tendency to place paramount significance upon an athlete's measurable, accountable, and observable performance, is one that is at all appropriate for sports. For this reason, the ideas are not so much concerned with the legitimacy of various means through which enhancement is attained; rather, the intention is to suggest that aspiring to enhancement within sports might be inappropriate in any form. Consequently, the arguments herein concern enhancement more generally, though it is argued that the application of high-technology provides the means through which the ideas will gain substance and how their significance will become apparent. The implications of technological innovation (in this context significant for it affording performance enhancement) may be identified through acknowledging that the limitations of human performance preclude limitless, unaided performance. Thus, it is argued that athletes must seek other means through which it is possible to attain the required enhancement; such means, it is argued, will be technological.

The current paper describes the implications of the general technologising of sports and the significance of what may be discussed as an arguable technological teleology that sport tends to purport. It is argued that the result of such a teleology implies circumstances that, *without* the assistance of technology, makes nonsense out of the goals to which achievement-oriented

sports aspire. In recognising that sports must demonstrate excellence to sustain the interest of the spectator, and maintain the commercial viability of sport, the ideas describe the inevitable dependence of achievement-oriented sports upon technology and considers how such dependence may manifest itself. Sport is described as existing on a continuum of technological change, where technology becomes increasingly necessary, as it becomes more apparent that the human body cannot sustain limitless, unaided enhancement.[2] Consequently, it is argued that achievement-oriented sport must embrace other means through which such enhancement can be attained.

The Nature of Limits and the Limits of Nature

Claiming athletes to be approaching the limit of their ability necessarily requires making an assumption about what can be understood as the limitations of human capability. Thus, an athletic performance that exceeds world records (acting as the standard of human capability), is significant only because it is possible to make the comparison between the supposed elite sportspersons. Yet, it must be acknowledged that these images are manufactured; the notion of an optimum is one that is constructed by the methods of measurement and the subject matter that is being measured. Less abstractly, if one imagines the 100m sprint being measured to the nearest second, then performances of today would seem to portray all athletes as equal. However, if the measurement procedures were more precise, perhaps to the nearest one thousandth of a second, then it would be possible to distinguish between competitors, and conclude that humans had not reached their optimum performance level. Consequently, ideas concerning the proximity of humans to their physical optimum only makes sense within a framework of measurement (which can be changed). Therefore, if sport is to sustain the image of transcendence of human limitations, it need only find means through which it can manipulate this framework of understanding and maintain the illusion.

It is argued here that the various methods by which such manipulation will take place are each technological, each tending towards the *extreme spectacle*. Already discussed is the possibility for sports performances to increase the precision of the measuring instruments of performance.[3] It is quite feasible that, where athletes are achieving similar racing times at sprinting, it would be possible to use more precise timing instruments that can distinguish between performances.

Alternatively, it may be considered that sports might simply change the nature of the skills being measured by altering the structure of the equipment, to make the sport more difficult for the athlete, or even simply altering the nature of the skill that is being measured. Illustrative of such methods, are the alterations to the manufacturing of javelins during the 1980s and how it brought about "a changing of the guard in favour of athletes with a different mix of skills" (Tenner, 1996, p.240). Thus, the more technically proficient competitors began to perform better than the previously more successful 'big throwers' (Bjerklie, 1993; Glad, 1986). Such change in skill requirements rendered competitors no longer in close proximity to the limitations of their abilities, since it required the athletes to develop and master new skills. Moreover, the new skills did not necessarily produce performances that exceeded the limitations of the previous ones. Rather, they re-described the skills that were being

measured or evaluated with the explicit intention of enabling distinctions between competitors.

However, it is also possible for sports to implement further technological means that would provide the required enhancement of an athlete's performance that would enable sports to sustain extraordinary performances. Doping, prosthetics, and genetic engineering are examples of this kind of strategy, and it is considered herein that other methods of manipulation are transitory to these more radical technologies (though perhaps they do not suppose the final strategy in the manipulation of human limits). Thus, the re-description of limits through employing more precise methods of measurement, whilst in keeping with the modern obsession with scientific precision, may be argued as having the effect of de-valuing the extraordinary performance (which in achievement-oriented sport is unacceptable). The distinction between competitors would, eventually, become so minute that it would seem insignificant - world records that are broken by one millionth of a second do not seem at all extraordinary. Consequently, such a method of preserving achievement-oriented sport would not seem convincing. More likely it is that such strategies would eventually give way to alternative methods of illusion. The 'illusion' makes reference to the above argument about the nature of limits, recognising that any method seeking to shift humanity's proximity to its limits is merely shifting the current understanding of human limitations and how they are defined. The notion of limits is thus, one that is constructed and contextual.

Similarly, the re-structuring of sporting experiences through altering the kind of skill that is tested, whilst perhaps beneficial in that sports could realistically manipulate such skills without limitation, may be recognised as simply postponing the inevitable mastery over the *new* skill that an athlete would eventually recover. Thus, whilst a sport may deter the athlete's mastery over performance by altering a component of the game to make it more difficult, and whilst such changes could take place on a number of occasions, it may be expected that athletes would eventually regain their mastery of the performance to the extent where no further changes to the structure of the sport would be sensible.[4] Consequently, it would again be necessary for such sports to seek other means of maintaining the appearance of extraordinary performances within their activities.

It is argued here that the remaining strategy of *limits manipulation* requires sports to enhance the capability of the athlete by using other technological methods. Such innovative processes as prosthetics, robotics, and genetic engineering, are representative of such means, and are significant because they could produce the level of distinction between competitors that the *current* understanding of human limits requires. These methods do not require any alteration to the way in which human limitations are understood. Rather, they provide the means through which it is possible to continue the current comprehension of human limits.

Such re-descriptions of athletes and sports that such strategies imply may be considered as quite un-sport-like, even dystopian of sport. However, if sports aspire to the ideals of achievement-orientation, then logic renders such images as positive, perpetuating, and utopian. No longer would the boundaries of performance be constrained to the marginal advancement of the human body. Rather, the technological era of sport would permit substantial advancement and improvement through the sophistication of human-machine

integration. Thus, it is suggested, whilst acknowledging the possibility of alternative futures, that a new era of sport will be forced, demarcating the era of the *extreme spectacle*.

Achievement-Oriented Sport: A technological teleology and the dependence upon the spectators' *excitement.*

In recognising why it is necessary for sports to tend towards the extreme spectacle, it is required that one accepts that an ability for sports to produce *extraordinary* performances is paramount in the current era. This point is recognised by Hemphill (1995) and may be concluded since the success of such sport can be seen as contingent upon its ability to attract those who are acknowledged as the consumers of sport, the *spectators*. Indeed, Stone (1955/71) considers that whenever large numbers of spectators attend a sports event it is transformed into a spectacle, played for the spectator and not the direct participant. Similarly, it is acknowledged in Dunning (1986) that high-level achievement-oriented sport does not operate in isolation, and thus, athletes cannot participate simply for themselves. Rather, high-level sport must be considered as one level of the hierarchical organisation of sport, its social interdependency, and the result of a desire for competition between opponents of different locations.

Thus, it is explained by Dunning (1986, p220) that "top-level sports men and women cannot be independent and play for fun, but are forced to be other-directed and serious in their sports participation." Such athletes are rewarded for their time and, in return, are expected to perform to satisfy controllers and consumers of the sport. Therefore, the particular level of sport under discussion is one that is necessarily dependent upon the spectators, necessarily dependent upon producing the kinds of performance that the spectator desires. Additionally, as Duncan (1986) argues, the kinds of performance that the achievement-oriented sports spectator is interested in watching, are those that are undetermined, subject to spontaneous performance - things that people consider to be *exciting* and characteristic of such sports. However, such reasoning begs the question as to how such excitement may be understood properly.

It is argued here that Elias and Dunning's (1986) descriptions from the *Quest for Excitement* are paramount in understanding why people of the modern era (though perhaps not exclusively) seek such *exciting* experiences. The authors describe how the excitement necessary within such sports is brought about by the 'tension' that a contest produces and Elias considers how sport is:

> designed so as to produce an enjoyable and controlled de-controlling of emotions. They offer pleasurable mimetic tensions often (though not always) leading up to a mounting excitement and to a climax of heightened feeling with the help of which, as in the case of one's own side winning a sports contest, the tension may be happily resolved (Elias, 1986, p.44)

Elias continues by explaining the significance of these 'tensions' to the spectator and suggests that,

> if too many games end in a draw, that is, without a tension-resolving victory, the rules of the game require adjustment. In the same way, a sport-game may lose its function

> if, in too many cases, victory is attained rather quickly. In that case the enjoyable tension-excitement may be too short (*ibid,* p.51)

Without the kind of exciting tensions that are described by Elias and Dunning, the attraction of sport for the spectator is lessened. Thus, it is argued as necessary for sport to maintain the described balance of excitement that is achieved through the demonstration of success and extraordinary performances (recognising that winners and losers are possible only when competitors are unequal in performance capability). Moreover, such performances cannot continue in achievement-oriented sport *without* the acceptance of more sophisticated technologies that can produce the enhancement in performances that the spectator requires. Meaningful, record-breaking performances cannot continue without technological enhancement.

It may be argued that sports do not necessarily require demonstration of limit breaking performances. Thus, an exciting performance might not necessarily be one that surpasses the performance of the previous experience in some quantitative manner. Rather, it may be argued that 'excitement' can be achieved by experiencing 'tensions' that are not contingent upon the extraordinary. For example, in the same sense that theatre does not lose its appeal despite repetition of the same themes, it may be considered that neither do sports performances lose their appeal simply because they do not surpass previous performances.[5] Consequently, the sport spectator can find excitement in repeating *similar* displays of the extraordinary. However, it is considered by Rail (1991) that the ability for high-performance sports competitors to break records and demonstrate extraordinary ability to the spectators is "crucial to postmodern capitalists societies" (p.749).

Regardless of whether spectators are really in need of new exciting experiences, or are content with re-visiting old ones, the significant point is that *achievement-oriented* sports are necessarily exciting to the spectator for the displays of exceptional performance that they provide, and without substantial re-description,[6] are not capable of being sustained. Thus, one could imagine that it would not be meaningful to watch 'measured' events with the interest of observing some super-human display of ability, if all competitors were *perfected*[7] athletes, indistinguishable by their physical performances alone. In such circumstance, no longer would it be possible to expect a gymnast to perform a routine with any more twists, or any greater finesse. In contest sports, such as the 100m sprint, where the significance of the result is paramount, contestants would be equal in ability and the result would be a draw. Again, in competitive gymnastics, all athletes would be capable of precisely the same level of performance and would theoretically – presuming the judging system is effective – attain the same results. Such circumstances would, quite obviously be bizarre and it is argued therefore, that such events would no longer be interesting, and could not sustain the spectator interest upon which achievement-oriented sport is so necessarily dependent.

These ideas may provoke argument which contends that in some sports parity amongst athletes is not a problem since the number of 'plays' that could take place would allow sufficient variation, even with all athletes equal in ability, to produce an entertaining pursuit. For example, if all the players in a football match were equal in ability, we might still see an

entertaining competition. This 'variation' can be attributed to the uncontrolled 'environmental' factors that create a 'chaos' effect, whereby incremental variations at the initiation of an action, will bring about very large differences to the effective result. Thus, a small difference in the amount of spin placed on a ball when passed may make a very large difference in terms of a player's ability to control or reach it. Such factors render any result of the game somewhat contingent on the environmental factors, and, therefore, make any prediction of the result unreliable (not necessarily a draw). Consequently, arguments concerning the implications of 'perfected' athletes, may only be relevant within some typology of sports events where only specific kinds of sports are affected, perhaps those where the result of the competition is *only* dependent upon physical ability. However, distinguishing between affected and unaffected sports on the basis of such 'environmental' factors remains problematic.

Aside from arguments recognising such 'randomly-determined' competitions to be meaningless, the projected circumstances claim each performer to be of equal ability, and thus, prediction need only consider the significance of environmental factors (those that are not completely controlled by the athlete). Yet, it is not unrealistic to consider that such environmental factors will also be possible to control, at least to a large extent. Thus, returning to football, we might realistically be able to ensure that the pitch is immaculate (nullifying any uncertain affect of an uneven playing field), and it would be possible to enclose stadia so that any wind factor is eliminated. Additionally, the 'perfected' athletes would eliminate any influence brought about by unexpected fumbling or mis-kick – such things would simply not occur. Even if such control was not possible, the significance of having teams that are equal in performance would contribute a great deal to reducing the entertainment value of a game. The environmental factors do not necessarily have a significant effect on the result of the game, and thus, it would be expected that one could discount such factors in relation to the more significant influence of players' ability. Consequently, making distinctions between affected and unaffected sports upon such bases seems untenable.

Though the described circumstances seem odd, they are not unreasonable. The human athlete (in isolation), by virtue of his/her temporal constitution (an athlete can spend only a limited amount of time training), is not an entity that can sustain continual improvement and thus, is capable of achieving only limited ability.[8] As Ettinger, ??? Man into Superman says:

> A pig cannot fly, and however conscientiously he may diet, however he may direct his mind to lofty thoughts, he just isn't going to get off the ground-as long as he remains a pig: and neigher is his swinish temperament going to become angelic, or even human, however firmly or tenderly we teach him.

Of course, it may be conceded that the present state of top-level performance maintains the opportunity for performance enhancement - athletes still seem to improve their performances. However, it cannot be assumed that this improvement will continue. Moreover, if sport appears interesting only because it perpetuates the abilities of human beings (as opposed to say, cyborgs[9]), as is suggested if one considers sport played by automatons, then this notion

of sport is bound to absurdity, since the human being *in itself* can run only so fast, jump only so high, and throw only so far. Consequently, though seemingly premature, given that athletes do appear to be in a position where they may still better themselves, Bailey (1980) articulates how sports tend towards "athletes performing at close to their physical optimum." Whilst it would be interesting to discuss whether the writing of this article was well timed, it is unimportant to the current task which is to argue that Bailey's idea is correct in principle, if not also representative of the *current* status in elite sport.[10]

The Role of Technology in the Preservation of Contemporary Sport.

Technology has been argued as the saviour of achievement-oriented sports, though at present the ambitions of such activities may seem inevitably tragic. However, technology offers the opportunity to continue maintaining achievement-oriented sport – or at least to postpone its self-annihilation.[11] The various ways, in which it was argued that sport would manipulate the context of human limits, identified how technology provides a solution to sustaining the significance of achievement-oriented sports. Indeed, it may be argued that technology has already brought about such changes within sports. Bailey (1980) argues how the application of technology within sports has raised the level of physical performance over the years by enabling a greater understanding of the most effective techniques that an athlete can acquire to attain more successful performances. Additionally, improved knowledge concerning which tactics and training strategies are most effective in a match or competition has been used to enhance athletic competition. This does not seem unrepresentative of sports history and it would appear that such developments might have provided the means by which athletic performance enhancement could *only* have taken place legitimately.[12]

However, the illusion of enhancement created by the enhanced precision, the re-structured sports, and the eventual integration of human and machine demonstrate the viability of technological dependence within sports and characterise a new era of technological dependence within sports. No longer is it possible for an athlete to depend upon gaining an 'edge' over performance through training, since the limits to which training can improve the athlete are nearing their optimum. Athletes already train to the limit of their opportunity (or at least, these circumstances are approaching). Thus, sport is faced with competitors equal in terms of their physical capability, and if this factor were to be the only influence upon a performance outcome, the uninteresting performances that have been described would result.

Consequently, to maintain the incessant desire for excitement described by Elias and Dunning (1986), other means of sophistication must be achieved. Such means, it is argued, will translate sports into what may be described as the *extreme spectacle* and will involve alternative methods of technological application in sports. The upgrading of equipment and enhancement of the athlete's physique seems likely to be replaced by the *integration* of equipment with the athlete through prosthetics, and the athlete's physique seems destined to become enhanced by genetic change rather than modification of the body through training. Thus, contrary to Hoberman (1988), it can be expected that sport *will* "hybridize humans and machines" (p.325). The athlete may still be required to train, for at least some of the time,

though the differentiating factors of performance will *not* be training, since it will be at such time where all athletes have trained to their maximum and require other means to attain the competitive advantage.

The *Extreme Spectacle*: One Version of a Hybrid-Sport.

The extreme spectacle is introduced in this text to describe what may be argued as the future of achievement-oriented sports. In such times (and these), it is the 'spectacle' that matters to sport; the ability to produce something of sufficient excitement that will sustain an audience. Given the approaching limitation of current human capability, such 'spectacles' can only transpire through a re-description of sports that continues to preserve the extraordinary performance. Consequently, in conceding that the athlete (in isolation) will no longer be able to provide the differentiating factor in distinguishing the most competent athlete, it is necessary to achieve it through other means. It is argued here that such means are likely to be implemented through the very things that have been conveniently integral to sport in the past: namely technological innovations.

Drawing from research in medicine and engineering, it is argued that sports will promote the integration of significant technologies that would distort sports to the extent where they may no longer perpetuate 'conventional' ideas of what sports resemble (if such things exist). Indeed, it seems reasonable to expect (given the likely inability to distinguish what is properly identified as the athlete, once athlete and machines are integrated) that the sophistication of the athlete would take place through the manipulation of the human body. The ability to technologically engineer human biology and integrate mechanical technology with the human body to an extent where the innovations simulate and surpass the ability of the human body, is increasingly becoming a reality of the current era (Murray, 1997, McClellan, 1994). Thus, the cyborg[13] athlete does not seem as unlikely as one might expect. Moreover, it is advantageous of this method of sophistication, and thus, why its application within sport is probable, that the performance may still appear to represent the ability of a human being. Indeed, it is recognised by Coakley (1994) that the "blurring of human and non-human" (p.448) is something people in the current era have grown up with. Therefore, the described integration is unlikely to appear as anything other than an extension of such blurring. Additionally, arguments which claim that the appropriateness of innovations may be judged in terms of their particular effect upon the athlete's autonomy over the performance (if athlete autonomy remains, then the innovation is acceptable, but if autonomy is compromised, then the innovation is harmful) are still legitimate in these instances: autonomy can remain providing the human influence is *recogniseable* by spectators which, in the proposed circumstances, it is.

Also illustrating its viability, and the technological experience that has always been sport, is the suggestion that current sports are representative of such technological environments. The use of technology in equipment design, specialised dietary requirements and the training of an athlete to levels of abnormality, suggest that the techno-athlete has already emerged. Moreover, it seems clear that genetic or prosthetic alteration of the athlete may be conceived as merely affecting the relationship between athlete and technology, rather than actually removing the athlete completely and thus, the projection seems less unlikely not to transpire.

What becomes manifest from these reformations of the athlete may be described as one version of a hybrid-sport.[14] The circumstances may be described in terms of what are currently recognised as technologically dependent sports, such as motor-racing. In such sports the performance is not due entirely to the athlete's influence, but is quite largely brought about by the abilities of the equipment or machine. However, whereas in motor racing the athlete is clearly distinguishable from the technology, this will not be similar for the alleged cyborg-athletes. Rather, the athlete will be constituted partly by the equipment, which will not be distinguishable as anything other than 'of the athlete'. Consequently, through the gradual extension of athletic training by the science of human engineering and/or prosthetic engineering, the extreme spectacle may arise.[15]

The spectacle will embody versions of current sports, though will be distinct by their significantly enhanced performances that will take place through an initializing of competitors, where the process of technological sophistication will progress from a new starting point as was typical of the alterations to the javelin. Thus, initially, performances may be expected to be quite distinct until various breakthroughs become equally accessible to competitors, from which point the normalising process of sport can begin once more. (Hence, as was recognised earlier, the sophistication of sport through genetic engineering and mechanical integration will merely postpone the inevitable decline of achievement-oriented sport.) At such a time where normalisation occurs again, it will become necessary to re-describe sports once more, perhaps by way of a new form of technology that will re-set the distinctions between athletes, or through means that change sports in an entirely different way.

Regardless of which situation arises after the subsequent technological era, it cannot be mistaken that achievement-oriented sport is bound to absurdity since human performances would appear, necessarily, to tend towards an optimum. Moreover, re-describing boundaries of performance merely postpones this inevitable absurdity, accepting that even technology may have a limited ability to make sufficient distinctions between performances that enable the perception of an extraordinary performance.

It may be argued that the rules and regulations that govern sports would not permit such changes to the athlete and the sport. Such attitudes towards innovations that enhance performance through non-conventional means may be illustrated by the controversy surrounding the doping issue and thus, it is likely that arguments will be made contesting that the technology is unfair or, more likely, that it compromises an alleged 'integrity' of sports. However, if indeed the doping issue is similar, it seems that there exist very few conclusive arguments that warrant the complete abolition of 'questionable' substances in sport[16] and thus, it may be claimed that through these 'questionable' innovations, the extreme spectacle can become a reality. Thus, such instances, where it is problematic to conclude that the innovation is unfair, may permit the acceptance of significant innovations that would re-describe sports entirely. For example, the possibility of simulative limbs or body constructs such as tendons, or muscle fibres used by athletes, would be problematic to argue as non-human, since they provide the same function as a human body part. All that would

distinguish these body parts is the materials from which they are made, or the processes by which they are grown. Though it would still seem untenable to claim such methods of acquiring these body parts as 'non-human' since the manifested being would be intelligible only as a *human* being – having an 'artificial' limb does not make the athlete less human.

Consequently, no reasonable argument may be given against their acceptance - which is not to say that the lack of reasonable argument necessarily prevents governing bodies from ruling against particular changes to a sport. However, governing bodies will be in a position where it is necessary to accept these developments else the sports will become uninteresting for the spectators. Moreover, such authorities risk detrimental publicity if certain humans are excluded from participation upon untenable grounds (such as not being constituted of organic matter). Thus, it is likely that, rather than dismiss such innovations, governing bodies will endeavour to legitimate them in sports.

Of course the technological sophistication of sports is not the only way in which the future of sport may proceed. A number of reactions to the absurdity of achievement-oriented sport may deal quite satisfactorily with the problem without needing to implement the discussed innovations into sport. It is feasible that sports will endeavour to promote the values of amateurism where sport is significant, not for achieving success, but for its ability to provide enjoyment (which is not necessarily attained through winning). Such experiences, whilst perhaps more desirable for some, and maintain 'human' oriented ideals of sport, alas, seem unlikely to become popular in the same sense that current elite sports are. The very notion of current top-level sport seems inextricable from its ability to demonstrate the extraordinary, and if such performances did not occur, there would seem little else of interest.

Alternatively, as was discussed earlier, we might reasonably expect sports to re-structure themselves to account for the increased ability of the athletes. For example, where tennis players are becoming too athletic to enable fulfillment of the desired 'tensions' of a game of tennis, we might expect governing bodies to change various constitutive aspects of the game. Such changes may take the form of altering the height of the net, or altering the materials of the ball to slow down play and make a more varied game (The Guardian, 18 February, 1995). However, this begs the question as to where such metamorphoses will end, and what will be the result of these changes. It may be considered that technological integration with athletes will continue until such a time where the influence of the human is marginalised. At such a time, mechanical precision may be experienced and thus, 'perfection', and the subsequent absurdity of achievement-oriented sports, will transpire once more. Though distinguishable from the previous 'human perfection', mechanical perfection may not be possible to surpass by more advanced means. Thus, it is argued that the extreme spectacle, in what ever form it may arrive, is inevitable and though it may take some years of 'postponing', may be described as the 'technologising' of sport, the becoming of more efficient and more advanced sports.

It is intended that the arguments shown herein illustrate why it is that the achievement-oriented sports, *without technology*, are tending towards meaninglessness. Moreover, to maintain any position amidst such circumstances, sport is provided with realistically integratable technologies that permit ruling authorities to justifiably accept a re-description of

sports that tends towards the extreme spectacle. Alternative to these circumstances sport may embrace its more, commercially uncertain characteristics that it provides for the practitioner and spectator, such as are described by the amateur sports ethic of yesteryear. However, the future remains for the spectator to decide whether it is more captivating to watch an event performed by humans (more or less) who are performing activities with only slight variance in performance, or whether it is more interesting to observe the cyborg athlete who can continue to exceed the limits of movement, and 'excite' for many years to come.

It is argued here that the latter situation is more likely. It may appear that this paper wishes to promote technology and suggest it is quite beneficial for sport. However, it is more significant to consider the converse interpretation: that sports *with* technology will become quite un-sport like, and are unlikely to be enjoyed in quite the same way, since they suggest competitions quite different to current sporting contests. Thus, rather than condemn technophobia outright, the paper is more a cautionary description of sport technology – one that is both *exciting* and unnerving.

Notes

1 From this, it may seem that this article concerns only elite sports, which in themselves, Guttman (1986) recognises are problematic to consider in any general context when understanding them as spectator events. However, elite sports are discussed herein as significant only for their valuing of comparative achievement. It does not follow that elite sports are exhaustive of this discussion. Rather, they are simply significant examples that appear to perpetuate the concerns herein. Indeed, it is relevant to consider these discussions in the context of *any* sporting experiences that strive for excellence in performance. It is also significant that the technologically affected sports are termed 'achievement-oriented' sports rather than ‘elite sports.’ This term was coined in Elias and Dunning’s (1986) *Quest for Excitement,* and is also appropriate here since it acknowledges that such activities, at the highest level of the sporting spectrum, serve as a role model to lower level sports; as a "standard which others try to follow" (Dunning, 1986, p.221). Thus, identifying these issues at the highest levels of sport, where their significance may be considered most relevant, enables one to apply similar concerns to other levels that are perhaps only affected in a limited way, though nevertheless, still affected. Thus, whilst the implications that the discussion will have upon such elite sports is significant, it may also be applied at a wider level.

2 The metaphor of a ‘continuum’ is used to acknowledge the inherence of technology within sports. Thus, it is argued that the technological dependence of sports is constitutive of sport, though the kinds of technology used and the way in which it is used by the sport changes significantly.

3 Whilst in their simplest forms, these arguments seem to concern only particular sports - perhaps those that are easily quantifiable - the application and significance of these ideas to other sports will become clearer later.

4 It may also be considered that the implication for such changes in sports is one where such activities resemble the way in which sports are currently recognised only vaguely.

Indeed, the significance of this entire paper may be recognised as arguing against any essentialist idea of what sports are.

5 The likening of sports contests to theatre is not uncommon. Stone (1955/71, p.59) describes how, from the spectator's perspective, in wrestling there "is always a 'hero' who attempts to defeat the 'villain'….It is a case of law *versus* outlaw, cops and robbers, the 'good guys' *versus* the 'bad guys'."

6 The significance of this discussion may be recognised in that the 'normalisation' of athletes requires that the function of the affected sports, from the perspective of the spectator, be re-described. Such re-description, for example, may render a sport such as soccer, significant for its aesthetic or experiential qualities, rather than its, no longer meaningful, displays of excellence. Indeed, Gibson (1993) identifies Best's (1980, p.70) distinction between "purposive and aesthetic" sports and recounts the MacIntyrian appreciation of *sport as aesthetics*, arguing that it is only such an appreciation of sport that can maintain the practice upon which sports depend for meaningful performances.

7 It is acknowledged that the term 'perfection' may require some argument detailing its intended context, since Keating (1965 cited in Gibson, 1993) argues that the property of perfection implies some more encompassing acknowledgement of the constitution of a subject. Thus, if a person is considered to be perfect, then they are perfect in every respect. A more appropriate term when discussing the *perfection of athletes*, Keating argues, is 'excellence', since it recognises the comparative significance of the matter – an athlete is perfect insofar as she/he is significantly better than others. However, in response, the term is employed here to argue that an athlete can 'perfect' a skill or activity. An athlete can have complete autonomy over her/his performance and thus, be considered as having perfected the ability.

8 If evidence is required of this claim, one may examine athletic performances as illustrative of the approaching limitations of human beings. Such activities (though arguably irrelevant when discussing whether athletes in other sports such as soccer are also 'normalising), may be argued as recognisably approaching the limit of human potential in terms of human physical accomplishment – the distinguishing factor between winners and losers in events being of marginal time, distance or height (Blake, 1996). It is recognised by Tenner (1996) that "differences among top performers seem smaller and smaller" (p.238), with sprinters winning major events by thousandths of seconds (which interestingly, have only been possible to measure with the benefits of enhanced timing equipment). Thus, if it can be assumed that athletes in other sports (who produce physical performances) are of the same kind – their physical abilities are approaching optimum – then it would seem that sport must face the possibility of achieving optimum performance capabilities amongst all competitors.

9 Admittedly, it has been assumed that sport necessarily concerns the testing of human beings, as opposed to the testing of technology, or indeed an interaction between technology and human athletes. It might be thought that the latter position is more representative of sport given the acknowledged inherence of technology in sport. However, it would still seem appropriate to claim that sport (at least ideally), concerns the testing of human beings (athletes) in relation to their ability to affect an exceptional performance within an activity. After all, there would seem nothing significant about athletic performance if it were not at all representative of human performance. Thus, sports fundamentally require an athlete to create this performance. Whilst it may not be necessary that we isolate the athlete

such that his/her performance is not assisted in any way (thus, we accept the development of the required equipment), it is contended that, for sport to have significance, it must be the athlete who brings about the performance. The task of discerning what may be considered as the athlete is itself particularly arduous and makes very questionable claims upon what can be regarded as the athlete's performance at all. This issue requires similar discussion to those concerning the appropriateness of various alleged doping offences within sport. For example, if a substance that is present in the body (and thus, may be considered as part of the athlete) is lacking and the athlete uses an illegal supplement to boost his/her level to 'normal' performance, then it is unclear whether this is unfair performance enhancement, or acceptable re-generative strategy. The problem in demarcating what is 'of the athlete' and what is not, is one that achieves consensus of opinion only in recognising the problematic nature of the question. Nevertheless, our assumption does not seem unreasonable.

10 It may be argued that at the time of Bailey's article, athletes certainly were reaching their optimum, and that it is only because sport has reconfigured itself through the utilisation of technology that we continue to observe athletes seemingly transcending the abilities of their predecessors. In this sense, one may consider quite significantly the controversial and often covert employment of doping methods amongst competitors.

11 Postpone is used here to acknowledge that technology does not necessarily imply unlimited development. Rather, it is equally possible that even technology has limited potential for efficiency. Thus, once such limitations are achieved, we might reasonably expect that sport would, once more, approach the absurdity that is characteristic of achievement-oriented sports where achievement (at least in terms of surpassing measured performances) is not possible.

12 It is important to note that the legitimacy of various technological innovations that have permitted the ability to increase the athletes' performance is contentious. Due to there being few regulations that restrict how an athlete can utilise technology *in training*, it is perhaps often assumed that training methods which do not breach regulations are to be used to their maximum. However, the limitations of regulative laws are such that they proscribe only within their explications. Therefore, whilst something might be *recognised* by regulations as appropriate to be used in training, this does not necessitate it being a good thing for sport, since the regulations may not have anticipated such means to be used. Moreover, it might realistically imply that regulations should, if a particularly desired performance is to be maintained, be used to proscribe particular methods of training. Consequently, whilst something is considered to be legitimate by the governing authorities, it does not necessitate it being beneficial for a practice. Rather, it may only demonstrate the inadequacy of the regulations.

13 It is acknowledged that I refer to a particular form of 'cyborg'. Potentially, the term cyborg may refer to a very broad description of organisms that are partly constituted by machines in any manner of ways. For example, it may be appropriate to consider a human riding a bicycle as a cyborg. Similarly, a human wearing glasses or wielding a tool may be identified as a cyborg. Indeed, the appropriateness of such descriptions was recognised by the very person who coined the term 'cyborg' in the first place, namely, research scientist Manfred Clynes (Gray, Mentor and Figueroa-Sarriera, 1995). However, the term is used here utilising the distinction made by Gray et. al. between 'human-tool' and 'human-machine' cyborgs. Whilst it may appear that the cyborgs discussed in this paper do use technology as a tool for performance, it is significant to recognise that, herein, such cyborgs are not

distinguishable from the technology, and are thus not appropriate to consider representative of the human-tool distinction. Rather, they are constitutive of the human, and must be conceived in terms that recognise the symbiotic relationship between the human and machine.

14 It is specified that the proposed circumstances report only one version of possible hybrid-sports since it is acknowledged that hybrid-sports may take many forms. For example, altering the specifications of a sport such as changing racquet size, ball size or material, or constitutive rules, may create versions of hybrid-sports. However, the alleged hybrid-sport discussed here refers primarily to what may be considered as hybrid-technosports.

15 It is significant that the extreme spectacle will be exciting not only for its seeming demonstration of human ability, but also for its exhibition of the tendency of humanity towards automation. Thus, as is recognised in Ansell-Pearson (1997), "the spectacle [today] is the 'autonomous movement of the non-living.'"

16 A multitude of work has been undertaken to explore the appropriateness of doping in sport. Of interest, the significant issues may be found in the *Journal of the Philosophy of Sport* and will put into context the unsatisfactory judgements upon which ruling bodies act.

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