

FASTER, HIGHER, STRONGER, UPGRADED: A CONCEPTUAL BASIS FOR THE FUTURE REGULATION OF ELITE SPORT

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Humanity now possesses the capacity and technology to pursue radical human enhancement, presenting fundamental challenges for the regulation of elite sport. In order to regulate not only performance enhancement, but also human enhancement, the World Anti-Doping Agency must articulate the legitimate public interest of elite sport so as to justify its regulatory mandate to prescribe strict-liability offences. This article argues that the necessary public interest in elite sport is the pursuit of human excellence, passively pursued through the concept of spectatorship. On this basis, a two-limb test is offered to reorient and guide the regulation of enhanced athletes. This conceptual rationale and subsequent test provide clarity where advances in technology increasingly blur the distinction between performance enhancement and human enhancement.

I INTRODUCTION

Humanity now possesses the technological capacity for radical human enhancement.¹ This represents a fundamental challenge for the regulation of elite sport, which until now has focused primarily on performance enhancement.² While performance enhancement and human enhancement are not, in and of themselves, mutually exclusive, the enhanced human athlete represents a fundamental challenge to the current regulatory paradigm. The inevitable emergence of technologically enabled and enhanced athletes requires that the following questions be addressed: (1) What is the fundamental social interest in

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¹ See generally David Degrazia, 'Enhancement Technologies and Human Identity' (2005) 30(3) *Journal of Medicine and Philosophy* 261.

² World Anti-Doping Agency, *World Anti-Doping Code* (7 June 2019) <https://www.wada-ama.org/sites/default/files/resources/files/wada_anti-doping_code_2018_english_final.pdf> ('WADA Code').

elite sport that supports and justifies regulation as regulatory bodies such as the World Anti-Doping Agency ('WADA') face the prospect not only of performance enhancement, but of human enhancement as well?³ (2) What is the personal identity and status of athletes who substantially enhance themselves physically or cognitively?

Part I of this article considers WADA's current anti-doping regulations, analysing the conceptual rationale that enables the Agency to restrict athletes' rights, rather than analysing WADA's effectiveness as a regulatory body, which has recently been considered.⁴ It is argued that this conceptual rationale has not been satisfactorily articulated by WADA, as required under fundamental human rights doctrines. Part II of the article considers the future regulation of elite sport, and demonstrates that the capacity for human enhancement raises critical questions about the personal identity and ontological permanence of enhanced athletes, suggesting these considerations to be necessary and pragmatic issues for regulation in sport. Thereafter, Part III proposes a rationale for the effective regulation of elite sport and the enhanced athlete. It is argued that the public interest in elite sport is the pursuit of human excellence, grounded in the concept of spectatorship that facilitates the *passive* pursuit of such excellence. In an age where developments in artificial intelligence, biotechnology and nanotechnology pose inescapable challenges for humanity generally — and for the future regulation of elite sport specifically — a proposed two-limbed test can ground and guide effective regulation of elite sport into the future.

II THE CURRENT REGULATION OF ELITE SPORT

The global regulation of performance enhancement in elite sport is administered by WADA. A full and detailed exposition of WADA's history is beyond the scope of this article and has been explored in detail elsewhere.⁵ Notwithstanding, it is

³ See Gabrielle Kaufmann-Kohler, Giorgio Malinverni and Antonio Rigozzi, 'Legal Opinion on the Conformity of Certain Provisions of the Draft World Anti-Doping Code with Commonly Accepted Principles of International Law', *World Anti-Doping Agency* (26 February 2003) <www.wada-ama.org/sites/default/files/resources/files/kaufmann-kohler-full.pdf>.

⁴ Barrie Houlihan and Dag Vidar Hanstad, 'The Effectiveness of the World Anti-Doping Agency: Developing a Framework for Analysis' (2018) 11(2) *International Journal of Sport Policy and Politics* 203.

⁵ Barrie Houlihan, 'The World Anti-Doping Agency: Prospects for Success' in John O'Leary (ed), *Drugs and Doping in Sport: Socio-Legal Perspectives* (Cavendish Publishing, 2001) 125; Barrie Houlihan, 'Civil Rights, Doping Control and the World Anti-Doping Code' (2004) 7(3) *Sport in Society* 420; Charles Yesalis and Michael Bahrke, 'History of Doping in Sport' (2002) 24(1) *International Sports Studies* 42; Sigmund Loland, 'The Ethics of Performance-Enhancing Technology in Sport' (2009) 36(2) *Journal of the Philosophy of Sport* 152; John Gleaves and Matthew Llewellyn, 'Sport, Drugs and Amateuism: Tracing the Real Cultural Origins of Anti-Doping Rules in International Sport' (2014) 31(8) *The international Journal of Sport* 839; Verner

important to note that WADA derives its legitimacy and authority from an international treaty, the *International Convention Against Doping in Sport*.⁶ The Convention has been ratified by almost 200 nations, making it the second most ratified of all the United Nations Educational, Scientific and Cultural Organization ('UNESCO') treaties, and arguably one of the most successful examples of international cooperation. The Convention seeks to formalise anti-doping rules, policies and guidelines and, like most international instruments, permits a degree of flexibility regarding how state parties to the Convention give effect to its obligations. Typically, this occurs by way of legislation, regulation, policies or administrative practices that result in complex and interdependent regulatory structures at the international, regional, national and subnational levels.⁷ Consequently, throughout this article, reference to anti-doping regulation is a denotation to those rules enumerated in the WADA Code, as opposed to regulatory steps taken by nation states to give effect to the Convention's obligations.

Historically, the two major justifications for banning the use of performance-enhancing drugs have been the protection of athletes and their health, and securing fair competition by 'levelling the playing field'.⁸ Hemphill provides an incisive summary of the positions typically claimed as justification for anti-doping regulation, noting that the most frequent arguments made in support of anti-doping tend to be reducible to appeals to naturalness, fairness, health and the spirit of sport.⁹ Houlihan concludes that while the varied justifications offered by proponents of anti-doping 'have a certain plausibility', 'none is, by itself, capable of providing a sufficiently strong underpinning for the enormous investment of resources currently devoted to the anti-doping strategy'.¹⁰

Møller, Ivan Waddington and John Hoberman, *Routledge Handbook of Drugs and Sport* (Routledge, 2015); Paul David, *A Guide to the World Anti-Doping Code: The Fight for the Spirit of Sport* (Cambridge University Press, 3rd ed, 2017); Paul Dimeo and Verner Møller, *The Anti-Doping Crisis in Sport: Causes, Consequences, Solutions* (Routledge, 2017); Daniel Goldsworthy, 'Athletes' Rights under the World Anti-Doping Code: A Legitimate Public Interest?' (2018) 43(3) *Alternative Law Journal* 197.

⁶ *International Convention Against Doping in Sport*, opened for signature 19 October 2005, UNTS 2419 (entered into force 1 February 2007).

⁷ Lorenzo Casini, 'Global Hybrid Public-Private Bodies: The World Anti-Doping Agency (WADA)' (2009) 6(2) *International Organizations Law Review* 421; David (n 5) 82; Andrew Byrnes, 'Human Rights and the Anti-Doping *Lex Sportiva*: The Relationship of Public and Private International Law, "Law Beyond the State" and the Laws of Nation States' in Ulrich Hass and Deborah Healey (eds), *Doping in Sport and the Law* (Hart Publishing, 2016) ch 5.

⁸ Paul Dimeo, *A History of Drug Use in Sport 1876-1976* (Routledge, 2007); Bengt Kayser, Alexandre Mauron and Andy Miah, 'Current Anti-Doping Policy: A Critical Appraisal' (2007) 8(2) *BMC Medical Ethics* 1; Ivan Waddington and Andy Smith, *An Introduction to Drugs in Sport* (Routledge, 2009).

⁹ Dennis Hemphill, 'Performance Enhancement and Drug Control in Sport: Ethical Considerations' (2009) 12(3) *Sport in Society* 313.

¹⁰ Barrie Houlihan, *Dying to Win: Doping in Sport and the Development of Anti-Doping Policy* (Council of Europe, 2003) 123.

Critically, there is an important distinction to be made between the *justification* for anti-doping regulation and the *rationale* underpinning the basis for regulation. While WADA's authority is secured by the consent of state parties to the Convention, it is incumbent upon any authority prescribing strict-liability offences, whether public or private, to articulate a legitimate basis upon which it purports to justify such regulation beyond its popular mandate alone.¹¹ Simply put, WADA must explicitly state why elite sport is so important to society at large that it justifies such onerous regulation that would otherwise be a contravention of athletes' human rights. It is noted that there is a nuanced distinction between the justifications offered for anti-doping policy summarised by Hemphill,¹² and the fundamental rationale that provides the conceptual basis for the regulation of elite sport. The latter is variously and interchangeably referred to throughout this article as the legitimate 'public interest' or 'social interest', which is consistent with human rights parlance as well as the terminology offered in the legal advice received by WADA on these questions.¹³ Houlihan states that 'until a satisfactory answer can be given to the question "Why oppose doping?" it is not possible to define with sufficient clarity the problem that the sporting and government authorities are trying to tackle nor is it possible to defend anti-doping policy with confidence'.¹⁴

WADA defines its regulatory mandate by offering the following interpretation of sport. The WADA Code states:

Anti-doping programs seek to preserve what is intrinsically valuable about sport. This intrinsic value is often referred to as "the spirit of sport." It is the essence of Olympism, the pursuit of human excellence through the dedicated perfection of each person's natural talents. It is how we play true. The spirit of sport is the celebration of the human spirit, body and mind, and is reflected in values we find in and through sport, including: Ethics, fair play and honesty; Health; Excellence in performance; Character and education; Fun and joy; Teamwork; Dedication and commitment; Respect for rules and laws; Respect for self and other Participants; Courage; [and] Community and solidarity. Doping is fundamentally contrary to the spirit of sport.¹⁵

References to 'intrinsically valuable', 'essence' and 'spirit' provide little clarity when considering sport's fundamental public purpose, and it is left to the reader to discern what such words mean and why certain kinds of enhancement threaten them. WADA does not clarify such values beyond the above statement; nor does it

¹¹ Goldsworthy (n 5).

¹² Hemphill (n 9).

¹³ Kaufmann-Kohler, Malinverni and Rigozzi (n 3).

¹⁴ Houlihan (n 10) 123.

¹⁵ See WADA Code (n 2), p 14.

provide further argument or elaboration in support of its conclusions.¹⁶ Despite these limitations, Miah nevertheless argues that the justification advanced by WADA is largely shared by the public.¹⁷ But when considering the social utility or value of a particular thing — particularly where it is used as a justification for restricting rights — what is ‘in the public interest’ should by no means be conflated with ‘whatever interests the public’.

In seeking to preserve what is intrinsically valuable to sport, art 4.3 of the World Anti-Doping Code (‘the Code’) demarcates the acceptable limits of performance enhancement. The test to determine performance enhancement violations under the Code rests on three criteria, satisfaction of any two being sufficient to merit a ban:

- 4.3.1.1 Medical or other scientific evidence, pharmacological effect or experience that the substance or method, alone or in combination with other substances or methods, has the potential to enhance or enhances sport performance;
- 4.3.1.2 Medical or other scientific evidence, pharmacological effect or experience that the Use of the substance or method represents an actual or potential health risk to the Athlete;
- 4.3.1.3 WADA’s determination that the Use of the substance or method violates the spirit of sport described in the introduction to the Code.¹⁸

Irrespective of the purported exigencies of regulation in elite sport, the drafting of art 4.3 is problematic. First, the criterion that a substance or a method ‘has the potential to enhance or enhances sport performance’ is vague and confers a high degree of discretion. Second, the criterion regarding ‘actual or potential health risk’ is paternalistic and highly subjective, seemingly justified under the guise of a concern for athletes. However, this ostensible concern with the health of athletes is inconsistent. Athletes who push themselves to their absolute bodily limits — such as the disoriented competitor crossing the marathon line on the brink of collapse — are celebrated for their dogged determination and drive, not disqualified because of any actual or potential health risk. The training techniques that often induce health risks are lauded as a demonstration of athletic commitment and the work ethic required to succeed. These athletes are not prevented from training on the basis of any ‘actual or potential health risk’. Third, the reference in the last criterion to the ambiguous ‘spirit of sport’, as if it were

¹⁶ Silvia Camporesi and Paolo Maugeri, ‘Genetic Enhancement in Sports: The Role of Reason and Private Rationalities in the Public Arena’ (2011) 20(2) *Cambridge Quarterly of Healthcare Ethics* 248, 251.

¹⁷ Andy Miah, *Genetically Modified Athletes: Biomedical Ethics, Gene Doping and Sport* (Routledge, 2004).

¹⁸ WADA Code (n 2) art 4.3. (italics omitted).

an immutable precept, is highly problematic.¹⁹ To claim that a universal or fixed 'spirit of sport' exists, which only need be applied, is misleading,²⁰ as one only need consider the status of Olympic amateurism during the 20th century as a poignant example of the evolving 'spirit' of sport.²¹ This final criterion operates as a broad 'catch-all' provision available to regulators to exercise decision-making on largely subjective discretionary grounds.

Furthermore, when art 4.3 is considered in the light of fundamental rule-of-law doctrines, it fails for lack of conformity with basic procedural expectations and the minimum standards expected of reasonable and equitable laws.²² There is broad agreement among scholars and jurists that certain minimum procedural requirements must be met, irrespective of the substantive content of the law itself.²³ Given that laws and regulations guide and moderate individual and collective human behaviour, often with very serious repercussions for non-compliance, laws and regulations must (inter alia) be clear, concise, retroactive (not retrospective) in application, open, and relatively stable.²⁴ When assessed against these rule-of-law requirements, the drafting of art 4.3 and its criteria are problematic.

Compounding the shortcomings of art 4.3 is the fact that violations are deemed strict-liability offences. Simply, these offences do not require knowledge or intention on the part of the athlete to establish guilt with respect to a doping violation. Given that strict-liability offences remove the need for the element of intent to be satisfied, it is incumbent upon any authority prescribing such an offence to offer a legitimate basis upon which it is justifying the regulation.²⁵ Nowhere has WADA articulated the legitimate and fundamental social interest necessary to legitimate strict-liability offences under the Code.²⁶ Prior to the Code coming into force, WADA, in 2003, sought an expert legal opinion on the Code's compliance with international and human rights standards. Of the legal opinion's 56 pages, scarcely one-third of a single page dealt with the rationale or legitimate public interest of elite sport.²⁷ While the document acknowledged that, '[i]n classical human right theory and practice, a restriction of human rights by the

¹⁹ Ian Ritchie, 'Pierre de Coubertin, Doped "Amateurs" and the "Spirit of Sport": The Role of Mythology in Olympic Anti-Doping Policies' (2014) 31(8) *The International Journal of the History of Sport* 820.

²⁰ Vincent Geeraets, 'Ideology, Doping and the Spirit of Sport' (2018) 12(3) *Sport, Ethics and Philosophy* 255.

²¹ Luke Harris, 'The Rise and Fall of Olympic Amateurism' (2018) 38(1) *Sport in History* 129.

²² See generally Peter Rijpkema, 'The Rule of Law Beyond Thick and Thin' (2013) 32(6) *Law and Philosophy* 793; Jørgen Møller and Svend-Erik Skaaning, 'Systematizing Thin and Thick Conceptions of the Rule of Law' (2012) 33(2) *Justice System Journal* 136.

²³ See Rijpkema (n 22); Møller and Skaaning (n 22).

²⁴ Ibid.

²⁵ Goldsworthy (n 5).

²⁶ Ibid.

²⁷ See Kaufmann-Kohler, Malinverni and Rigozzi (n 3) [78]–[79].

State must aim at protecting a legitimate public interest',²⁸ it failed to offer anything beyond this mere acknowledgement.

In addition to this failure, what is also not addressed is who may make determinations as to what constitutes a legitimate public interest. Must it be the state, or is it open to a sporting body to make such determinations? On this point, the relevant jurisprudence is silent. The 2003 legal opinion notes as much, and refers instead to the German Constitutional Court as persuasive authority on the matter, that Court previously holding that the relevant 'public interest' may be defined by the body issuing the restriction.²⁹ Additionally, the Court stated that in the case of a sport-governing body prescribing anti-doping restrictions, a legitimate public interest may be the athletes' health, the reputation of sport, and the fairness of the competition.³⁰ Obscure dicta from the German Constitutional Court does not obviate the need for WADA, as the global regulatory agency, to expressly articulate the legitimate public interest of elite sport.

Prior to a third revision of the Code, which took effect in 2015, WADA sought further legal advice from former President of the European Court of Human Rights, Jean-Paul Costa, once more on compliance of the proposed revisions with accepted principles of international law and human rights.³¹ The opinion received addressed eight questions that had been posed by WADA, although Costa was not expressly invited to consider the legitimate public interest of elite sport. In 2017, WADA sought further legal advice, again from Costa, regarding the compliance of the International Standard for Code Compliance by Signatories ('ISCCS') with accepted principles of international law and human rights. The 2017 opinion was delivered in December 2017, with the ISCCS taking effect on 1 April 2018. In the opinion, WADA's recitals and terms of reference simply note that there is 'public interest in preserving the integrity of sport'.³² Nowhere is this pronouncement examined or interrogated; nor was the advice-provider directed to consider this issue. It is critical to articulate the conceptual basis upon which the entire WADA framework rests. For all intents and purposes, it seems to be taken as self-evident.³³

To the limited extent the above legal opinions deal with the rationale for restricting the human rights of athletes, this is wholly restricted to the 2003 opinion, furnished before the Code came into force and effect. In the absence of

²⁸ Ibid [78].

²⁹ Ibid [79].

³⁰ Ibid.

³¹ Jean-Paul Costa, *Legal Opinion Regarding the Draft 3.0 Revision of the World Anti-Doping Code* (25 June 2013) World Anti-Doping Agency <<https://www.wada-ama.org/sites/default/files/resources/files/WADC-Legal-Opinion-on-Draft-2015-Code-3.0-EN.pdf>>.

³² Jean-Paul Costa, *Opinion for the World Anti-Doping Agency (WADA) September-October 2017* (14 December 2017) World Anti-Doping Agency, 4 <https://www.wada-ama.org/sites/default/files/resources/files/costa_opinion.pdf>.

³³ Goldsworthy (n 5).

any further explanation, it appears that the implicit justification is that the value of elite sport is 'self-evidently' in the public interest, to be determined by the relevant governing body if necessary. In November 2019, a further revision of the WADA Code will be presented to the fifth World Conference on Doping in Sport, with the revised 2021 Code entering into force on 1 January 2021. Beyond simply providing a moral and ethical justification for the imposition of strict-liability offences, clear articulation of the public interest in elite sport provides both the foundation upon which the entire regulatory regime derives its legitimacy beyond state-party consent to the Convention, and a directive for regulating unforeseen developments in biotechnology and human enhancement.

III THE FUTURE REGULATION OF ELITE SPORT

The 21st century sees humankind now possessing capacities for biological engineering, shifting the evolutionary paradigm beyond natural selection solely by indiscriminate forces, to artificial selection through purposive choice.³⁴ The favourable genetic traits of athletes, being the product of natural selection over millennia, will no longer be left to chance; they can be manipulated, chosen and designed through selective gene-editing technologies such as CRISPR.³⁵ Athletes, teams and sponsors have the capacity and inclination to utilise these and other emerging technologies in pursuit of success and progress. In this new paradigm, what is a legitimate and acceptable human enhancement becomes a critical issue.

A Performance Enhancement versus Human Enhancement

Human enhancement is now an important matter in applied ethics.³⁶ A central, albeit difficult, distinction to be made is between the concepts of therapy and enhancement. As Bostom puts it, 'therapy aims to fix something that has gone wrong, by curing specific diseases or injuries, while enhancement interventions

³⁴ Elena Senís et al, 'CRISPR/Cas9-Mediated Genome Engineering: An Adeno-Associated Viral (AAV) Vector Toolbox' (2014) 9(11) *Biotechnology Journal* 1402; Allen Porter, 'Bioethics and Transhumanism' (2017) 42(3) *The Journal of Medicine and Philosophy: A Forum for Bioethics and Philosophy of Medicine* 237.

³⁵ Mohammad-Reza Mahmoudian-sani et al, 'CRISPR Genome Editing and its Medical Applications' (2017) 32(2) *Biotechnology & Biotechnological Equipment* 286; Feng Zhang, Yan Wen and Xiong Guo, 'CRISPR/Cas9 for Genome Editing: Progress, Implications and Challenges' (2014) 23(1) *Human Molecular Genetics* 40.

³⁶ Steve Clarke et al, *The Ethics of Human Enhancement: Understanding the Debate* (Oxford University Press, 2016).

aim to improve the state of an organism beyond its normal healthy state'.³⁷ In other words, one can identify or define enhancement by 'the goal of improvement in the absence of medical need'.³⁸ But the distinction between therapy and enhancement remains a difficult one not only to conceptualise and distinguish, but also to regulate.

Performance enhancement is a broad concept. It may extend to capture substances we ingest, the use of enhanced technology, training techniques, altitude training, nutrition, equipment, or any myriad of other interventions. Any aid that improves athletic performance is deemed to be *ergogenic*, from the Greek word for 'generating'. From the fast-suit of the Olympic pool, to the teardrop helmets of the velodrome, developments in technology enhance human performance, allowing athletes to become faster, higher and stronger. A key consideration regarding ergogenic aids that are ingested is whether they arise naturally — that is, are they endogenous? Or alternatively, are they artificial? Moreover, how is this distinction made? Endogenous levels of certain hormones and compounds are relative to every athlete. Furthermore, all manner of environmental factors can affect gene expression without actually changing genes themselves. These effects are what is termed *epigenetic*. From the food we consume, to the quality of our sleep, the type of training in which we engage, and the air pollution to which we are subjected, the result of these environmental factors is an internal response that turns genes off and on.

Epigenetic changes can also be achieved through ceratin supplementation and aids. An illustration of this is erythropoietin ('EPO'). An endogenous hormone, EPO regulates the production of red blood cells in bone marrow. Stimulating the production of more red blood cells increases the oxygen-carrying capacity of blood and, by extension, improves athletic performance in endurance events. Now consider the following technique. If an athlete sleeps in a high-altitude tent to increase EPO, this technique (and, by extension, the resulting enhancement) is deemed reasonable and permissible. Conversely, ingesting or injecting a substance that creates the same effect through the identical epigenetic pathway is deemed unacceptable. Similarly, substances such as beta-blockers (commonly found in anti-anxiety and blood-pressure medication) are banned on the basis that they unfairly improve an athlete's skill in sports such as pistol shooting and archery. By contrast, training in pranayama yoga and certain breathing techniques resulting in similar physiological adaptations are perfectly allowable. While these distinctions may appear fairly non-contentious, upon closer scrutiny they are revealed to be logically and scientifically incoherent.

³⁷ Nick Bostrom and Rebecca Roache, 'Ethical Issues in Human Enhancement' in Jesper Ryberg (ed), *New Waves in Applied Ethics* (Palgrave Macmillan, 2007) 120; see also Bjørn Hofmann, 'Limits to human enhancement: nature, disease, therapy or betterment?' (2017) 18(1) *BMC Medical Ethics* 56.

³⁸ Degrazia (n 1) 263.

What is seemingly critical to anti-doping regulation is not whether an athlete is enhancing performance, but rather *how* that enhancement is achieved. In the absence of any clear objective measure on permissible performance enhancement, the WADA Code confers a discretionary power upon the decision-maker to consider whether an enhancement or intervention fits within the uncertain criterion of 'spirit of sport'.³⁹ This criterion becomes increasingly problematic to define and apply when the distinction between what is natural and what is artificial becomes difficult, if not impossible, to discern. Nevertheless, it remains a distinction upon which doping offences are appraised. Simply stated, what arises naturally within the body is *prima facie* 'natural', and what comes from outside the body is *prima facie* 'artificial'. Such a preference or distinction has been described by Clark as the 'skin bag bias'.⁴⁰ It is clear, however, that the distinction between natural and artificial is less than precise. Similarly, Degrazia points out that the United States Council on Bioethics' report *Beyond Therapy*,⁴¹ mandated to inquire into 'the human and moral significance of developments in biomedical and behavioral science and technology',⁴² made its findings on an assumption that there is a readily apparent distinction between genetic and non-genetic enhancement.⁴³ The report also made normative claims on human nature and human dignity for which no elaboration, metaphysical or otherwise, was offered in support.⁴⁴

For WADA and other regulatory frameworks, this frame-of-reference problem is one reason for not challenging this distinction. Our biases mean that we assign too little credit to environmental factors, while assigning too much to our internal processes.⁴⁵ As Miah speculates, human enhancement technologies are a natural extension of our tool-making genius, and any objection to such enhancement on the basis that it makes supernormal changes to the body dissolves when we consider that memories and mental skills are representations of physical changes in our bodies.⁴⁶ Any distinction made between tool-making and human enhancement, whether that be inside or outside the human body, is done so largely arbitrarily. For sporting regulatory bodies, this assumption

³⁹ WADA Code (n 2) art 4.3.

⁴⁰ Andy Clark, *Natural-Born Cyborgs: Minds, Technologies, and the Future of Human Intelligence* (Oxford University Press, 2003).

⁴¹ Leon Kass, *Beyond Therapy: Biotechnology and the Pursuit of Happiness* (Harper Perennial, 2003).

⁴² *Ibid*, 9.

⁴³ Degrazia (n 1).

⁴⁴ Camporesi and Maugeri (n 16) 252.

⁴⁵ Michael Wilson, Brian Dupuis and Michael Dawson, *From Bricks to Brains: The Embodied Cognitive Science of LEGO* (Athabasca University Press, 2010) 91.

⁴⁶ See Andy Miah, 'From Anti-Doping to a "Performance Policy" Sport Technology, being Human, and doing Ethics' (2005) 5(1) *European Journal of Sport Science* 51; Andy Miah, 'Genetically Modified Athletes: Biomedical Ethics, Gene Doping and Sport' (2004) 3(3) *Journal of Sports Science and Medicine* 197.

permeates and informs the application of art 4.3 of the Code given the subjectivity afforded to decision-makers when appraising doping violations. Although many are inclined to consider human enhancement as something exceptional, this is not necessarily correct.⁴⁷ According to Camporesi and Maugeri, 'the continuum between genetic and nongenetic enhancements does not give principled grounds to claim that some important values we ascribe to sport would be lost were genetic enhancement techniques safe and liberalized'.⁴⁸

Technology now offers the very real opportunity to affect a change or development away from natural selection, toward a version of directed, artificial selection. The ability, aided and facilitated through technology, to so readily and drastically achieve significant self-transformation is now possible. Darwinian evolution considers the importance of environmental (or external) pressures selecting for certain favourable traits that are best adapted to the environment. The claim that this selection is in fact 'natural' is made not only on the basis that it is facilitated through environmental pressures, but also that it is slow, incremental and largely indiscriminate. In the case of human beings, it is not that any internal process is happening independently of the external processes, solely within the 'skin bag' and separated from the outside world. In actuality, a human being's unique genome has evolved precisely *because* of external pressures. This illuminates the current debate, as, when viewed on a greater temporal scale, any attempt to distinguish causation on the basis of what is occurring inside or outside dissolves. What is determinative is the temporal element. Put simply, what really matters is how long the change or enhancement takes.

The speed at which change or enhancement occurs is the foremost consideration regarding anti-doping regulation. Retaining a distinction between internal and external as a guiding principle for the regulation of performance enhancement is no longer tenable with advances in science and a deeper understanding of human physiology. If one accepts that this distinction cannot be meaningfully retained, one must look elsewhere for an explanation to underpin the regulation of performance enhancement. The question is not whether performance enhancement should be sought, as athletes seek to enhance and improve their performance as a matter of course. What is critical, rather, is *how* performance enhancement is sought, and this consideration centres on length of time. Long, protracted and incremental progression and improvement is preferred. Ingesting a pill that supplements performance and aids in slow, long-term change (such as vitamin pills) is acceptable. Short, abrupt and drastic change is not. Ingesting a pill that causes immediate increases in strength and power would likely be prohibited.

⁴⁷ Peter Kakuk, 'Gene Concepts and Genethics: Beyond Exceptionalism' (2008) 14(3) *Science and Engineering Ethics* 357.

⁴⁸ Camporesi and Maugeri (n 16) 253.

In the same way that environmental factors can favour certain genetic adaptations ‘naturally’ over many, many generations, gene-editing technologies can manipulate human genomes and select for genetic adaptations ‘artificially’ much faster. When this difference is interrogated, any moral or ethical argument advanced solely on the basis of what is natural and what is artificial dissolves. The only material difference is the speed of change. So, then, what is the interest in delayed or slowed performance enhancement, as opposed to drastic and fast enhancement? In a society that ordinarily values speed of progress, why, in this instance, is there an apparent preference for the slow and incremental path to performance enhancement?

B *Athletes and Identity*

As human augmentation and enhancement continues to advance, ontological questions concerning human identity and the athlete will come to the fore. Questions of personal identity and ontological permanence have remained philosophical predicaments for millennia.⁴⁹ Human enhancement and augmentation now make these considerations critical for the regulation of elite sport and athletes. Ironically, in contemplating the modern challenges that technology and human augmentation raise, it is useful to consider the ancient Greek paradox of the Ship of Theseus.⁵⁰ The paradox considers whether an object that has had all of its components replaced, such as in the case of a rotting shipwreck, remains fundamentally the same object over time. The human body can be viewed similarly. Within the span of approximately seven years, every cell of the human body will die and be replaced. Humans are, quite literally, not the same people they once were. If this is indeed the case, where does one’s personal identity and psyche lie, and how do we reason continuity of existence?⁵¹

Various theories of identity offer different approaches to resolve this conundrum, namely, those of the mereological theory of identity and spatio-temporal continuity.⁵² In an age of biotechnology, theories of personal identity of this sort will come to have greater ethical and normative bearing on the ethics of sport. A detailed explication of these theories is beyond the scope of this article, although it is instructive to offer a general explanation of the approaches

⁴⁹ See generally Robert Coburn, ‘Bodily Continuity and Personal Identity’ (1960) 20 *Analysis* 117; Tamar Gendler, ‘Personal Identity and Thought Experiments’ (2002) 52 *Philosophical Quarterly* 34; Dilip Ninan, ‘Persistence and the First-Person Perspective’ (2009) 118(4) *Philosophical Review* 425; Harold Noonan, ‘The Complex and Simple Views of Personal Identity’ (2011) 71(1) *Analysis* 72; David Shoemaker, ‘Personal Identity and Practical Concerns’ (2007) 116(462) *Mind* 317.

⁵⁰ Christopher Hughes, ‘Same-Kind Coincidence and the Ship of Theseus’ (1997) 106(421) *Mind* 53; Brian Smart, ‘How to Reidentify the Ship of Theseus’ (1972) 32(5) *Analysis* 145.

⁵¹ Noson Yanofsky, *The Outer Limits of Reason: What Science, Mathematics, and Logic Cannot Tell Us* (MIT Press, 2013).

⁵² See generally David Wiggins, *Identity and Spatio-Temporal Continuity* (Basil Blackwell, 1967).

embedded in each theory. The mereological theory attempts to state the general principles underlying the relationships between an entity and its constituent parts, irrespective of the nature of the entity. This theory holds that the identity of an object depends upon the identity of its component parts, and that an object continues to exist only if it is composed of all the same components through time. But the extent to which the regulation of elite sport requires a theory of personal identity that allows an object to persist through time despite changes to its component parts, the mereological theory of identity is of limited utility.

An alternative theory is that of spatio-temporal continuity, and is likely the necessary theory of identity that can ground the continued regulation of elite sport and human enhancement. This theory requires that a persisting object, such as a human being or enhanced athlete, must persist over time to the extent that it can trace a continuous path through space-time. And tracing a continuous path is compatible with a change of parts, so long as the change is gradual and perceptible, and that the form or shape of the object is preserved through the changes in its component materials. Although questions of this sort remain at the higher levels of abstraction, sport regulators must address them if meaningful and theoretically sound regulation is the desired outcome. For elite sport, that a position be taken on the ontological status of the enhanced athlete is entirely necessary, because it is only through such a conceptual grounding that graduations of human enhancement over time are possible, and permissible.

Implicit in such considerations of personal identity is the assumption that the subject of regulation will remain the human athlete. This is not necessarily the case, and it becomes a practical consideration where the technologically enhanced human being may no longer neatly fit a more classical definition of what it means to be a human being. The law reconciles this challenge through the designation of 'personhood' status and, by extension, all the rights, duties and obligations that flow from that designation.⁵³ Naffine argues that one of the biggest intellectual — and moral — battles is 'between those who say that the law does not and should not operate with a natural conception of the person and those who say that it does and should'.⁵⁴ For Naffine, those in the first camp are 'legalists', while those in the second are 'metaphysical realists'. When considering biotechnology and human enhancement, the vernacular that captures essentially the same distinction is that of the 'transhumanists' (possessing a more liberal view on the conception of personhood) and the 'bio-conservatists' (possessing a more conservative approach to the concept of the

⁵³ See Visa Kurki, 'Why Things Can Hold Rights: Reconceptualising the Legal Person' (University of Cambridge Faculty of Law Research Paper No 7/2015, 16 April 2015).

⁵⁴ Ngaire Naffine, *Law's Meaning of Life: Philosophy, Religion, Darwin and the Legal Person* (Bloomsbury Publishing, 2009) 20.

human being). This normative distinction is important, as it frames the status of, and subsequent approach to, the enhanced athlete.

Transhumanism is an ideology that contemplates the self-directed modification of the human being by any kind of emerging science or technology.⁵⁵ This may include genetic engineering, digital technology and bioengineering. Critical to transhumanism is the use of prosthetics, implants and modifications not simply to compensate for normal 'human' functions (such as the cochlear implant, for example), but also to enhance normal human functions, essentially upgrading the human form and experience. Such developments represent the possible dissolution of the human subject. This follows because the qualities that constitute the human subject — traits alleged to be unique and exceptional to us alone in the universe — are no longer unique or exceptional. They can be created and developed artificially through technology.⁵⁶ Implied in the Olympic motto of *faster, higher, stronger* is that pursuit of athletic excellence is for human beings, by human beings, in competition with other human beings. Given that this athletic ideal is grounded in humanism, challenges to human exceptionalism of the sort that technology raises test the very foundations of Olympism and the pursuit of human excellence. So, then, what is the status of the enhanced athlete in a transhuman landscape, and what does this portend for the regulation of elite sport?

In the context of elite sport and the regulation of performance enhancement, a pragmatic approach to regulatory questions of self-identity and the ontological permanence of athletes is necessary. The justification that meets the pragmatic ends of WADA and sporting regulators must lie in a spatio-temporal conception of personal identity. But this justification establishes the enhanced athlete as a relevant subject *for* regulation; it does not justify the *basis* upon which WADA asserts its regulatory mandate to restrict the rights of athletes. This is a different issue, and one that requires WADA to articulate the social value or public good and relevance of elite sport to justify its regulatory mandate. As demonstrated in Part II above, WADA has to date failed to offer any such justification.⁵⁷

The identity of enhanced athletes requires a conceptual grounding that allows for the effective regulation of the enhanced athlete, and it is the spatio-temporal theory of personal identity that permits and rationalises continued regulation. Given the absence of a principled justification for the 'natural versus artificial' or 'inside versus outside' distinctions, a more plausible criterion is that of timeframe, as required by the spatio-temporal theory of personal identity. If

⁵⁵ Nick Bostrom, 'Human Genetic Enhancements: A Transhumanist Perspective' (2003) 37 *The Journal of Value Inquiry* 493.

⁵⁶ Rosi Braidotti, 'Posthuman, All Too Human: Towards a New Process Ontology' (2006) 23(7) *Theory, Culture & Society* 197; Rosi Braidotti, *The Posthuman* (Cambridge Polity Press, 2013); Cary Wolfe, *What is Posthumanism?* (University of Minnesota Press, 2010).

⁵⁷ Goldsworthy (n 5).

the enhancements to an athlete are not sufficiently gradual and perceptible, there will be a rupture in continuity. If aspects of the athlete are changing, which they will, continuity of identity must be established, and that centres on speed of change.

IV A CONTINUED RATIONALE FOR EFFECTIVE REGULATION

The preference for slow change and the progression of performance enhancement, necessary under the temporal element in spatio-temporal theories of personal identity, must also be grounded in a legitimate public interest in doping-free elite sport. More so than ever before is it necessary to define this overarching rationale so as to ensure that frameworks seeking to regulate elite sport are coherent, appropriate and adaptive in an age of rapid and exponential technological advancement. When seeking to frame regulatory requirements, Bostrom presciently observes:

Performance-enhancing drugs appeal to competitors for the same reason that the latest training regimes, psychological techniques, and clothing appeal to them: they hope to gain an edge over their competitors. We might say, then, that performance-enhancing drugs are attractive chiefly because they confer *positional goods*: goods whose value to those who have them depends upon others not having them.⁵⁸

A chief concern for those who oppose human enhancement in elite sport is that it will lead to a situation where those who refuse to utilise the technology to enhance themselves, or who do not have the means to do so, are left behind while those with the willingness and money to enhance themselves strive to utilise this unfair advantage.⁵⁹ This would allow factors such as money, medical support staff, a physiology that takes well to high doses of certain drugs, and a willingness to sacrifice long-term health to play a far more central role in professional sport than many would wish.

The Australian Law Reform Commission's Report, *Essentially Yours: The Protection of Human Genetic Information in Australia*,⁶⁰ which is the most comprehensive inquiry ever undertaken into these issues in Australia or overseas, cited with approval American political philosopher Francis Fukuyama's comments on biotechnology:

We must regulate its development — and set up institutions that will discriminate between those technological advances that further human flourishing, and those that

⁵⁸ Bostrom and Roache (n 37) 130.

⁵⁹ Michael Sandel, 'The Case Against Perfection', *The Atlantic (online)* (1 April 2004) 10.

⁶⁰ Australian Law Reform Commission, *Essentially Yours: The Protection of Human Genetic Information in Australia* (Report No 96, 2003).

pose a threat to human dignity and well-being. These regulatory institutions must have the power to enforce these discriminations on a national and, ultimately, an international level.⁶¹

Whether performance-enhancing drugs and human-enhancing technologies should be permitted in sport ultimately depends upon what one believes the *raison d'être* of elite sport to be. When WADA sought legal advice on whether its Code conformed to international human rights obligations, it was seeking a response to this very question.⁶² Although flagging the need for a justification, the expert legal advice did not offer or suggest a basis for what the public interest justifying WADA's mandate is, or continues to be. The following hypothetical scenario and subsequent test offers a possible framework and answer to that issue.

A Closed Olympic Games Scenario

Consider the following. The Olympic Games are held, but no events are televised and no spectators are permitted to attend. For all intents and purposes, it is a 'closed' competition. It is not possible to view the Games in any way; nor is it possible to view footage or replays of the events that take place. Although events are contested out of view, the results are still recorded. It is known who comes first, second and third, but no further performance measures or indicators (such as times, heights, weights, etc) are given.

With this in mind, contemplate whether we would insist on keeping this closed version of the Olympic Games doping-free.

To this, one may reasonably respond: 'Who cares! What's the point?' Such a response reveals an important, albeit obvious, insight. It is *spectatorship* that is inexorably connected to the 'need' for regulation. We are communal beings who rationalise and make sense of our world, and our place within it, relative to, or in contradistinction with, others. Significantly, spectatorship is required for elite sport to have 'social' utility, or for it to be in the 'public interest'.

B The Fundamental Public Interest in Elite Sport

The author contends that the fundamental public interest in elite sport is realised through the concept of spectatorship. As such, it is grounded in two core principles:

⁶¹ Australian Law Reform Commission, *ibid* 176, citing Francis Fukuyama, *Our Posthuman Future: Consequences of the Biotechnology Revolution* (Profile Books, 2002) 181–2.

⁶² Kaufmann-Kohler, Malinverni and Rigozzi (n 3).

1. Spectating elite sport *fosters the passive pursuit of human excellence*, which is fundamental to the human condition and, by extension, a compelling social good; and
2. To satisfy the passive pursuit precondition, it is necessary that the public *reasonably believes itself capable* of pursuing this expression of human excellence (in this case, athletic excellence). This perception must arise irrespective of physiological, genetic, social or economic factors.

Consequentialists generally agree that the ‘good’ required in this context must be agent-neutral, which is to say that valuable states of affairs are those that all individuals have reason to achieve without regard to whether they are achieved through the exercise of one’s agency.⁶³ More simply put, the public good must be an objective good that is not contingent upon one’s capacity or agency. This test meets those requirements. In a future of human enhancement, articulating both the current and future social value of elite sport is critical to the success of any regulatory framework.

1 *First Limb: The Passive Pursuit of Human Excellence*

Given the limited number of people who can *actively* pursue human excellence at the highest level, the first guiding principle is that elite sport facilitates the *passive* pursuit of human excellence. It can be said that pursuit of human excellence,⁶⁴ self-transcendence,⁶⁵ self-overcoming,⁶⁶ self-actualisation,⁶⁷ human flourishing,⁶⁸ or the like, are fundamental projects essential to the human condition and are intrinsically valuable. Implicit in this ‘passive’ pursuit is the need to facilitate access to the highest expressions of humanity’s pursuit of athletic excellence.

⁶³ Derek Parfit, *Reasons and Persons* (Oxford University Press, 1984); Thomas Nagel, *The View From Nowhere* (Oxford University Press, 1986).

⁶⁴ Michael LeBuffe, *From Bondage to Freedom: Spinoza on Human Excellence* (Oxford University Press, 2010).

⁶⁵ Viktor E Frankl, ‘Self-Transcendence as a Human Phenomenon’ (1966) 6(2) *Journal of Humanistic Psychology* 97.

⁶⁶ André van der Braak, ‘Zen and Zarathustra: Self-Overcoming without a Self’ (2015) 46(1) *Journal of Nietzsche* 2; Michael Monahan, ‘The Practice of Self-Overcoming: Nietzschean Reflections on the Martial Arts’ (2012) 34(1) *Journal of the Philosophy of Sport* 39.

⁶⁷ Willard Mittelman, ‘Maslow’s Study of Self-Actualization: A Reinterpretation’ (1991) 31(1) *Journal of Humanistic Psychology* 114; J Guthrie Ford, ‘Rogerian Self-Actualization: A Clarification of Meaning’ (1991) 31(2) *Journal of Humanistic Psychology* 101; John Rowan, ‘Self-Actualization and Individuation’ (2015) 43(3) *Self & Society: An International Journal for Humanistic Psychology* 231.

⁶⁸ TJ VanderWeele, ‘On the Promotion of Human Flourishing’ (2017) 114(31) *Proceedings on the National Academy of Sciences in the United States of America* 8148.

2 *Second Limb: A Reasonable Belief of Capability of Pursuit*

There is a lexical ordering of the two core principles of the test, as the second principle stems from satisfaction of the first. The second principle poses the question: Does the majority of society — those passively pursuing human excellence — reasonably believe themselves to be capable of achieving this level of performance or excellence? For this passive pursuit to be satisfied, athletic performance must, at least conceptually, remain within the realm of possibility and contemplation for the public; it must not be too remote.

An ancillary question required to be considered is whether the relevant performance enhancement (whether a technique, substance or otherwise) is *generally accessible* to the athletic population, such that if a ‘spectator’ were an athlete, she or he could reasonably access that enhancement. Whether the enhancement was something as progressive as gene-editing, or something as ubiquitous as vitamin pills, the determinative factor would be the accessibility (or otherwise) of the enhancement. Any question of general accessibility would then be contingent on socioeconomic, cultural, scientific or other factors. This would serve to address the issue of the unequal playing field — an idea antithetical to Olympism and sport. What becomes important is that the spectator (the public at large) can actually access the enhancement, and that there is a reasonable belief that access to the enhancement is generally possible if not ubiquitous.

The significance of this proposal may be gleaned if we were to consider an alternative framework: one that seeks to prohibit the use of certain enhancements that have become reasonably available to ‘ordinary’ citizens, enabling them to utilise such enhancements and outperform elite athletes. If one could generally access technology to upgrade the muscle fibres in one’s legs and run faster than Usain Bolt, would people still watch or care about athletes competing in a non-enhanced 100m sprint? It is unlikely. This may be a curious inevitability of a regulatory regime that refuses to permit enhancements and upgrades otherwise available and accessible to the general population. The point at which the public becomes more enhanced than the athlete is the point at which sporting regulation becomes a failed project.⁶⁹

This accessibility principle is also consistent with the temporal consideration relating to speed of enhancement. The speed of the enhancement is no longer the determinative consideration regarding the natural/artificial question, but rather a consideration for whether the enhancement(s) are incremental and sufficiently perceptible (and therefore broadly socially acceptable) so as to foster a ‘reasonable belief’ under the Second Limb. It would also permit a regulatory

⁶⁹ Andy Miah, ‘Overview of a Current Ethical Challenge in Anti-Doping’ (Conference Paper, 2017 Macolin Anti-Doping Summit: A Fresh Look at the Science, Legal, and Policy Aspects of Anti-Doping, 28 April 2017) 159.

framework that was capable of contemplating scientific and economic disparities between the global north and global south through the lens of accessibility.

V CONCLUSION

Biotechnology and human enhancement pose inescapable challenges for the regulation of elite sport. This article has sought to offer several insights. One is that, in an era of human enhancement, the spatio-temporal theory of personal identity and ontological permanence provides an effective conceptual basis for regulating the enhanced athlete. Furthermore, the author has offered an answer to current uncertainty surrounding the legitimate public interest or social value of elite sport necessary to justify the imposition of regulatory parameters. The current — and continued — value of elite sport lies in its ability to facilitate the pursuit of human excellence, itself an intrinsic universal good. The pursuit of human excellence by the public in this regard is a passive pursuit, through spectatorship. This clear articulation can enable institutions such as WADA to orient regulatory regimes in effective, dynamic and adaptive ways, while providing a rationale for the regulation of athletes and sports generally.

Reconceptualising the regulation of elite sport as guided by these ideals allows for the reorientation and development of effective regulatory frameworks that extend to the regulation of the enhanced athlete. The proposed two-limbed test offers a solution to several current and emerging developments confronting sport regulation. Naturally, new sets of challenges will emerge regarding definitions, application and enforcement. As with all regulatory systems of this nature, they are replete with words that are easy to state, fascinating to discuss, difficult to interpret, but critical to apply. This should not serve as a bulwark to progress. In the active pursuit of excellence, athletes will aspire not only to be faster, higher and stronger, but to be *upgraded* as well. Grounding regulation this way permits regulators the latitude to respond and adapt to future developments and challenges in an uncertain future.