

Sport Tomorrow? Fewer Records, But More Science, Integrity and Ethics

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Thinking About Tomorrow

On the time scale of the existence of *Homo sapiens*, human engagement with the cultural practice of what is commonly known as sport is rather recent. Even if play and games have likely been around for a much longer time, perhaps even as long as *Homo sapiens* has been in existence, sport as we see and practise it today has its beginnings in the late-nineteenth and early-twentieth centuries. Over the last hundred or so years of its existence “modern” sport has continuously evolved. For example, the Olympic Movement dropped the amateur principle, the professionalisation of elite sport became a mainstay, and a new World Anti-Doping Agency (WADA) took on (anti-)doping in competitive elite sport from a globalisation perspective.

Predicting what more is to come, but is as yet hidden behind the horizon, is difficult. Even when taking into account all imaginary variables it remains an exercise of looking into a crystal ball, and one is inevitably overtaken by reality writing history. During our lifetimes we all have daily rendezvous with our future and we continuously make predictions about tomorrow, a prerequisite for survival. Even if some of these predictions can fortunately be made with high levels of likelihood – at least on shorter time scales – making predictions about what lies beyond a horizon further away quickly becomes difficult, and futurology remains an uncertain endeavour. Nevertheless, we regularly ask ourselves what the distant future will be like. But predicting developments, even within the limited life spans that we as individuals living in our time have, is difficult, even if one does so from a well-informed scientific perspective.

Human Performance and Records

For example, exercise physiologists thought that Mount Everest (at 8,848 m it is the highest mountain on earth) could not be climbed without the use of bottled oxygen because of a too low barometric, and therefore ambient oxygen pressure, incompatible with human life. In 1978 the pioneer climbers Reinhold Messner and Peter Habeler proved them wrong, thereby writing history and forever changing Himalayan climbing as well as altitude physiology and medicine (West, 2010). As another example, many sport scientists have stated that running a marathon in less than two hours is impossible (see, e.g., Tucker and Santos-Concejero, 2017). But since Eliud Kipchoge improved the world record in 2018, setting it at 2 hours, 1 minute and 39 seconds, it is just ninety-nine seconds away from the two-hour mark. A mere 1.4% remains to be shaved off to get to the two-hour mark (i.e., running each kilometre just over two seconds faster), and therefore this prediction might in the end very well also turn out to be mistaken.

These examples also illustrate how strong combinations of the right talent, training, and environment can create strong symbolism around an, in essence, arbitrary obstacle (the fortuitous altitude of the highest mountain on earth in relation to the characteristics of the earth's atmosphere, or the definition of what "one hour" stands for and the distance in kilometres of the marathon) and that this can fascinate people. Just like Mount Everest is as about as high as *Homo sapiens* can climb without breathing extra oxygen from bottles, the two-hour marathon seems to represent a physiological limit for the human species that only some extreme outlier of *Homo sapiens* can approach.

This fascination for extremes in human endeavour, especially in sports that measure performance in seconds, grams, and metres, might well level out and stop being meaningful. Why? Because even though we can expect some other outliers of our times, like the amazing Usain Bolt or Eliud Kipchoge, to continue to improve records in their specialties somewhat, neither the 100 m dash nor the marathon will ever be run in zero seconds, and our record-breaking era will end by levelling out at some point commensurate with the limits of biology and physics (while taking into account that evolution continues). Colleagues have modelled that this will likely happen in two to five decades from now, depending on the sport (Berthelot *et al.*, 2008). Will this influence the future of those sports? Given the history of "modern" sport of some hundred years or so, fifty years would seem a lot. It would thus seem likely that there will be important changes on the way, given the present dynamics of the world in general and that of sport in particular.

Zooming out again to another time scale, that of our species, *Homo sapiens* appeared about some 200,000 years ago. It is important to realise that for most of that time not much changed in the way we went about our daily lives, or if it did, it did so at a slow pace. Expressed in percentages,

only 3% ago we started farming, 0.1% ago we started industrialization, and nowadays major technological changes (e.g., the Internet, GPS, smart phones) succeed each other within the lifespan of an individual, the latter lasting only a fraction of a percent of our species' timeline. What is striking is the acceleration of change, leading to a feeling of uncertainty about where this rapidly transforming world will lead to and prompting futurologists and science-fiction writers to imagine widely differing futures.

Science and Sport

Important drivers of societal change are science and technology. Thus the “scientisation” of sport is also changing it. Human inventiveness is unstoppable, creating opportunities and sometimes imposing change through technological imperatives. Inventions cannot be un-invented; once the technology is there its use can at best be regulated, if deemed necessary, and this principle also applies to sport. For example, artificial turf, swimsuits, hypoxic tents, video arbitration, pharmacology; these all created tension between different visions of what sport was, is, and “should” remain or become. The advent of the full-body low-drag swimsuit exemplifies how technology can change a practice and how this can be interpreted as a loss to the practice and later be regulated (<http://www.fina.org/content/fina-approved-swimwear>). The clap skate for speed-skating, on the contrary, is an example where such a technological advancement was gradually embraced by all, leading to significant improvements in records and a lasting change to the sport (Houdijk, Wijker, De Koning, Bobbert, and De Groot, 2001). The advancement of pharmacology and especially the advent of the easy manufacturing of recombinant human hormones such as erythropoietin led to changes in doping behaviour and the advent of modern anti-doping. This was likely triggered by the so-called Festina affair in 1998, when systematic doping was uncovered in several cycling teams participating in the Tour de France, in whose aftermath the globalisation of anti-doping work by WADA was to result (Kayser, 2018).

What other technologies can be expected to impact on sport in the near future? I expect that the rapid advancement of neuroscience will continue to spawn pharmacological and other techniques. Now also known by the term “brain hacking,” this includes techniques such as transcranial brain stimulation, with its potential for performance enhancing effects. How society in general, and sport specifically, will react to such technology remains to be seen and is subject to vigorous debate (Campbell, Toth, Moran, Kowal, and Exton, 2018; Greely, 2010; Sahakian *et al.*, 2015).

Some other formidable challenges lying ahead for humanity will undoubtedly also have an impact on sport. The sustainable development goals, resulting from the realisation that the planet's resources will be outstripped by

demand if everybody was to adopt the lifestyle of rich countries, for example, are perhaps already indirectly impacting on how the Olympic Games and other big sports events are perceived. The recent problems in finding host cities in the Western world seem to indicate a shift in relation to the perceived limits of globalisation (Bakhsh, Potwarka, Nunkoo, and Sunnassee, 2017).

Another major paradigmatic change has been brought about by bio-medical inventiveness and especially our increasing level of understanding and mastering of the genetic code of life. Before the discovery of CRISPR-Cas9 and its use to more easily change the genetic code, the prevailing stance was one excluding any human germ-line code editing. This stance has now become more nuanced, as the technology becomes more and more precise (Gerhke, Cervantes, Clement, Pinello, and Joung, 2018). The 2018 announcement of the birth of twins in China in whom the technology was allegedly used to change a gene related to HIV susceptibility now indicates that humankind *de facto* may already have become a writer of its own genetic code, despite considerable ongoing reservations (Büning *et al.*, 2018). The step towards genetic engineering of performance thus increasingly appears to be looming on the horizon. Last, but not least, digitalisation and its products such as artificial intelligence, augmented reality, and especially e-sport will also undoubtedly impact on sport (Heere, 2018; Hilmkil, Ivarsson, Johansson, and Kuylenstierna, 2018).

All these developments can be expected to also impact on international sport governance, which in itself is also subject to rapid changes and changing horizons (see, e.g., Chappelet, 2017 for an overview), as discussed in the following paragraphs.

Sport Governance

On 27 May 2015, just before dawn, seven high-ranking FIFA officials were arrested at the prestigious Hotel Baur on the shores of Lake Zürich in Switzerland. Their presence was related to the election of Sepp Blatter for a fifth term as president. This event was another in a series of loudly mediated scandals around corruption and lack of proper governance. The Swiss arrested the suspects on behalf of the US judicial system. The latter had collected evidence suggesting wide-scale corruption practices with money transiting through US bank accounts, providing the legal hooks to make a case in Switzerland. Several of the suspects were extradited to the US and handed over to the local judiciary, and in the following months it appeared that problems of mismanagement were endemic (Bayle and Rayner, 2018; Slattery and Kuylenstierna, 2018).

This wasn't the first time that such a scandal had surfaced: the 2002 Winter Games in Salt Lake City were likely bought; Tamas Ajan, president of the International Weightlifting Federation for fifteen years, could

not explain the disappearance of EUR 5 million obtained from the IOC; Ruben Acosta obtained a commission of EUR 33 million during his twenty-four-year long presidency of the International Volleyball Association; Hassan Moustafa as president of the Handball Federation gave himself a 500% salary increase (Geeraert, 2017). More recently the IAAF scandals also show how high-ranking officials seemed more interested in money than sport (Krieger, 2018). And this anthology is largely incomplete, as it only mentions some of the cases that have come to light, like the tip of a largely hidden ice-berg (Chappelet, 2017).

These are therefore just a few examples of a seemingly accelerating series of revelations of sport's negative aspects, such as doping, match-fixing, illegal betting, corruption, violence, and discrimination. Globalisation, professionalisation, and commodification have led to a dynamic in which conflicting forces lead to both excesses and calls for change, calls for more integrity and more ethics. This has now led to what some even call a new industry. But what is integrity and ethics all about? Are we sure that we are all talking about the same concepts? There seems to be quite some confusion and misunderstanding, as well as window-dressing in highly politicised settings. Hypocrisy is a common human trait; we are all hypocrites. The question is where to draw the line and how to organise things so as to share and keep to them. So what is this call for integrity about? Can ethics help?

Integrity and Ethics

At its simplest, ethics is a system of (shared) moral principles. They influence the decisions on how we lead our lives. It concerns our moral decisions – what is good and bad? It concerns the language of right and wrong; it is about our rights and responsibilities, and about how to live a good life. That sounds kind of simple, but it isn't. The boundaries of what is ethical are not necessarily clear and are under the influence of culture and hence time. Philosophers have been debating on ethics since time immemorial. This has resulted in a framework for enquiry that can help us to address problems that present moral dilemmas. But philosophy does not necessarily give us ready-made answers.

Here is an example to illustrate the point. Imagine you are standing next to a lever. There is a runaway trolley barrelling down the railway tracks. Ahead, on the tracks, there are five people tied up and unable to move. The trolley is heading straight for them. If you pull the lever, the trolley will switch to a different set of tracks. However, you notice that there is one person on the side track. You are confronted with a dilemma: do nothing, and the five people on the main track will get killed, or divert the trolley onto the side track where it will kill one person. The majority of you when asked will say: kill one to save five, but not all of you. Now imagine that

instead of standing next to the lever you are standing next to a fat person on a bridge over the track. By pushing the fat person from the bridge onto the track, you can again stop the trolley from killing the five people. Now only a minority of you would agree to this act, even though simple arithmetic suggests the same outcome. Many variations of this trolley dilemma exist and have contributed to clarifying the underlying questions to help us make such difficult choices. But there are also numerous problems with what now has become known as “trolleyology,” as declared choice is not necessarily what actually would happen in real situations (Badger, 2011). Now, one might say that this is all theory and useless academic blabber. But it is not. Think about the future of traffic. Driverless cars exist and we have to programme these cars to make such decisions. What if we can programme our cars to prevent almost all accidents caused by human error, including driving under the influence, but unfortunately kill the occasional innocent passenger or bystander because of the limits of autonomous car technology? Ethics can help by eliminating confusion and by clarifying the essential issues at stake, even though ethics cannot give single answers to difficult questions. Moral ambiguity is and will remain rife. This is also the case in sport, on the playing field, and around it. Think, for example, about video arbitration in soccer and what artificial intelligence might do to the playing field if it were introduced.

And what does integrity have to do with all of that? And what actually is integrity? The word integrity is used in many contexts; integrity may, for example, refer to being true to maintenance of identity, keeping to some core values. It may thus refer to individuals, with respect to keeping true to themselves. But such integrity does not necessarily mean acting morally; a person of integrity might act immorally. What is important is that this also applies to organisations. The word is also used to refer to moral integrity, which relates to keeping to a set of certain shared values that make sense to a specific community in space and time. These clarifications are essential because it is perfectly possible to imagine a sport organisation that as a body is upright and acts in a coherent manner, but is involved in activities with consequences that can be considered immoral.

There are numerous examples where reflection and action are necessary in sport: cheating, match-fixing, doping, hooliganism, gigantism, bribery, corruption (Chappelet, 2017). These areas of tension pose many ethical dilemmas that need well-reasoned and broadly accepted decisions. Right now the diagnostic is still one of a lack of sufficiently high standards of moral integrity in the world of organised sport.

The original international federations, most of them dating from the times of amateur sport and founded on the principle of volunteer work by sport lovers, have shown themselves incapable of changing in reaction to the maelstrom of commercialisation and politicisation of top sport over the last fifty or so years. The enormous financial growth of the sport sector, in large

part the consequence of the spectacular increases in broadcasting revenues, was not accompanied by necessary changes in organisational structures.

At the same time, the old ideal of the aristocratic amateur sportsman, who believed that serious training was simply not done, has been completely replaced by the professional athlete for whom the Olympic motto “Faster, Higher, Stronger” is taken literally; a winner-takes-all culture has developed with the ensuing slippery slope towards doping, match-fixing, and the instrumentalisation of sport and athletes for political and other goals.

Despite these troubled waters, the ideal of pure sport is still put on a pedestal and is used but also misused. The modern athlete is asked to be an *Übermensch*, an impossibly ideal creature of impeccable status (or even better), while some managers – only Mensch – continue to violate all imaginable laws and commandments. Just as for politics in general, sport politics is not free from large doses of Machiavellism and hypocrisy.

Looking for Change

So there are good reasons to look for ways to improve. Looking back at where it all went wrong, and seeing that much still goes wrong today, is important. It will help in finding the right recipes for structural change that reduce the probability of future failings. Applying good principles of governance and introducing more transparency and more robust control mechanisms will likely be of help. There still is a lot to do, that may be clear, but there are also signs that there is movement in the right direction (Chappellet, 2017). Although politics have long treated the request for the autonomy of sport favourably, legislation is increasingly being applied to the world of sport. But conflicts of interest may lead to a slowing of the pace. Switzerland’s reluctance to adapt its law has perhaps also to do with the fact that a majority of international federations have their headquarters there.

Most would agree that improving sport governance is necessary. But it is important to discuss what exactly we understand by improvement. Improvement is by definition situated in the future and implies doing things differently from what was done previously. Improvement is looking ahead, a look towards the horizon. But horizons of improvement can become cluttered with ideology. Those who want and push for improvement do so in the conviction that the new way will be better. It is a promise that things will improve, which takes time. But in the meantime many things can happen, and not all the changes will necessarily be improvements. The ideal at the basis for change in order to improve something may take on utopian dimensions, in the sense that the promise is unachievable. This is not without danger because it can lead to a goal-justifies-the-means dynamics, with out of proportion changes that potentially can lead to negative, even though unintended, side-effects (Kolnai, 1995).

It is therefore important to ask the question of where we are heading over the longer term. What will global sport governance look like in the future? Where will today's dynamics lead us to? Voices can regularly be heard saying that there is a need for more global governance in sport. In 2001, Kofi Annan, then-Secretary-General of the United Nations, appointed the former Swiss president Adolf Ogi as Special Adviser on Sport for Development and Peace. This function was taken over in 2008 by Wilfried Lemke who stepped down in 2016. For the time being, the activities of this United Nations Office on Sport for Development and Peace are limited to the promotion of sport as a vehicle for positive social change. But now that we are confronted with all these scandals and problems, should we perhaps start thinking about extending this mandate to include regulation and control? Or should we create a United Nations Office on Sport and Crime? An office that with the help of Interpol and national executive powers could begin to clean sport up? The US have started and played a major role in bringing the management of FIFA to justice. Sandro Arcioni has imagined a World Sport Governancy Agency that would provide global checks and balances for sport (Arcioni, 2015). Others have, for example, proposed a World Anti-Corruption Agency (WACA) or a less constraining International Sport Integrity Partnership (ISIP) (see, e.g., Chappelet, 2017).

Anti-doping

This brings me to the dynamics of doping and anti-doping and all the issues around sport governance in organisations such as FIFA or IAAF, and the interactions with the politics of states such as Russia, Kenya, or the USA. These dynamics ask for more action, action which is badly needed. But an important question is: What exactly needs to be done? Better principles of management, more transparency, and more robust control mechanisms are certainly needed. But some restraint could perhaps also be of use. The principle of minimum regulation is also applicable here.

With regard to the dynamics of doping scandals, these generally lead to a request for more means for repression, and now not only in elite sport but also in amateur sport (Henning and Dimeo, 2017). In this case it looks indeed as if a utopian promise of a doping-free sport for all brings about a climate of "the goal justifies the means." The question of whether this dynamic might not lead to more problems than it prevents is a relevant one. Is a full blown "war on doping" a good idea? Is the direction we are taking the right one or is it morphing into a dystopia? There is a precedent here of our disastrous experience with the "war on drugs," which was started in the sixties by President Nixon and then reinforced by Presidents Reagan and Bush with the help of an increasing number of other heads of state. This war on drugs was also made possible by a very conservative United

Nations Office on Drugs and Crime, making it very difficult for UN member states to experiment with alternative ways of dealing with drugs (see Kayser, 2018, for a detailed discussion). These experiences make one think that global governance of sport could also lead to unintended side-effects if it set itself unachievable goals. Perhaps we should tread carefully.

Epilogue

In the meantime, mega sport events such as the Olympic Games, the World Soccer Championships, and road cycling races such as the Tour de France and the Giro d'Italia are on the agenda. I certainly do look forward to them, but perhaps no longer with the same naïve excitement as I experienced as a kid in the 1960s, when I enjoyed watching those passionate amateurs who did their utmost best with limited means. Have we forgotten that athletes are just humans? Can a champion just be and remain “nur Mensch,” just human? Sport was play, but is sport still play? Has sport become too serious? Was Bill Shankly right when he said: “Some people think football is matter of life and death. I assure you, it's much more serious than that.”

Yes, it is complicated, and there is a lot of room for improvement. This will take time and effort and asks for transparency and democracy in an exchange between sport organisations, governments, NGOs, athletes, and spectators, but also academics.

So what can we look forward to? What can we expect on the horizon? Some important developments can readily be expected. For example, the end of the gram-minute-metre record-breaking era (Berthelot *et al.*, 2008), because our talent selection and its training will have identified the ultimate outliers of *Homo sapiens* phenotype beyond that of the Usain Bolts and Eliud Kipchoges of today. Another important development that seems to be on the verge of changing sport is digitalisation and its results, such as artificial intelligence, augmented reality, and especially e-sport. The genetic revolution and its looming gene-doping variant in sport seem for the moment to be more science-fiction than reality, but that might very well change more quickly than expected.

Some more trivial predictions can be made, too. For example, the two-hour marathon might turn out to be possible for *Homo sapiens* once the extreme outlier is found. And returning to our discussion of climbing high peaks in the Himalayas, perhaps someone will manage to climb all fourteen peaks higher than 8000 m within one year.

What is sure is that there will be change, some of which we as individuals unfortunately won't be able to witness, given our limited life span. The latter is not up yet for much change despite the buzz created by some predicting that the first person with a one-thousand-year lifespan is already born, given the pace of biomedical discovery (Grey, 2017), but that is a prediction that will take quite some time before it can be verified.

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