

SPORT AND SUSTAINABILITY

Will Atkinson

The politics of sustainability

Sustainability and environmentalism have become increasingly prevalent terms in many aspects of society. We are increasingly made aware of the importance of sustainable transport and reducing energy use, we are informed of the provenance and ‘air miles’ of our food and the ‘carbon footprint’ of our activities, and governments aim to create ‘green jobs’. In 2010, British Prime Minister David Cameron stated that the coalition government would become the ‘greenest government ever’, which indicates how the values of environmentalism are now part of mainstream politics.

It is the spectre of climate change, however, that has dominated the discourse of environmentalism and sustainability so far this century, taking over from concerns over global warming in the 1990s. Despite the breadth of the values of the sustainability movement and the innumerable ways in which these can impact on our lives, climate change, the importance of sustainable transport and green jobs, for example, are invariably framed in terms of how to mitigate the risks of or adapt to climate change. This is also reflected in the media profile of the UN Climate Change Conferences, where leaders from around the world ‘thrash out deals’, aiming to reduce the use of fossil fuels. In terms of responses or ‘solutions’ to climate change and many other environmental concerns, technology is often seen to be the answer. Hi-tech solar panels and wind farms are more commonly seen to be environmentally friendly solutions to energy demands than changing consumers’ habits and ‘geoengineering’ or ‘climate modification’ interventions such as reflecting sunlight back into space and seeding the atmosphere with non-greenhouse gases.

Media focus on sustainability issues may focus primarily on climate change, but the difficulties of reaching a consensus at the UN Climate Change Conferences does show how difficult these issues are to ‘solve’ because of the geographical, temporal and political breadth of the discourse surrounding sustainability. Actions, reactions and solutions are global and local; coal-fired power stations in the UK may impact on sea levels in the Seychelles in three generations’ time. It is therefore evident how a focus on climate change can lead to a loss of perspective on how environmental issues can be more local and immediate, and perhaps also a loss of perspective on how actions on a non-global scale can point towards a more sustainable future.

This chapter therefore aims to draw attention to immediate, local environmental issues of sport, most centrally how the nature of sporting environments can impact on the sustainability credentials of the sports industry, with a focus on the ‘technologisation’ of once ‘natural’ sporting environments: geoengineering solutions to climate change may sound imposing and extreme, but we have been modifying our immediate and indoor climates for centuries through heating and cooling systems, and sport environments are no different.

The specific activities carried out by humans are influenced by the environments in which they exist, and environments are, in turn, influenced by the activities we wish to take part in. With regard to sport and physical activity, for example, we can run on a treadmill in a gym, run on roads and pavements, run on an artificial running track and run up and down the fells. How ‘natural’ or ‘manufactured’ do we perceive these environments as being? Are there trends in the ways that sporting environments are being organised? What are the environmental impacts of environments that are built solely for sport? Can these environments influence individuals or institutions to act in line with sustainability agendas? These questions will be explored through a case study of the redeveloped Centre Court at Wimbledon, which was opened in 2009 with a retractable roof and an air management system to ensure that play can continue in all weather conditions on the famous living, natural grass courts.

Humans and nature

As alluded to above, an aspect of sustainability thought is the interaction between humans and nature. How do societies influence nature? How does it influence us? Writing in the mid-1990s and influenced by Beck’s (1992) ‘reflexive modernity’ thesis – one that is particularly prominent in contemporary sustainability thought – Lash and Urry (1994: 297) argue that ‘humans are increasingly viewed culturally as part of nature rather than distinct from and opposed to it. As such it is thought less appropriate for humans to simply “conquer” nature since they are part of it’. On the other hand, Brennan’s (2007) philosophical approach claims that the West is still in the ‘humanistic mastery’ stage of relations with nature, with much of society yet to see itself as ‘cooperative equals’ with the natural world. Looking to the future, Brennan (2007: 514) wonders whether continuing to ‘dominate nature will make life less worth living’ and therefore believes that with this growing reflexivity, ‘many people are beginning to find the attitude of domination unsatisfying’ (2007: 517). Brennan understands that a number of stumbling blocks must be overcome in order to reach the ‘desirable’ stage of humans being a ‘cooperative equal’ with nature. He views our relationship with nature as not being a reciprocal one, due to nature not being able to return our respect. This is not necessarily indicative of how all humans interact with their environments, but it certainly reflects a pervasive contemporary understanding of human/nature relationships within our society, so asking people within ‘Western’ societies to engage in a reciprocal relationship with the environment is perhaps unrealistic. Brennan also uses the example of our love for chimpanzees and dolphins as indicative of how we show more care to something that we share levels of consciousness with, emphasising that we cannot relate to the atmosphere or the weather in this way. Brennan’s (2007: 525) conclusion to this dilemma is challenging and enlightening in equal measure:

Viewing oneself as completely unified with nature is arguably a failing of ecological consciousness. What makes respect for other persons morally interesting is that this respect involves *recognising* the boundaries and differences between others and us (original emphasis).

This suggests that a *consciousness* of the environments that we find ourselves in – and, by extension, a *consciousness* of our place in ‘nature’ – is the most productive way to work towards a ‘cooperative equal’ relationship with nature. Bixler and Floyd (1997: 462) who, in their study of negative perceptions towards wildland environments, found that ‘respondents with high disgust sensitivity and desire for modern comforts expressed lower preferences for wildlands and wildland activities and *greater preference for indoor environments*’ (emphasis added) and ‘human modified environments’ such as manicured park paths. This, read alongside Brennan’s (2007) perspective, points towards a vicious circle where someone who does not enjoy the vagaries and ‘discomforts’ of the outdoors prefers sanitised spaces, and someone who is less likely to engage with the ‘discomforts’ present in the outdoor environment is less likely to have a consciousness of their place in nature. Is commercialised sport moving away from being carried out in more ‘natural’ surroundings? If so, could this be problematic in terms of the sustainability credentials of the sports industry on a deeper, longer-term level than is often considered?

Controlling sport environments: a social perspective

John Bale is one of the few academics to have written on the ‘geography of sport’ and his writing and theoretical positions are therefore conscious of how the practice of sport influences and is influenced by ‘natural’ and ‘(hu)man-made’ spaces. Bale (1994: 39) believes that due to its ‘inherent character’, sport is ‘at root . . . anti-nature’ and Galtung (1984: 14), quoted in Bale (1994), understands that:

sporting events decreasingly take place in natural surroundings, and increasingly in special places made for the purpose, with an overwhelming amount of concrete rather than just pure, uncontaminated, unmanipulated nature. The sports palace and the stadium, Olympic or not, are anti-nature and have to be because they are near-laboratory settings in which the undimensionality of competitive sports can unfold itself under controlled conditions. Pure nature has too much variation in it, too much ‘noise’. . . . Although the human body is nature and nature is also the human body, the distance between sport and nature in itself seems to be ever increasing.

Bale (1994: 39–40) conceptualises this trend as the:

emergence of *sportscape* – a manifestation of sport’s fixation with neutralising or altering the effects of the physical environment . . . producing a landscape given over solely to sport.
(*original emphasis*)

Following on from Eichberg (1989, 1993), Bale (1994) notes that ‘fitness sport’ and ‘body experience sport’ (more recreational sporting activities) are likely to have a relatively strong connection to nature, and are therefore more likely to consider the environmental impact of their activities.¹ On the other hand, ‘achievement sport’ – sporting activities where performing to the optimum is the central aim – is considered to have a more dominating relationship on the natural environment. In achievement sport, for example, ‘win at all costs’ is an oft-repeated phrase, as well as coaching philosophies such as ‘the aggregation of marginal gains’, ‘no excuses’ and the Olympic motto *citius, altius, fortius* – faster, higher, stronger. These phrases and philosophies are taken for granted in achievement sport, yet they have clear repercussions

on 'sustainability'. If, for example, having new kit for every rugby game and even changing at half time improves performance, it will be provided for the players: it is an unquestioned assumption in achievement sport that athletes should, if possible, be given the optimum conditions in which to perform.

Peyker (1993: 73) recognises how the 'nature' of the natural human body and the 'nature' of the 'natural' environment are modified in order to fulfil the ideology of sport:

The 'correcting' of nature is justified according to requirements of sport, confirmed by the general ideology of growth and progress. . . . [The] elements of uncertainty of man or nature have to be extinguished to attain the scientifically calculated goal.

Bale's (1994: 168) prediction that *sportsapes* would become 'increasingly technologised' has been duly realised, with, for example, nothing less than billiard table-smooth 'reinforced' natural turf now acceptable in top-level football and rugby.

Using Yi-Fi Tuan's metaphor of a garden, however, Bale (1999: 50) recognises that humans do not simply dominate *sportsapes* but that this domination is counterpoised by a 'desire to civilise [nature]' and by the great affection felt for sport and the places in which it takes place. Bale (1999: 51) therefore sees 'the sports landscape . . . like the modern garden, [as a landscape] of "playful domination"'. This metaphor serves to blur the division between (damaging, dominant) culture, and (powerless, dominated) nature, and also informs Bale's conclusion that it is not just a one-way street in terms of sport moving further away from the natural environment as a hegemonic trend (dominating the natural environment, for example) generates counter-hegemonic 'green wave' movements with a closer relationship to nature. There has been recent concern, for example, within the football industry regarding the quality of fully artificial pitches, and controversy within the women's game that 2015 FIFA Women's World Cup will only be played on such surfaces.

Controlling the vagaries of 'nature', and as such controlling weather is a central element to Bale's *sportscape* thesis. Importantly for this chapter's case study of the controlling of conditions within Wimbledon's Centre Court, Kay and Vamplew (2006) discuss how variable weather is an integral part of the sporting environment that is celebrated by many participants and spectators, yet organisers simultaneously try to 'neutralise its effects' (Bale, 1994: 46).

[Spectators] sometimes fail to see bad weather as a wrecker of good quality sport but view it instead as part of the experience and as a leveller for competitors. . . . This attitude seems to be summed up by a correspondent . . . reporting on plans for the Millennium Stadium in Cardiff, the new home for Welsh national rugby. 'Sadly', he mused, 'when the new stand is built, it will have a retractable roof for bad weather, which will take away half the fun.' . . . Sport itself and the spectacle it presents for fans will be the losers because one of the truly unpredictable factors will be removed from the sporting equation . . . the intervention of the weather is seen as enhancing the excitement and the uncertainty.

(Kay and Vamplew 2006: 102)

Sporting occasions are not just made memorable by unsurpassed ultimate performance (Usain Bolt's numerous sprint world records on the grandest stage of the Olympics or Arsenal's unbeaten 'Invincibles' team of 2003–2004) – they are also made memorable by the performers overcoming seemingly insurmountable external factors, upsets against all odds and the uncertainty of the outcome. Top performers in many sports need to deal with the vagaries of

environments in order to be seen as true greats. Ayrton Senna and Michael Schumacher were seen to be the finest drivers of their generations in Formula 1, not only because they won world championships but also because they dominated the sport in wet weather and could adapt to all conditions. Similarly, the drama of the famous rugby union international between Scotland and England in 2000 was created by the torrential rain and the England team's inability to adapt to the conditions, something that would not now happen under the roof at the Millennium Stadium in Cardiff. The uncertainty of the outcome of sporting occasions may not always generate the most interest in an event, but perhaps such uncertainty is more important in continuing to add to sporting folklore. There is, however, a fine line between difficult conditions adding to the uncertainty of outcome and the events being ruined for paying spectators. As such, Kay and Vamplew (2006: 98) note the interrelated media and economic factors that increasingly impact on twenty-first-century sport, factors which have had a particularly pronounced impact on Wimbledon's Centre Court:

Wimbledon, the sole grass court Grand Slam tennis tournament, has been severely affected by rain . . . [which has cost] Wimbledon money. Episodes like these, together with pressure from television companies, has finally persuaded the All-England Club to incorporate a sliding roof into plans for redevelopment of the Centre Court in order 'to safeguard the commercial viability of the tournament'.

The architects of Wimbledon's Centre Court also speak of the pressure to install the roof from 'digital television, which pays handsomely for the live coverage of international tennis' and from 'other international tennis venues, which had already installed roofs to ensure that play continues during bad weather' (Sheard *et al.* 2005: 76). The installation of the roof over Centre Court, however, led many to question the *sporting* value of the roof. Kay and Vamplew (2006: 103) note that 'the idea of a retractable roof at Wimbledon has regularly brought forth observations that no-one is a champion unless they have dealt with the weather'.

Dominating nature by controlling conditions

The way in which Bale understands achievement sport dominating nature is important to note in terms of sport's sustainability credentials. As Bale (1994: 41) contends, 'once nature is separated from self the stage is set for nature's exploitation'. Lash and Urry (1994: 293) explain that despite human beings being a part of nature, it appears that in much mainstream debate there are two autonomous spheres of 'nature' and 'society', a view which stems from the

long process of modernization since the seventeenth century [during which] nature came to be seen as something outside society, as a machine rather than an organism . . . modernity involved the belief that human progress should be measured and evaluated in terms of the human domination of nature.

Katz (2002: 173) recognises that technology is heavily implicated in this ethno-centric view of nature, as humans search for a 'technological fix . . . [meaning] that natural processes are to be "improved" to maximise human satisfaction and good'. This view of humanity's use of technology to dominate nature is understood to be a condition of and to be at the root of many environmental problems (Feenberg 2003, 2009; Vitousek *et al.* 1997). Ritzer (1993) conceptualised this 'modern' condition in his 'McDonaldization' thesis, identifying four defining components of this rational, modern society: efficiency, calculability, standardisation and technological

control. According to Feenberg (2003: 73–74), this technical rationality and increase in efficiency ‘impoverishes our relation with the world . . . [yet] gives power over nature’.

Sustainability and sport

Despite the increasing integration of ‘sustainability’ into many aspects of society, it still seems unusual to consider the potential environmental impacts of elite sport and the commercial world within which it takes place. Nonetheless, there are examples of the modern commercialised sports industry taking steps to become more ‘sustainable’. The most well-publicised of these have been linked with sporting ‘mega-events’ such as the FIFA World Cup and the Olympic Games. The relatively high recognition of these issues is understandable given the conspicuous construction, development of infrastructure and global and local travel needed for these events. In response to these concerns, The London 2012 Olympics, for example, aimed to ‘hold the world’s first truly sustainable Olympic and Paralympic Games’, with sustainable building design, travel, food and waste policies (London 2012a, 2012b).

Formula 1 is a sport that is rooted in the consumption of fossil fuels and extensive worldwide travel, yet in recent years it has responded to environmental concerns by introducing technology and rule changes which aim to reduce the fuel consumption of the vehicles. In 2014, for example, engine sizes were reduced from 2.4 litres to 1.6 litres, reducing fuel consumption across the whole season by around 40 per cent, and the principles behind energy recovery systems such as KERS which were developed in Formula 1 are now being used outside the sport. The development of this technology, however, must be understood alongside the steady increase in the number of races in the Formula 1 calendar, along with the associated environmental costs of transporting the teams and equipment to all corners of the globe. Formula 1 is also perhaps the sport that is most openly linked to the pressures of sponsors, and it is widely accepted that these sustainable change developments to the sport’s technology have been largely driven by the threat of sponsors pulling out of an environmentally damaging sport rather than an intrinsic desire from within the sport for sustainable change.

Global sportswear manufacturers are also working towards becoming more ‘sustainable’, with a number of Nike’s football shirts being manufactured from recycled plastic bottles and Puma bringing compostable trainers to market. Ecotricity founder and Forest Green Rovers owner Dale Vince aims to make Forest Green Rovers ‘the most sustainable football club in Britain, probably the world’ (Forest Green Rovers 2012) through a host of initiatives which include solar panels on the stadium’s roof, a Soil Association-certified organic pitch and a ban on selling meat at the stadium. These initiatives at Forest Green, alongside the launch of the British Association for Sustainability in Sport (BASiS) in October 2011 and debates regarding the environmental ‘legacy’ of the London 2012 Olympics, suggest that interest in sustainable practices in sport is set to rise, despite sport being ‘maybe ten years behind business when it comes to implementing sustainability practices’ (BASiS 2012).

This increasing interest in sustainability in the sports industry is an interesting trend, but sustainability still seems an afterthought in commercialised sport, and the values of sustainability and environmentalism are some way off being congruent with those of elite, commercialised sport. The sponsorship of London 2012’s recycling bins by Coca-Cola, for example, illustrates the contradictions and challenges of working towards ‘sustainability’ in a heavily commercialised industry, as well as illustrating the malleability of a sustainability agenda.²

Despite ‘the movement of sporting bodies through space and time . . . deeply affect[ing] the environment’, environmental issues are rarely discussed in sport and academia (Mincyte *et al.* 2009: 105). Existing literature covers issues such as the environmental impact of mega-events

(Lenskyj 1998; Magdalinski 2004) and other more local sporting practices (Mincyte *et al.* 2009; Tranter and Lowes 2009), corporate social responsibility in sports clubs (Jenkins 2012), and the ability of sports clubs (Baldwin 2010) and sporting activities (Horton 2006) to inspire pro-environmental behaviour. These have been followed by the first collection of academic work on the topic, 'Sustainability and Sport' (Savery and Gilbert 2011).

Rather than studying higher-profile sustainability 'solutions' or detailing the current state of play in the sports industry, the case study of Wimbledon's Centre Court will aim to examine how and why a number of inherent assumptions in the modern professional sports industry result in the industry's quest for sustainable practices being full of unique challenges.

Case study: Wimbledon's Centre Court

In 2009 the redeveloped Centre Court at Wimbledon was opened, complete with a retractable roof to allow tennis to be played during rain. There is an air management system which not only creates suitable conditions for play to continue on grass when the roof is shut but also is designed to be as close to a warm British summer's day (outside) as possible (see AELTC 2012). This makes Centre Court a particularly interesting case study as the difference between inside ('manufactured') and outside ('natural') environments is meant to be minimal; the constructed indoor environment is meant to be inconspicuous, unnoticed, and even perhaps seem 'natural'. In terms of constructing sporting environments, it could be argued that the constructed climate is no different to constructing indoor ski slopes in Dubai or climatic atmosphere, in that it could be argued that the act of constructing an indoor environment in Centre Court is, in essence, the same as constructing indoor ski slopes in Dubai. Elizabeth Shrove, a leading academic on human behaviour and sustainability, states that:

the capacity to manipulate indoor climates at will generates a number of still disquieting questions about the relation between nature and civilization. Manufactured weather is a key ingredient in utopian visions of the future . . . but at what price do we cut ourselves off from nature? It is one thing to modify the elements but when buildings are constructed as climactic fortresses, the symbolic division between a managed interior and an unruly and unpredictable world outside is ever more strongly pronounced.

As there are very specific requirements for the temperature and movement of the air in indoor sport environments, 'a huge amount of energy will be consumed to control the environment of such a large space, even if adequate precautions have been taken' (Nishioka *et al.* 2000: 217). In an analysis of the Shanghai International Gymnastic Stadium's indoor thermal environment, for example, Huang *et al.* (2007) detailed the 240,000 m³ per hour of cooled air needed for air conditioning with a total of 4750 kW of the cooling load provided by three screw chillers, which kept the temperature fluctuation to 2.4°C and the humidity fluctuation to 4 per cent. The air conditioning was needed all day in the summer and 'intermittently' in the winter. As with the associated services energy use for the MCG, Nishioka *et al.* (2000) recognise that the amount of energy needed for heating and cooling a large multi-use domed stadium's arena is minimal in comparison with the energy needs of the rest of the building. Of the total energy needed to heat and cool the building throughout the year (53,906 gigajoules [GJ]), 'only' 5,952 GJ were needed for the arena. However, a useful conceptualisation in order to appreciate this energy use is that burning one barrel of oil produces six GJ of energy (Energy Choices 2012). The energy for the heating and cooling of the arena alone therefore required

energy equivalent to nearly 1,000 barrels of oil. It is therefore undeniable that it requires a lot of energy to control conditions.

The virtues of the retractable roof and air management system within Centre Court at Wimbledon are often detailed in highly technologised ways. It takes ten minutes to close the 1,000 tonne, 5,200 m² retractable roof and the structure is shut when there is rain, a risk of rain or when a game cannot continue because of bad light. In order to 'provide appropriate playing conditions when the roof is deployed in adverse summer weather conditions', the 'bespoke design sports lighting system' of 130 'sports luminaries' is activated:

The air management system control[s] and then stabilise[s] the internal bowl environment at the specified levels (24 degrees C +/- 2 degrees C, with 50% +/- 10% relative humidity) . . . to prevent condensation on the inside of the roof or sweating of the grass, and to provide a fresh air allowance into bowl of eight litres/second/person – a total of 143,000 litres per second.

(All information and quotes from AELTC 2012)

In terms of energy use, no data are available. It can, however, be assumed that all these measures (closing the roof, illuminating the lights, controlling and stabilising the environment) require a large amount of energy, whereas the pre-2009 'outdoor' Centre Court needed no energy whatsoever for any of the above operations.

The framing of the environment under the roof in such a clinical, scientific and technologised way fails to recognise the *social* aspect of the sporting environments – a particularly important viewpoint in sport stadiums, as they are places where different aspects of the sporting environment (including the elements) elicit strong emotions. Framing Centre Court in this way also reflects the dominant discourse of promoting technology rather than societal solutions to climate or weather problems, as alluded to at the beginning of this chapter. The air management system, according to chief architect Rod Sheard, 'is all about the grass, not the crowds', as

grass is much more delicate than human beings. We can take off our coats or jumpers to cool down. Grass can't, so if we just put the roof over, it would sweat and turn the court into a skating rink.

(Stanford 2012)

Alongside the technological framing of the redeveloped Centre Court detailed above, the following paragraphs will aim to understand other ways in which the redevelopment has been framed.

The All England Club . . . has to be seen to be moving with the times. The Australian Open has a covered surface and organisers at Roland Garros are also considering installing a roof.

(BBC Sport 2004)

'In a tournament of this stature the facilities here are expected to be world class' (Ian Ritchie, then the chief executive of the All England Club, Wimbledon, quoted in Melik and Webber 2009). These quotes show how Centre Court's roof and air management system is a sign of development, progress and modernity which can be used as a commercial tool. In an industry based on novelty, competition and the quest for ultimate performance, sport environments

must be of the highest quality; rain delays may have been acceptable in the 1990s, but now the industry is highly and increasing commercialised, this is no longer the case. Due to the roof, Wimbledon can now offer guaranteed live tennis for broadcasters and can enjoy the commercial benefits of such a development. This desire for constant development, however, is on an exponential curve. How much have sporting environments ‘progressed’ in the last twenty years? Where will, or can, this development end? What are the environmental and societal implications of this constant quest for modernity? Following the success of the roof over Centre Court, Wimbledon has already put plans into motion for a roof over its second show court, Court No. 1.

Although perhaps a cold phrase to describe sports spectatorship, the roof is also seen as an ‘efficiency tool’ that can help spectators make the most of their time and money. Fans make sacrifices to travel to Wimbledon, with many taking days off work, travelling from overseas and spending large amounts of money to enjoy the tennis. The roof over Centre Court – and soon over Court No. 1 – means that if it rains, those who have tickets for Centre Court are guaranteed to be able to watch live tennis, and those who have ground passes can watch on the big screens around the site. There are many perceived time pressures in modern society, and technology affords a ‘rationalisation’ of our time, which allows people to ‘make the most’ of their time, but also perhaps ‘impoverishes out relation with the world’ (Feenberg 2003: 73–74) due to a focus on efficiency, predictability and control – just like the *sportscapes* imaged by Bale.

If the weather makes tennis unpredictable, why not shut it out? Indoor tournaments eliminate both the risks of bad weather and general atmospheric influence on the game. Indoor courts allow for a ‘true’ game of tennis. . . . If all tennis were to be played indoors we would have a more standardised game. Every tournament on the world circuit would be similar; the weather conditions give tennis its character. A compromise would seem to be courts which have roofs which can be closed.

(BBC Weather 2010)

If anything [the conditions under the roof are] almost too perfect. There’s no wind, no sun, no elements to contend with. It’s different grass-court tennis. [My opponent] was able to hit a lot of huge forehands, which it’s normally harder to do when it’s a little bit breezy outside.

(Andy Murray quoted in The Telegraph 2011)

Alan Mills, tournament referee for 22 years before his retirement, thinks that the roof is ‘killing some of the spirit of Wimbledon’.

(Stanford 2012)

The fabric is . . . translucent, so that Centre Court should have an ‘open’ feel even when the roof is close.

(BBC Sport 2004)

How much environmental ‘noise’ should there be in sporting environments? The above quotes illustrate how there is a sliding scale of what is deemed to be an acceptable controlling of conditions. Some of the finer, adaptive skills are taken out of sport when conditions become predictable and constant, but at least the roof allows the performers to showcase their skills when it is raining outside. Wimbledon is an important part of the British summer, and a connection with

the weather and images of garden parties, lawns and nature is, in turn, an important part of the British summer, but maintaining these images should not be at the cost of people being able to enjoy their leisure time. The fact that the constructed atmosphere inside Centre Court is made to feel as close as possible to a warm summer's day perhaps indicates why this controlling of conditions is not deemed to be too much of a cause for concern or too strange, as compared to the construction of ski slopes in Dubai or air-conditioned football stadiums in Qatar. In the constructed atmospheres in Wimbledon, there is not too much discordance with the natural spaces outside, even though the energy demands of maintaining such an atmosphere are still huge.

Conclusions

This chapter is most centrally concerned with the interrelated 'sustainability' and societal impacts of choosing, altering, constructing and controlling conditions (or 'nature') in sports environments, but *sustainability* has been left as a term open for interpretation throughout.³ Hulme's (2009) claims regarding climate change can also translate to issues concerning sustainability, where climate change (or, in this case, sustainability):

should be seen as an intellectual resource around which our collective and personal identities and projects can form and take shape. We need to ask not what we can do for climate change [sustainability], but to ask what climate change [sustainability] can do for us.

(Hulme 2009: 326)

Hulme (2009: 239) further asserts that 'because the idea of climate change [sustainability] is so plastic, it can be deployed across many of our human projects and can serve many of our psychological, ethical, and spiritual needs'. What shape and role can and should sport take when we advocate for sustainability and in what ways do we want 'sustainability' to be made manifest in our society? In terms of the elite, professionalised, commercialised sports industry, the outlook does not therefore seem positive as far as dominating nature is concerned. As technology advances and becomes more 'efficient', Bale's *sportscape* thesis is undoubtedly being realised at Wimbledon and in other developments in the sports industry, due to the significant commercial pressure from the media and sponsors, and the need for constant improvement in all aspects of sport: *citius, altius, fortius*. Sport must sustain itself and also sustain its values.

What about the future of sportscapes? Cost is undoubtedly the main factor preventing the further proliferation of retractable-roofed stadiums where climates are controlled. It has been suggested that the redevelopment of Centre Court at Wimbledon cost £80 to £100 million, yet the long-term profits amassed as a result of the benefits of retractable-roofed structures mean that they can often be justified financially. Also, for some stadium development projects such as the planned construction of stadiums for the 2022 FIFA World Cup to be held in the heat of Qatar, money seems to be no object. It had been discussed that – if the tournament should take place in the region's hottest months when temperatures can reach over 41°C – stadiums should be cooled to under 27°C in order to allow the competition to continue, using a combination of shading from roofs and solar-powered air conditioning systems. These extreme developments could give a glimpse of the sporting future as various globalised sports expand beyond their traditional landscapes and climates towards specialised, sanitised environments.

It becomes technologically possible to control, construct and ultimately choose natural elements that are desirable and undesirable, confusing further the already indistinct boundaries between 'natural' and 'unnatural', 'indoors' and 'outdoors', and 'nature' and 'culture'. This blurring of the boundaries is particularly interesting in the case of the Centre Court roof, as it aims to eliminate the *undesirable* element of the rain but keep the *desirable* summer outdoor conditions. In order to have the best of both worlds, the summer conditions are completely (re)constructed and become distinctly, yet in some cases unnoticeably, 'unnatural'. Being so selective with nature has obvious implications in terms of energy consumption, and finer control is exacted on the undesirable and desirable elements alike. The implications of this in terms of our relationship with nature – and our desire to be 'sustainable' – is worrying and fascinating in equal measure. Bearing in mind the Brundtland definition of sustainable development (see endnote 3), do we want to *sustain* a close relationship with nature? Is this a 'need' of the present, and a 'need' of future generations? In terms of common definitions of sustainability, how can we best work towards 'supporting the long term ecological balance'? Perhaps working towards becoming a 'cooperative equal' with nature as explicated by Brennan (2007) is a significant and often overlooked way to achieve this, but this would be a particularly significant challenge in the increasingly commercialised sports industry. Contending that all sports stadiums should be designed to be completely open to the elements, for example, would be naïve in the extreme. The commercial and *citius, altius, fortius* ideologies, alongside the expectations of fans, are surely too ingrained in elite, commercialised sport. It is interesting in this regard that the 'outside' courts at Wimbledon, populated by athletes lower down the tennis food chain, will still be more constantly and directly connected to and affected by nature and the weather.

If decision-makers in sport truly want to work towards being sustainable, they must themselves reflect on what 'brand' of sustainability they want to promote. Do they want to continue to promote technologised responses to natural problems and sustainability that dominates the discourse of environmental decision-making in sport in the context of climate change being the most pressing environmental issue? If so, they should be wary of the scale and geography of these interventions in order to avoid the scepticism that surrounds geoengineering and ski slopes in Dubai.

Could elite sports organisations instead turn their attention to those who are influenced by 'achievement sport', blurring the lines between 'fitness sport', 'body experience' and 'achievement sport' movement cultures (Eichberg 1989), and encouraging the general public to be engaged with sport in more 'found' or 'natural' and less specialised, exclusive environments, something that is often promoted in 'developing' countries? This may be difficult to achieve with grass-court tennis, but it is certainly possible with a road closed to traffic, rackets, balls, chalk and a net.

Such developments are already happening in some sports, with fell-running and open-water swimming under the organisational umbrellas of the UK's athletics and swimming associations respectively, developments which give optimism for a 'green wave' in sport activities that Bale (1994) so hopes for. With these positive potentials, we can in fact imagine and realise a world in which participation in sport facilitates in our relationship with our (natural) surroundings simply through our extended engagement with these environments. As such, sport has the potential to directly enhance our ability to become 'cooperative equals' with our natural environments, subsequently imploring us to hold greater respect for the world around us and thus, to have a greater consciousness for sustainability.

Notes

- 1 This is evident with the 'Surfers against Sewage' campaign by British surfers, a campaign critically analysed in Wheaton (2007).
- 2 See <http://www.coca-cola.co.uk/environment/helping-london-recycle-for-the-2012-olympics.html> for Coca-Cola's information on their recycling practices. In contrast, a number of scholars have questioned the sustainability of Coca-Cola's practices (see Burnett and Welford 2007; Hills and Welford 2005).
- 3 Definitions of 'sustainable development' (meeting the needs of the present without compromising the ability of future generations to meet their own needs, according to the UN's Brundtland Report 1987) and 'sustainability' (the quality of not being harmful to the environment or depleting natural resources, and thereby supporting long-term ecological balance according to Dictionary Reference 2012) are undoubtedly open for interpretation, too.

References

- All England Lawn Tennis Club (AELTC). (2012) *The Long Term Plan*. Accessed 27 April 2012. <http://aeltc2011.wimbledon.com/footer/press-and-media/long-term-plan.html>.
- Baldwin, R. (2010) Football and climate change: Strange bedfellows or a means of going beyond the usual suspects in encouraging pro-environmental behaviour change? *Local Environment*, 15(9–10): 851–866.
- Bale, J. (1994) *Landscapes of Modern Sport*. Leicester: Leicester University Press.
- Bale, J. (1999) Parks and gardens: Metaphors for the modern places of sport. In D. Crouch (ed.) *Leisure/ Tourism Geographies: Practices and Geographical Knowledge*. London: Routledge, pp. 46–58.
- BASIS. (2012) The British Association for Sustainability in Sport. Accessed 21 July 2012. www.basis.org.uk/.
- BBC Sport. (2004) Wimbledon's roof: The lowdown. Accessed 6 June 2012. <http://news.bbc.co.uk/sport1/hi/tennis/3371835.stm>.
- BBC Weather. (2010) Tennis and the weather. Accessed 6 June 2012. http://news.bbc.co.uk/weather/hi/weatherwise/newsid_8483000/8483698.stm.
- Beck, U. (1992) *Risk Society: Towards a New Modernity*. London: Sage.
- Bixler, R. and Floyd, R. (1997) Nature is scary, disgusting, and uncomfortable. *Environment and Behaviour*, 29(4): 443–467.
- Brennan, J. (2007) Dominating nature. *Environmental Values*, 16: 513–528.
- Burnett, M. and Welford, R. (2007) Case study: Coca-Cola and water in India: Episode 2. *Corporate Social Responsibility and Environmental Management*, 14(5): 298–304.
- Eichberg, H. (1989) Body culture as paradigm: The Danish sociology of sport. *International Review for the Sociology of Sport*, 24(1): 43–60.
- Eichberg, H. (1993) New spatial configurations of sport? Experiences from Danish alternative planning. *International Review for the Sociology of Sport*, 28(2/3): 245–263.
- Energy Choices. (2012) Why do my energy bills keep rising? Accessed 6 June 2012. www.energychoices.co.uk/ask-our-expert/why-do-my-energy-bills-keep-rising-ask-our-expert.html.
- Feenberg, A. (2003) *Modernity and Technology*. Cambridge, MA: The MIT Press.
- Feenberg, A. (2009) Critical theory of technology: An overview. In J. Buschman and G. Leckie (eds) *Information Technology in Librarianship*. London: Libraries Unlimited, pp. 31–46.
- Forest Green Rovers. (2012) Greening up football. Accessed 25 July 2012. www.forestgreenroversfc.com/about-forest-green-rovers/ecotricity-and-forest-green-rovers/greening-up-football.
- Galtung, J. (1984) Sport and international understanding: Sport as a carrier of deep culture and structure. In M. Ilmarinen (ed.) *Sport and International Understanding*. Berlin: Springer-Verlag, pp. 12–19.
- Hills, J. and Welford, R. (2005) Case study: Coca-Cola and water in India. *Corporate Social Responsibility and Environmental Management*, 12(3): 168–177.
- Horton, D. (2006) Environmentalism and the bicycle. *Environmental Politics*, 15(1): 41–58.
- Huang, C., Zou, Z., Li, M., Wang, X., Li, W., Huang, W., Yang, J., and Xiao, X. (2007) Measurements of indoor thermal environment and energy analysis in a large space building in typical seasons. *Building and Environment*, 42: 1869–1877.
- Hulme, M. (2009) *Why We Disagree About Climate Change*. Cambridge: Cambridge University Press.
- Katz, E. (2002) The call of the wild. In D. Schmidtz and E. Willott (eds) *Environmental Ethics*. Oxford: Oxford University Press, pp. 172–177.

- Kay, J. and Vamplew, W. (2006) Under the weather: Combating the climate in British sport. *Sport in Society: Cultures, Commerce, Media, Politics*, 9(1): 94–107.
- Lash, S. and Urry, J. (1994) *Economies of Signs and Space*. London: Sage.
- Lenskyj, H. (1998) Sport and corporate environmentalism: The case of the Sydney 2000 Olympics. *International Review for the Sociology of Sport*, 33(4): 341–354.
- London 2012. (2012a) Velodrome. Accessed 6 May 2012. www.london2012.com/venue/velodrome.
- London 2012. (2012b) Sustainability. Accessed 25 July 2012. www.london2012.com/about-us/sustainability/.
- Magdalinski, T. (2004) Homebush: Site of the clean/sed and natural Australian athlete. In P. Vertinsky and J. Bale (eds) *Sites of Sport: Space, Place, Experience*. London: Routledge, pp. 101–114.
- Melik, J. and Webber, M. (2009) Wimbledon still serving up profits. Accessed 6 June 2012. <http://news.bbc.co.uk/1/hi/business/8118258.stm>.
- Mincyte, D., Casper, M., and Cole, C. (2009) Sports, environmentalism, land use, and urban development. *Journal of Sport and Social Issues*, 33(2): 103–110.
- Nishioka, T., Ohtaka, K., Hashimoto, N., and Onojima, H. (2000) Measurement and evaluation of the indoor thermal environment in a large domed stadium. *Energy and Buildings*, 32: 217–223.
- Peyker, I. (1993) Sport and ecology. In S. Riiskjaer (ed.) *Sport and Space*. Council of Europe: Copenhagen, pp. 71–77.
- Ritzer, G. (1993) *The McDonaldization of Society*. London: Sage.
- Sheard, R., Bingham-Hall, P., and Powell, R. (2005) *The Stadium: Architecture for the New Global Culture*. North Clarendon, VT: Tuttle Publishing.
- Savery, J. and Gilbert, K. (eds) (2011) *Sustainability and Sport*. Champaign, IL: Common Ground.
- Stanford, P. (2012) Is the centre court roof the real star of Wimbledon 2012? *The Telegraph* (online) 7 July. Accessed 7 July 2012. www.telegraph.co.uk/sport/tennis/wimbledon/9381145/Is-the-Centre-Court-roof-the-real-star-of-Wimbledon-2012.html.
- The Telegraph*. (2011) Wimbledon 2011: Andy Murray says All England club's retractable roof makes conditions 'too perfect'. *The Telegraph* (online) 21 June 2011. Accessed 26 April 2012. www.telegraph.co.uk/sport/tennis/wimbledon/8588441/Wimbledon-2011-Andy-Murray-says-All-England-clubs-retractable-roof-makes-conditions-too-perfect.html.
- Tranter, P. and Lowes, M. (2009) Life in the fast lane: Environmental, economic, and public health outcomes of motorsport spectacles in Australia. *Journal of Sport and Social Issues*, 33: 150–168.
- Vitousek, P., Mooney, H., Lubchenco, J., and Melillo, J. (1997) Human domination of earth's ecosystems. *Science*, 277(5325): 494–499.
- Wheaton, B. (2007) Identity, politics and the beach: Environmental activism in surfers against sewage. *Leisure Studies*, 26(3): 279–302.