No writing on sport and technology would be complete without a discussion of doping. Doping has been the centre of a vast number of controversies centred on health, fairness and, more importantly for this book, purity of the human body. Doping is a particularly interesting case for ANT, as all discussions of doping concern how the human body assembles with artificial substances or techniques. The problem for those trying to eradicate doping is how to establish that the assemblage is occurring at all, and this chapter details a variety of ways in which various groups have attempted to examine the assemblage.

This chapter is all about power relations. Specifically, it examines how various organisations have utilised inscriptions and a range of other surveillance methods in order to control doping. The type of control varies between organisations, with some aiming to control doping discourses, some to control doping in order to prevent it, and some aiming to control athletes. Essentially, this chapter follows the actor-network of doping with a view to determining the power relations that occur within this very contentious area.

The history of doping and the creation of doping policy

For as long as sport has existed, athletes have used a variety of stimulants with the goal of improving performance (Beamish and Ritchie, 2006; Hoberman, 2009 Houlihan, 1999). Until World War Two, drug use was very crude and generally ignored by sports authorities. However, during the war, pharmaceutical experimentation and the use of various stimulants by the military revealed the possibilities offered by doping in the realm of sport. Following the war, amphetamine use by cyclists was thought to be prevalent during the 1950s, although it continued to be of little concern to authorities until the death of a cyclist during the 1967 Tour de France, which forced them to raise the issue. Experimentation with steroids is also believed to have begun in the 1950s, with a rapid growth in use continuing through the 1960s and 1970s (Houlihan, 1999).
Houlihan (1999) argues that, although doping policy began to be introduced in the 1960s, it was uneven across nations and sports. He describes how national governments varied in their wish to control doping. Some were highly motivated, such as France and Belgium, who passed legislation in 1965, while others, such as Australia and Canada, were inactive and apathetic about the issue. Some nations, such as Great Britain, only offered inducements to athletes to refrain from doping rather than carrying out testing programmes themselves. Similarly, some sports federations such as cycling organisations were faster to take action, creating drug-testing programmes in the 1960s, while more inactive organisations, such as the IAAF, only began to form policy in the 1970s.

At an international level, Houlihan (1999) states that the IOC officially banned doping from 1962 onwards, and the first Olympic Games to test for doping were in 1972. Hanstad, Smith and Waddington (2008) describe how the IOC began to take ownership of the prevention of doping from this time forward. It took on an increasingly central role in fighting doping, primarily through the accreditation of laboratories for performing drug tests, and through the creation of the first official list of banned substances in 1971. These initiatives highlight the way in which organisations such as the IOC use particular networked mechanisms, which include non-humans, in order to retain power. For example, the laboratory is valuable only because of the network of chemicals, test tubes and other scientific apparatus that combine together to test urine and blood samples effectively for evidence of doping.

Another non-human that proved particularly important for the IOC and their control of doping was the creation of the list of banned substances. Catlin, Fitch and Ljungqvist (2008) describe how initially, in the 1970s and early 1980s, the list contained only substances for which a test existed. At the time the IOC felt banning was pointless until a test existed to test culpability. However, an incident of blood doping at the 1984 Olympic Games, widely reported in the media, proved that this approach was not effective, and from then onwards substances were added to the list even if detection was not possible (Catlin et al., 2008).

The creation of the list demonstrates the importance of what Latour (1999b) refers to as an ‘inscription’. Latour describes how, through inscribing on a two-dimensional sheet of paper, scientists are able to describe a world and make things visible that were not previously apparent:

An inscription device is ‘a system for producing traces out of materials that take other forms … an apparatus of a particular configuration of items that can transform a material substance into a figure or diagram which is directly usable by others’. (Latour, 1986, cited in Law, 2004, p. 20)
Using this definition, it is the existence of the list that transforms a particular substance such as a steroid, or a technique such as blood-doping, from being a physical activity into a banned substance. This cannot happen without the inscription in place. The ban only exists through the inscription, with the inscription black-boxing each particular substance as disallowed. However, the inscription proved only partly effective for deterring athletes from doping, with it proving necessary to extend the actor-network in several directions in order for a thorough testing programme to exist (Catlin, Fitch and Ljungqvist, 2008).

Shackleton (2009, p. 288) claims that, although use of steroids was ‘known’ to have ‘occurred as early as the 1950s, and was rife by the 1960s, enforcing sanctions was not possible until the 1970s, when a reliable test was found. Similarly, Franke and Berendonk (1997) report how testosterone injections were used extensively in the late 1970s in the GDR because testosterone testing was not introduced until 1982.

The effects of the introduction of testing are illustrated in a description by Shackleton (2009, p. 292), where he recounts an incident of an East German athlete’s sample testing positive in 1977. At that time there were no regulations regarding how samples were stored in order to be tamper-proof, and so some unusual situations occurred:

Occasionally athletes insisted on their innocence and demanded testing of the reserve, or ‘B’ sample in the presence of their representatives. The first time this happened to us was following the 1977 European cup in Helsinki when two or three guys showed up at short notice at our lab in the London suburbs with Arnold Beckett (of the Chelsea College of Pharmacy) and a secretary of the IAAF. We were to analyze some B samples from Bulgarian weight-lifters I believe, and an East German athlete. The high profile attendance of the East Germans seemed odd at the time, and not officially sanctioned since IAAF rules only specified one witness. One of the DDR representatives was a team doctor, the second a coach and the third a minder from the embassy, probably there to ensure the others didn’t stray. The first conflict arose when Beckett produced the samples and the doctor complained that their ‘client’s’ sample was not genuine because he maintained he had put a scratch on the seal at time of collection and it was no longer there. The IAAF secretary promised to look into possible tampering but in the end the decision was made to continue; the seal was broken and the analysis begun. By the first evening we had the samples ready for conjugate hydrolysis, but clearly we had to stop for the day. However, the observers didn’t trust that we wouldn’t tamper with the samples during the night so one of us had to go to a hardware store in town to purchase a padlock for our cold-room where the samples were to be kept. We ceremoniously secured the test-tubes with sealing wax, the Germans locked the samples away and kept the key. Protocol was made up as we went along in those days because a couple
of the observers came home with me as I lived close by and I cooked dinner. They loosened up with wine, enjoyed their unexpected Western freedom and I had difficulty getting them to leave. The following day the rest of the procedures were carried out and by day’s end, to the consternation of the observers we produced perfect mass spectra of 6'-hydroxy Dianabol or the metabolites of 19-nor-testosterone. Although we analysts didn’t know it at the time one was a very high profile case. We had proven the East German star shot-puter Ilona Slupianek guilty of nandrolone abuse and DDR athletes had the reputation for never getting caught. She was banned for 12 months but competed successfully in the following year’s world-cup in Prague. As a result of our work the DDR took direct control over their doping lab at Kreische (in Saxony) and from then on tested all athletes before they left the country. No East German female athlete was ever again convicted of doping.

This remarkable story demonstrates how the creation of inscriptions in the form of regulations essentially replaced the numerous actants that were enrolled in this case in order to ensure the sample was not tampered with. Scratching the seal, a padlock and sealing wax were all enrolled as ways to prevent tampering. This story also reveals the way different parts of the doping actor network came together to produce quite different outcomes. Franke and Berendonk (1997) report how, following Slupianek’s positive test, the GDR initiated internal testing to ensure athletes were free from banned substances prior to departing for an international competition. If an athlete tested positive, they would not attend that particular competition.

Perhaps because of programmes such as the GDR’s internal testing, there were fewer positive results found on the international stage than might be expected. For example, IOC testing at the Olympic Games recorded only fifty-two positive results between 1968 and 1992 out of an athlete population of 54,000 (Hanstad, Smith and Waddington 2008). These statistics led to suggestions that the IOC programme was ineffective. During the period between the 1970s and 1990s, national and sporting bodies heavily criticised the IOC’s programme for its lack of success. These bodies argued that the IOC did not take drug-testing seriously as they were nervous that it would have a negative commercial impact on the Olympics through negative publicity (Hanstad, Smith and Waddington 2008). Certainly, Franke and Berendonk (1997) suggest that it is curious that no out-of-competition testing was ever initiated despite the suspicions aroused by female athletes with unusually deep voices.

Houlihan (1999) points out that prior to the establishment of WADA in 1999, the various national and sporting organisations were not working together towards a combined goal. WADA was necessary as an organisation that joined a number of very disparate groups under a single umbrella. Houlihan (2002) argues that prior to WADA’s existence there was no dedicated group prepared
to take responsibility for anti-doping, with distrust among the international federations and IOC making it difficult for such groups to work together towards a common goal. Houlihan’s (2002) emphasis on the distrust echoes Latour’s (1991) and Callon’s (1986) arguments that in order for an actor-network to stabilise, there must first be an alignment of points of view. In this case there was no alignment between various sporting and national bodies and the IOC, which meant no effective action to detect doping occurred.

Given the lack of alignment, it was perhaps inevitable that those groups who were determined to see serious doping eradication efforts put into place would combine together to take control of anti-doping and create a more stable actor-network. The resultant actor-network was WADA, created at the World Conference on Doping in Sport, held in Lausanne on 2–4 February 1999, and convened by the IOC (Hanstad, Smith and Waddington 2008). These authors state that the conference was called following events at the 1998 Tour de France, when French police and customs officials uncovered evidence of widespread doping. They describe how various sporting bodies put pressure on the IOC to respond to this scandal because it was the police and customs officials who revealed the scandal rather than the sports authorities. Sport has always been in an interesting position in that it has rules with sanctions and other deterrents and yet sits outside of any formal legal framework. Indeed, many countries have restrictions on the ability for the law to interfere with ‘field-of-play’ decisions. So in this case it is not surprising that sporting bodies reacted unfavourably to the police’s involvement in doping, given the strong history of sporting bodies being able to operate in a reasonably autonomous manner. This provided strong motivation for them to remain in control of doping, rather than risk losing authority to the police or other legal entities.

WADA was set up as a body with representatives from government and other public authorities, as well as sports organisations such as international federations and the IOC (Houlihan, 2002). Funding remains shared between these groups (Hanstad, Smith and Waddington 2008; Houlihan, 2002). Houlihan (p. 188) describes the initial role of WADA as:

the funding of research, the development of educational materials, the drafting of the World Anti-Doping Code, the conduct of an independent drug testing programme and the provision of independent observers at major sports competitions, such as the Olympic Games.

In performing these actions, WADA took on the role of a ‘command centre’ in directing worldwide anti-doping operations in a variety of nations. WADA’s
structure and surveillance mechanisms have allowed the organisation to remain in firm control of the fight against doping.

Doping as black-boxed?

In June 2002 WADA published the first Anti-Doping Code (Houlihan, 2002). With the establishment of the code and its consequent adoption by both sports authorities and governments, it acted as an inscription that black-boxed doping as censured. Latour describes black-boxing as

the way scientific and technical work is made invisible by its own success. When a machine runs efficiently, when a matter of fact is settled, one need focus only on its inputs and outputs and not on its internal complexity. Thus, paradoxically, the more science and technology succeed, the more opaque and obscure they become. (Latour, 1999b, p. 304)

In the case of doping, WADA and various other sports governing bodies have worked hard to try to black-box doping as a bad behaviour that is detrimental to sport and must be eradicated. For example, the WADA website (WADA, 2014) includes very little discussion of why members of the athletic community should take an anti-doping stance as it is assumed that the ‘doping is bad’ message is unarguable. This is a good example of how the internal complexity surrounding doping has been obscured. The black-boxing means that the ‘input’ of an athlete who dopes results immediately in an ‘output’ of that athlete being viewed in a negative way (Latour, 1999b). This section will now explore why and how doping came to be black-boxed in this way.

Lopez (2012) utilises a model of technological change developed by Brian Winston that adopts the view that any technological innovation must be considered within the broader social context of its development. As demonstrated by previous chapters, such a perspective strongly resembles ANT, which argues that the entire actor-network must be considered in order to understand how action takes place. In the case of doping, Lopez argues that the contradictions inherent in the doping debate can be understood through identifying two groups of actors. The first is the sports community itself, which derives status from the continued push for improvement in performance that is seen as a hallmark of sport. In opposition to this are journalists, medical professionals
and various governing agencies, who hold a different understanding of sport, as discussed below.

Lopez (2012) and Moller (2004) both argue that from within the sport community the eagerness to ban doping, and to black-box it as negative, stems from what they interpret as an anti-modernist argument. They point out that the desire to keep the sport ‘pure’ harks back to the ideals of amateurism ideals, which viewed the professionalisation and commercialisation of sport as ruining its character. However, Lopez (2012) argues that such a view runs counter to the very essence of competitive sport: the goal of becoming ‘higher, faster, stronger’. The use of doping to produce superior performances is entirely in keeping with the logic that an athlete should be aiming to improve on their performances at all times, both in terms of improving their own individual efforts and through eclipsing what others have achieved historically.

In support of the notion of doping confirming the goal of sport, a number of sports sociologists or philosophers have pointed out the contradictions inherent in doping policy. These are summed up by Kayser and Smith (2008), who published a summary of the problematic nature of doping policy in the *British Medical Journal*, signed by twenty-four researchers working in medicine, philosophy or sociology. These contradictions are the ‘internal complexities’ (Latour, 1999b, p. 304) of doping, which generally remain obscure to the majority of the population.

Kayser and Smith (2008, p. 86) describe four conventional reasons for the banning of doping: ‘the need to ensure a “level playing field”; the need to protect the health of athletes; the need to preserve the integrity of sport; and the need to set a good example.’ They point out that all four of these arguments have flaws.

First, the level playing field argument is illogical in the face of sport being already a competition between profoundly unequal bodies (Houlihan, 2008). Athletes are unequal owing to genetic and biological differences, along with other inequalities stemming from access to equipment, technologies or expertise, as discussed in the previous chapter. It is the differences between these bodies and their relative success and identification of who is superior that interests fans who watch the sport. Therefore, arguing that doping violates the level playing field is nonsensical, since the playing field is far from level to begin with (Kayser and Smith, 2008).

The argument that doping is dangerous to the health of athletes is similarly illogical. Sport entails athletes taking a large number of risks that often impact negatively on athlete health. Such risks may result in direct injuries or injuries from overuse or overtraining, or athletes may develop particular psychological
or other health disorders. Confirming the notion that banning doping for this reason is illogical, it has been pointed out that doping could in fact make some sports safer. For example, Olympic medallist in downhill skiing Bode Miller argued: ‘I’m surprised it’s illegal because in our sport it would be pretty minimal health risks and it would actually make it safer for the athletes, because you have less chance of making a mistake at the bottom and killing yourself’ (Smith, 2005, cited in Cameron and Kerr, 2007, p. 408). Miller’s argument confirms the serious risk of injury and even death already in place in downhill skiing, and points to the illogical nature of arguing that doping would be more dangerous than the sport in its current form.

The health argument further falls down as a result of the lack of scientific evidence that doping really does cause harm. For ethical reasons, clinical trials have not been able to take place to confirm the effects of doping. Additionally, because doping is currently banned, it leads to doping occurring in a clandestine fashion. Athletes have no choice but to acquire banned substances in whatever way they can, which means the quality of the substances cannot be guaranteed and opens up the possibility that athletes may self-administer rather than seek medical advice. It is possible to argue that through banning doping, these practices, occurring in an underground fashion, are potentially harmful (Houlihan, 2008).

The integrity argument is based on the supposition that doping runs counter to the ethical foundations upon which sport exists. However, as Houlihan (2008) points out, it is very difficult to identify common ethical foundations upon which sport rests. He observes that many of the rules that exist in sport are arbitrary and without any strong ethical foundation, so banning doping for this reason makes little sense. A related argument is offered by Lopez (2012), who claims that one of the strongest foundations of sport is the belief in ‘faster, higher, stronger’, which entails encouraging athletes to use whatever means they can in order to improve performance. Doping fulfils this notion very well, rather than countering it.

Finally, the argument that all athletes must be role models means that athletes must be held to higher account over their behaviour than other individuals, despite the fact that their expertise is in athletic excellence and not moral behaviour. Other individuals are not held to account for their behaviour in the way that athletes are (Kayser and Smith, 2008).

Given this lack of logic, it is perhaps curious that doping has so effectively been black-boxed as censured. Lopez (2012) attempts to answer the question of how the black-boxing came about through identifying a number of groups and
techniques that have created this categorisation. First, he identifies a range of conservative European ex-athletes who, upon retiring from competitive sport, began to hold influential administrative or medical positions within a range of national and international sporting organisations. These ex-athletes ‘wanted to fashion sport in their image: the established amateur traditional culture’ (Dimeo, 2007, cited in Lopez, 2012, p. 63). They pursued the romantic idealised notion that sport should be kept pure, and in their view doping sat outside of this pure image.

Lopez (2012) further notes that sports journalism has been dominated by ex-athletes who either hold the view outlined above, or who come from nations that have deliberately taken a strong anti-doping stance as a perceived way to further their own nation’s results. For example, France has always taken a strong anti-doping stance in contrast to the superpowers of East Germany or the Soviet Union (Houlihan, 1999).

Ahead of both these groups, however, Lopez argues that the group that has been the most influential in black-boxing doping is the medical profession. Lopez (2012, p. 64) claims that the drive to spurn doping was led by:

- a group of physicians – often former elite athletes – involved in elite sport as medical advisors who spearheaded the cultural revolution which in the 1960s turned doping from a more or less accepted (and, for some, even desirable) practice into an intolerable violation of the spirit of sport.

Lopez names four particularly influential physicians who moved from dealing with doping from purely a medical perspective to introducing the notion that doping was counter to the spirit of sport. He argues that these four, along with others, eventually succeeded through a large propaganda campaign which was effective because of its links with the societal fears of technological intervention around bio-medicine that were present in the 1960s and 1970s. The campaign culminated with the establishment of WADA in 1999, but anti-doping ideals then came to be adopted by a number of high-profile athletes who joined the anti-doping campaign. Their cases were printed in the media, leading to a number of journalists adopting a strong anti-doping stance and moving beyond the role of unbiased journalists to become anti-doping spokespeople (Lopez, 2012).

Yet the media cannot hold any power unless there is an audience to listen, and several authors have already pointed out the links between the moral panic over doping in sport and the wider moral panic occurring around the use of recreational drugs (Kayser and Smith, 2008; Waddington, 2000). Kayser and Smith (2008) point
to the way that the ‘war on drugs’ has become synonymous with the ‘war on doping’, as evidenced by the addition of recreational drugs that provide no performance enhancement, such as marijuana, to the banned list.

WADA plays on the moral panic to promote the anti-doping message. As mentioned earlier, WADA’s anti-doping campaign includes very little discussion of why members of the athletic community should be against doping, as it is assumed that the ‘doping is bad’ message is unarguable. Instead, the community is invited to contribute their own anti-doping messages and to promote the message of anti-doping in whatever way that they choose (WADA, 2014). WADA also ensures that athletes are constantly given the message that, if they dope, they will be caught. This is a very simple ‘input–output’ message that WADA has attempted to convey. However, this discourse on its own is insufficient to deter athletes from doping, with WADA’s control of anti-doping stemming from a vast array of surveillance mechanisms, which I will now discuss.

Doping and surveillance

A range of authors have examined how WADA operates as an extensive surveillance regime in its attempts to eradicate doping (see, for example, Hanstad and Loland, 2009; Park, 2005; Sluggett, 2011; Waddington, 2010). In 2003 WADA introduced a new requirement that all athletes registered as competing at the elite level must report their whereabouts to WADA in order that they could be located for random doping tests at all times (Hanstad and Loland, 2009; Waddington, 2010). As part of their agreement with WADA, national and international sports federations must keep a record of all athletes competing at the top level and undertake regular doping tests. Athletes can then face sanctions if they do not fill out the details of their movements or if they miss doping tests (Hanstad and Loland, 2009; Waddington, 2010). In 2008 WADA reviewed their policy to demand more details from athletes. Since 2009 athletes have been required to report their exact whereabouts on a daily basis every three months. These requirements have led athletes to criticise WADA for using an extreme level of surveillance, reminiscent of ‘Big Brother’ (Waddington, 2010).

Foucault (1977) specifically argues that organisations such as governments utilise a range of surveillance mechanisms in order to produce effective citizens. He says that these are in the language of ensuring the health of the population, and indeed sport is a commonly used by governments to ensure the health of the population.
Utilising Foucault’s ideas, Park (2005) argues that the primary programmes used by WADA do not only test for doping but also shape athletic conduct through creating a culture of surveillance. He provides three examples. The first is the requirement that all athletes must be available for unannounced out-of-competition testing at any time. This requirement legalises the intrusion of athletic authorities into athletes’ private and everyday lives. The second example is the extensive research into potential new drug tests and the saving of blood and urine samples for twenty years or more. The saving of samples acts as a potential threat to athletes who can potentially be punished by being stripped of their medals many years after they have finished competing. The final example is the athlete passport, an online site designed to make it easy for athletes to update their details, thereby facilitating WADA’s surveying of the athletes’ movements. While WADA emphasises that participation in the passport programme is voluntary, they also claim that participation demonstrates an athlete’s commitment to the fight against doping, again shaping the behaviour of athletes.

The case of Lance Armstrong demonstrates a further and more recent form of surveillance: the gaze of other competitors. Lance Armstrong was accused of doping not because he had failed any doping tests but on the basis of testimony from other cyclists, in particular Tyler Hamilton and Floyd Landis. In Armstrong’s case this testimony, together with that of ten other anonymous cyclists, acted as evidence of Armstrong’s doping, despite the lack of evidence through testing. Houlihan (2002, p. 191) points to the section of the first anti-doping code, which said that athletes are quite understandably required ‘to take responsibility, in the context of anti-doping, for what they ingest and use’, but are also required, much more controversially, ‘to report anti-doping rule violations of which they have knowledge, to an appropriate anti-doping agency.’ (WADA 2002, Article 5, Paras. 5.1.3 and 5.1.5)

Houlihan (2002) suggests that, while it is entirely appropriate for athletes to be held responsible for their own actions, it seems harsh to sanction athletes for not reporting the violations of others. In a related argument, Sottas et al. (2008, pp. 191–192) describe how witness statements can be used as evidence of doping despite their unreliability:

Reliable means can be widely interpreted and include documentary evidence, witness statements or any other analytical information that could be presented to a disciplinary panel. We have seen recently cases where athletes have been convicted of doping and sanctioned based on these non-analytical reliable
The actor-network of doping

Given that competitive sport requires athletes to compete against one another, it seems somewhat dubious to allow the testimonies of athletes in direct competition with others to stand alone as a proof of guilt. However, it is an effective doping deterrent since it creates a situation where potentially all athletes are surveying other athletes at all times. It therefore illustrates effectively Foucault’s concept of technologies of the self (Foucault, 1988), which argues that individuals modify their own behaviour owing to the belief that others may be watching. In the case of doping, athletes may be surveyed by other athletes or through analysis of their urine and blood, and the surveillance can occur at any time.

Sluggett (2011) argues that, while Foucault’s ideas are valuable for examining some of the surveillance mechanisms utilised by WADA, they may not be sufficient for examining the full range of processes that it has in place. Sluggett claims that Foucault developed his ideas with reference to enclosed spaces such as prisons and mental institutions, but with the proliferation of forms of surveillance that utilise more technological techniques including web-based surveillance, other theoretical approaches may be of more value. He suggests that an approach that moves beyond Foucault to acknowledge the way surveillance has extended is to use Deleuze’s ideas on the ‘control society’.

Deleuze (1992) argued that surveillance mechanisms changed in form throughout the twentieth century. At the beginning and middle of the century, the consequent disciplining that took place through surveillance, occurred through the existence of physical facilities. These institutions, such as schools, factories and hospitals, enacted surveillance within the enclosed confines of their various facilities. In this context the panoptic model (Foucault, 1977) was highly effective as it was possible for individuals to be surveyed fairly constantly throughout these various institutions. However, in the late twentieth century, globalisation has led to a different societal model where individuals are constantly on the move and constantly networked (particularly through the internet) rather than passing through institutions. Deleuze (1992, p. 6) used a sporting analogy to illustrate his point by arguing that traditional sports that require formal training, practice and competition in an enclosed facility have been replaced by forms such as surfing, where athletes do not necessarily receive formal training, are not always part of competitive or institutionalised structures and may be constantly on the move. In this context, surveillance is...
more likely to occur through many small dispersed points rather than through a single physical location. Instead of athletes being physically surveyed, they are now provided with access to particular information or ‘places’ with the help of particular entry codes.

Sluggett’s (2011) study of WADA’s surveillance system identifies the proliferation of surveillance processes that go beyond those discussed above. Sluggett details how WADA connects with and shares information with a range of organisations that allow them to build up individual profiles on athletes and coaches. For example, WADA has signed a memorandum of understanding with Interpol on the sharing of information, and has agreements with a range of other pharmaceutical and police bodies. A very specific case is their agreement with Australian customs, who routinely share information with WADA about any intercepted pharmaceuticals addressed to coaches. Information is also collected through the Athlete Passport programme, in which WADA monitors an athlete's biological profile through regular testing, not with the goal of identifying doping directly but to identify any changes that resemble the side-effects of doping. Athletes whose profiles raise suspicion are then targeted for more thorough investigation.

The information from all these sources is collected into a database and combined together to build up a very distinct profile about each athlete. For example, Sluggett described one case where the collection of information clearly led to the detection of doping:

If I can give you an example without naming the rider, there was a rider we targeted out-of-competition because all the pieces of information came together. We observed his test results in-competition and out-of-competition and although he had not tested positive we felt there was a case to be followed up. Then he pulled out of a race he was expected to do well in, with a case of tendinitis. This was a few days after it became public that CERA1 was detectable. So, we thought, this sounds strange. He’s got a very dodgy profile, let’s go and see him at home. Bingo, that [CERA] was what he was doing. (Gripper, 2008, cited in Sluggett, 2011, p. 396)

Sluggett argues that this example shows how it was the invisibility of WADA’s data collection that allowed doping to be detected, which is in contrast to the very visible surveillance provided by cameras and other mechanisms described by Foucault (1977) as utilised by institutions. At the same time, he notes how the two connect through the ‘coded body’. The coded body is the collection of data about a particular body that identifies it as suspect. The coded body exists as an assemblage and in multiple forms. For example, the
same ‘body’ (or named athlete) exists in both an electronic form and as a biological entity. Sluggett argues that this view of the body moves it beyond the clean/doped binary that was previously identified through drug testing, with the body instead being seen as more or less at risk of doping. Indeed, he confirms how bodies are allocated a number on a scale of one to ten, where the higher the number, the more likely the coded body is to be doping. Once a coded body is identified as having a high number, visible surveillance is used in the form of drug testing in order to try to identify doping.

Sluggett concludes that Deleuze’s assemblage model is valuable for drawing attention to the multiple forms of surveillance that now exist, and as a way to identify connections between multiple points. However, he also argues that the model is too flat, and does not provide sufficient understanding of how state or sovereign power (Foucault, 1977) operates through the assemblage.

A remedy for this defect may be offered through Latour’s (2005) notion of the oligopticon. Similar to Deleuze, Latour also describes an assemblage surveillance model, incorporating multiple forms of surveillance occurring through multiple connections. Where Deleuze and Latour differ is in Latour’s insistence that the assemblage has a central command point, which he refers to as the oligopticon. Through arguing that the assemblage works outwards from a particular point, Latour’s model is closer in nature to Foucault’s (1977) model of sovereign or state power. But, unlike Foucault, Latour sees multiple relationships occurring between the command point and between other parts of the network. It consists of a ‘more dispersed form of surveillance supported by multiple sites’ (Manley, Palmer and Roderick, 2012, p. 310). Latour compares the panopticon and the oligopticon by describing the panopticon’s gaze as absolute while the oligopticon is made of multiple strands that do not have absolute sight, but which see narrowly and well. Latour uses the example of the army control tent to illustrate how the oligopticon works. The tent is only one small physical area, yet owing to a surveillance system that covers many miles, a battle can be directed from the command tent, provided that it remains connected to the front lines.

WADA can similarly be likened to an oligopticon, since the networks that contribute to the detection of doping stem from a central control point. WADA is run by an executive committee, which is described as ‘WADA’s ultimate policy-making body’ (WADA, 2015a), and a foundation board, which is described as ‘WADA’s supreme decision-making body’ (WADA, 2015b). While there are a range of other committees that hold different advisory remits or
representations from different groups (such as athletes), these two committees act as the central control point in the same way as Latour’s (2005) example of the army control tent acts as the leader of an army. In both examples, the ‘fighting’ takes place at a different location from the control centre and involves many more people and more action than the control centre. Nonetheless, the control centre firmly directs the operations, but only insofar as it remains connected to those at the front lines, and also insofar as the different groups at the front lines also remain connected. As Sluggett (2011) confirms, it is the connections between the different groups that allow information to be collected and doping to be detected, but, confirming Latour’s (2005) point, it is WADA’s central committees that sign the memorandums between organisations, creating connections and directing the overall operations. Through these actions, WADA directs the anti-doping actor-network. The actor-network is made up of national anti-doping bodies who co-ordinate testing in their own countries, and the network includes all the medical staff and laboratory equipment required to carry out the testing. The network also includes police and customs agents, who similarly have their own data collection methods and a vast number of inscriptions on the WADA database, which detail information about the athletes and their histories as well as their movements collected through a range of methods. Finally, the actor-network includes athletes, who, as the Lance Armstrong case demonstrated, can also act as surveyors of athletic conduct. As an oligopticon, WADA is able to direct anti-doping operations through the information generated through these various networks.

But the oligopticon of WADA is also constantly shifting. It may stabilise at particular times, when doping cases are identified, but it cannot remain stable as it must be responsive to the new developments constantly occurring in doping in order to continue to detect it. Scientists are constantly working to find ways to beat the testing, and in this way the actor-network that makes up doping continually expands. For example, as already described in this chapter, originally substances were only placed on the banned list once a test had been determined. However, this was soon altered and the actor-network grew through the inclusion of more banned substances. With the establishment of WADA, the network expanded through an increase in funding, which allowed more extensive research in an attempt to stay ahead of the game. This research identified substances such as designer steroids: steroids that were deliberately manufactured in a way to avoid detection through the testing system (Kazlauskas, 2010). Therefore the network expanded to include extensive scientific research on both sides, as it was needed to identify these substances and the methods to
create more. Further, as the influence of WADA increased, and doping became a greater public issue, it became more and more difficult to obtain any banned substances. Therefore the actor-network grew further through the addition of organised crime, identified as part of the doping network in the Australian inquiry in 2013 (Gerrard, 2013).

These examples demonstrate the way that doping exists as an ever-expanding actor-network, continually increasing as more human and non-human act-ants are enrolled in order to act against each other. One of the results of this ever-larger actor-network is the difficulty of working out who should be blamed. As my ANT analysis has shown, doping consists of an extensive actor-network where any part can affect the results in another, so it is it difficult to identify who is at fault. A recent case that demonstrates this issue was the case of the Belarusian shotputter Natalya Ostapchuk. Ostapchuk failed a doping test at the 2012 Olympic Games, costing her the gold medal. In her defence Ostapchuk claimed that she had been framed and was not at fault. Her coach later confessed to dusting her food with steroids without her knowledge, but this claim has been greeted with scepticism (Kirk, 2012; Plumb, 2012). This incident demonstrates how when a part of the black box fails, the internal problems within it come to light. It became apparent that, despite the extensive surveillance performed by WADA, there was little clarity with regard to whether the athlete or coach was at fault. The most famous case where this issue came to light, one that has appeared in numerous court cases over the last decade, is that of East Germany, discussed in detail in the final section of this chapter.


The East German sporting regime is now known to have been responsible for one of the most famous cases of systematic doping of a large number of athletes. We now know that the experimentation with steroids began in the 1960s and essentially continued until the collapse of the political regime in 1989.

Steroids began to be used by East German male athletes from 1960 and by females from 1968 (Franke and Berendonk, 1997). Their use became more common in the 1970s, and doping was formalised into State Plan 14.25 in 1974 (Dimeo and Hunt, 2011). The creation of State Plan 14.25 is evidence
that from early on there was direct government facilitation of the doping programme. However, the secrecy of the system was such that although there were suspicions of doping amongst the East Germans, there was no awareness of the state-sponsored system until the collapse of the GDR in 1989. The GDR avoided international positive doping tests by using their own laboratories to test athletes, ensuring that the steroids were flushed out of their system during competitions (Dimeo and Hunt, 2011; Franke and Berendonk, 1997). The secrecy was further ensured by placing control of the doping programme under the Ministry of State Security, otherwise known as the Stasi (Dimeo and Hunt, 2011).

The secrecy surrounding doping was so successful that they only became aware of the GDR doping programme through some of the inscriptions that came to light in the 1990s. The inscriptions contain over 150 documents, including PhDs, medical reports and Stasi security documents, that detail the types and doses of drugs administered to thousands of athletes (Franke and Berendonk, 1997).

Since these revelations there have been numerous court cases where athletes have testified to the debilitating side-effects produced by the high doses of steroids they were given (Dimeo and Hunt, 2011). Former athletes revealed they had developed excessive hair growth, infertility problems, and kidney and liver problems, amongst other effects (Kettman, 2000).

Dimeo and Hunt (2011, p. 587) described the workings of the GDR's doping programme thus:

Athletes were not given a choice: once an individual reached a certain standard of performance their coach would provide them with the pills. The coach would be following the instructions of the doping working group, and each sports federation would have a doping programme. The doctors would support the coaches in their delivery of the pills. However, the athletes were often told that these were simply vitamins, while pressured not to discuss them (or any other aspect of their training) with family, friends or other athletes.

This description depicts the individual athletes, the coaches and the doctors as all simply following orders from above, which was the conclusion of many of the trials. For example, the doctor in charge of the swimming team, Dr Lothar Kipke, denied being culpable, on the basis that he was just following orders and was unaware of the side-effects of the steroids (Dimeo and Hunt, 2011). Furthermore, the network of those involved in doping was enormous. Franke and Berendonk (1997) report that the documentation they researched revealed
that seven different ministries were involved in the doping research programme, which included a network of over a thousand different individuals.

Dimeo and Hunt (2011) also point out that, even if the athletes had been told of the doping programme, many were too young to make a choice, and none had access to any rational information to assist with decision-making. For example, many athletes reported that they were aged between twelve and fourteen when they were first doped. They were given pills that they were told were vitamins, or special drinks, or injections where they were not allowed to look at the labels on the vials. The athletes were also told not to discuss these with their parents or anyone else (Dimeo and Hunt, 2011; Franke and Berendonk, 1997). Therefore it is very difficult to argue that the athletes were in any way at fault for doping.

However, Dimeo and Hunt also present a counter-argument by suggesting that some of the athletes were very aware of the nature of the pills and discussed it with each other. Similarly, they report how there were coaches who believed the state-sponsored doping plan was too tame compared with what they believed was occurring in other nations. Some of these coaches are described as having personally overdosed athletes, against the advice of the doping working group, and were disciplined by their superiors for doing so. Franke and Berendonk (1997) also report how the doctors complained of the constant demands for steroids from the coaches, so it is likely that in some cases the coaches were at fault.

Franke and Berendonk describe a report that details the exact doping procedures in weight-lifting and who was involved in the decision-making processes. They claim that the coaches and team doctor made the decision about which athletes should receive doping assistance, with the central government working group responsible for determining the exact form the doping should take. Such a process suggests that all of the coaches, doctors and politicians were equally responsible, as all appeared to be involved.

Franke and Berendonk also report a situation where the director of the doping working group, Mannfred Hoeppner, reported to the Stasi that he refused to take responsibility for the administration of a new steroid: mestanolone. This was administered to athletes before official approval of its administration to humans, including any clinical trials. This case indicates that, while it would be difficult to claim Hoeppner was innocent of any involvement in the extensive doping, at times the network extended beyond the normal reach of the state, with clandestine trials occurring outside of the state’s jurisdiction.

The other area that presented a difficulty was determining who had awareness of the side-effects and the long-term effects of doping. Dimeo and Hunt (2011)
report that coaches and doctors both claimed not to be aware of the effects. By contrast, Franke and Berendonk (1997) cite evidence that doctors were aware of the effects and that many found the treatments unethical, only continuing the work because of pressure from the Stasi.

In legal trials that occurred in 2000, where hundreds of East German athletes sought compensation, the head of the GDR sports system, Manfred Ewald, was given a twenty-two-month suspended sentence, and Mannfred Hoeppner, director of the doping regime, an eighteen-month suspended sentence (Magnay, 2005). Only 197 athletes received compensation, as in many cases there was no documentary evidence, no inscriptions, to provide evidence of other athletes who were doped (Magnay, 2005).

While it is understandable that there was a wish to provide some sort of accountability and compensation for those who were affected by the doping regime, an ANT analysis would argue that doping is the result of a heterogeneous actor-network. More than a thousand individuals were involved. Additionally, doping occurred through the creation and administration of non-human actants such as pills, injections and drinks, which were created, tested and manufactured by laboratories with specialist equipment. Records of the administration were kept as inscriptions, which allowed the tracking of the effects of the drugs and the revelations of their use in the future. Doping occurred through the use of these non-human actants. It is impossible to argue that any of these factors were by themselves fully to blame, but together, they proved to have a very definite effect of improving sports performance as well as impacting on athletes' health.

Further, it has been very difficult to determine exactly what happened because of incomplete inscriptions. The incomplete inscriptions essentially act as mediators, disrupting the easy identification of what exact doping regime was administered to which individual. This is the opposite to the intermediary function for which the records were originally created, as the detail included in the records was able to show conclusively the effects of the particular drugs. For example, Franke and Berendonk (1997) include photographs taken from original Stasi files that consist of detailed graphs showing the administration of particular steroids and their effects on performance. These graphs were immensely valuable in determining the effects of the steroid most commonly administered during the GDR's regime – Oral Turinabol – clearly indicating the increase in performance that resulted from the steroid.

Latour (1990, cited in Smith et al., 2000) argues that graphs are a particularly important type of inscription, because they possess five distinct features. First, they are able to transcend time and place, through utilising representations to
show clearly what would otherwise be invisible. The graphs featured in Franke and Berendonk demonstrate the link between the steroids and performance in a way that is invisible to anyone simply looking at the athletes’ performance or watching them take the pills. Second, graphs can be compared, thus allowing understandings of differences and developments across different times and places. This was a crucial feature of the GDR’s regime, as the meticulous keeping of records in the form of graphs allowed an understanding to be gained as to the long-term effects of steroids. For example, one of the problems identified in the regime was that athletes quickly adjusted to the doses of the steroids and, as the years passed, needed larger doses in order to produce the same effects, which meant the risks of side-effects became greater (Franke and Berendonk, 1997). It was the existence of graphs that allowed the effects of steroids to become visible. Third, graphs are easily transportable. They can be carried to different laboratories or sent over the internet. In the case of the GDR, it was this transportability that allowed the identification of the doping regime to come to light, as graphs can be viewed with understanding years later. Fourth, they are immutable, both in the sense that they can be physically moved around while still holding their shape and in the sense that their meaning is retained regardless of the groups that look on them (Law and Singleton, 2004). Again, graphs such as those discussed above maintain their of regardless of where they are moved, and the meaning from the graphs is retained regardless of the context, meaning we can examine a graph in 2015 and derive the same understanding as derived in the GDR in the 1960s, when the graph was first produced. Finally, because of the qualities already described, graphs can be enlisted to convince other scientists of the data (Smith et al., 2000). The GDR’s graphs could easily be used to convince those with doubts about the effects of steroids on sporting performance. In all likelihood, graphs such as these would indeed have been used by the scientists who conducted the tests to convince wider groups, such as the Stasi, of the potential offered by steroids. The inscriptions reveal that this is exactly what happened, and that once the effects of the steroids become apparent, the state-controlled doping programme began in earnest. Essentially, the doping programme worked through inscriptions, which also allowed the details of the programme to be revealed in the 1990s.

The numerous inscriptions available about the East German programme make it possible to understand at some level what occurred. However, this is very unusual in the case of doping, where extensive inscriptions of this nature rarely exist. For example, despite the 1998 Tour de France scandal acting as a
catalyst for the creation of WADA and overall awareness of doping, there is still no clarity over exactly who was involved.

**Conclusion**

Throughout its history, a range of organisations have controlled doping through multiple mechanisms. The IOC’s creation of the banned list was the first inscription that transformed various substances from innocuous to problematic. But the IOC’s network included a range of commercial connections, such as media and sponsors, which meant that the IOC did not want to draw attention to doping in sport because of concerns about risking its reputation. Consequently, the IOC’s efforts to ban doping were relatively weak. This changed in 1998, when the discovery of a significant doping ring by police and customs agents led sporting bodies to question the IOC’s efforts and produce a more stable and effective actor-network in the form of WADA.

Since its formation, WADA has utilised a range of different methods in order to attempt to eradicate doping. WADA has consistently black-boxed doping as ‘bad’ despite the lack of evidence to confirm this claim. Indeed, the mass media and sports fans appear to have now accepted anti-doping as an important aspect of the workings of sport.

In order to identify doping athletes, WADA has operated various forms of surveillance since its formation. Some of this surveillance has taken the form of physical tests that constitute a form of direct surveillance reminiscent of the panoptical institutions described by Foucault (1977). I argue that WADA has more recently operated as an oligopticon. WADA has a central command point made up of two committees, and these direct operations with significant global reach. Through connections with police, customs and pharmaceutical companies, along with information about athletic performance and changes in the internal make-up of athletes, WADA is able to piece together a coded body (Deleuze, 1992) to identify whether each athlete is likely to be doping. It is the connections between these various groups that are important in allowing the information to be pieced together to determine guilt, as opposed to direct surveillance.

WADA’s operations are in contrast to those adopted by East Germany as part of State Plan 14.25. In the context of East Germany I argue that the most important elements that made the coded body visible were the inscriptions. These allowed the effects of steroids on the body to become visible to coaches and scientists at the time, and they allowed these to remain visible many years later.
The ANT concepts of inscriptions and oligoptica are significant for understanding power relations. This chapter shows how inscriptions are a crucial tool used by organisations to retain power. They were used by the IOC to seize control of the anti-doping campaign through the banned list, by East Germany to determine the significant performance effects of steroids and therefore justify the programme, by the legal profession to hold East Germany accountable and by WADA to confirm its position as the director of the anti-doping campaign. Similarly, WADA’s case demonstrates how the concept of the oligopticon is significant for understanding how institutions use networked operations in order to confirm overall power.

This last point is particularly relevant for future examinations of institutions. Deleuze (1992) suggests that physically enclosed spaces and the surveillance that occurred throughout them in the twentieth century are no longer applicable in today’s networked society, where there is significantly more mobility. However, as Sluggett (2011) notes, Deleuze’s concept of the network emphasises the connections and the importance of all aspects of the network so strongly that it becomes difficult to identify power relations. By contrast, Latour’s (2005) concept of the oligopticon assumes that institutions and organisations still make efforts to retain power but that they do so through a dispersed network rather than through direct surveillance.

Note

1 Continuous erythropoiesis receptor activator, an artificial substance that mirrors the effects of EPO and which is consequently on the WADA banned list.