

## Ian Kerr • Oscar Pistorius's new normal

He who would learn to fly one day must first learn to stand and walk and run and climb and dance; one cannot fly into flying.

BY THE OTTAWA CITIZEN JANUARY 16, 2008



*He who would learn to fly one day must first learn to stand and walk and run and climb and dance; one cannot fly into flying.*

— Nietzsche

In a few minutes, it will be midnight. I am sitting on the balcony of my rented San Juan apartment. I just finished reading the IAAF report thwarting the Olympic ambitions of Oscar Pistorius, the South African sprinter whose spirit has captured the imagination of the 24 students I am here to teach.

We started our three-week exchange seven days ago in Ottawa, where 12 of my University of Ottawa law students hosted 12 students from Universidad de Puerto Rico. Together, these two dozen outstanding students are enrolled in a course that I call "Building Better Humans?" (Please note the question mark in the title.)

One of the goals of this interdisciplinary course is to illuminate the murky line between therapy and enhancement in a world that seems to be drifting from "natural selection" toward what bioethicist John Harris calls "deliberate selection."

What happens to people when science and technology are aggressively used to alter the human condition? What does the future hold for health and humanity as we move from Darwinian evolution to self-directed enhancement medicine?

In this three-week course, we are tackling such questions and thinking about whether or how to regulate emerging health enhancements in light of an evolution that operates at an exponential rather than a glacial pace.

Mr. Pistorius was previously unknown to most of my students.

But he is now poised to become a household name before the Olympic torch lights the stage in Beijing.

When Oscar was born without fibulas 21 years ago, his parents had to make a difficult decision shortly before his first birthday: should they conform to societal norms by way of a medical intervention that would amputate both of his legs at the knee so that he could be fitted for prosthetic limbs? Or should they leave him with the legs he was born with, thus affirming his variability? Without knowing that bionics would, within a mere 20 years, transform from science fiction to science "fact," and without knowing that their son would become known as "the fastest man on no legs," they chose the route of medical intervention.

Two decades later, and right around the time that the sports world began watching Mr. Pistorius close in on Olympic qualifying times, the IAAF (International Association of Athletics Federations) released Rule 144.2, which prohibits the use of "any technical device that incorporates springs, wheels or any other element that provides the user with an advantage over another athlete not using such a device." The rule was meant to ensure that the Olympics remain "pure" -- that the competition remained between athletes and not between sports equipment manufacturers.

Not long after the promulgation of 144.2, Mr. Pistorius sought confirmation that his carbon fibre prosthetics -- without which he could not compete -- did not run afoul of the rule. On Monday, three days after I studied the issue with my students, the IAAF released its decision: Mr. Pistorius is now the fastest man on two springs.

The IAAF decision was based on an "independent scientific study," a biomechanical and physiological analysis of long sprint running comparing Mr. Pistorius with five two-legged athletes capable of similar levels of performance. Among other things, the so-called "objective results" of this study revealed the following:

- (1) "Pistorius was able to run with his prosthetic blades at the same speed as the able-bodied sprinters with about 25 per cent less energy expenditure";
- (2) "the ... returned energy from the prosthetic blade is close to three times higher than with the human ankle joint in maximum sprinting"; and
- (3) "the mechanical advantage of the blade in relation to the healthy ankle joint of a two-legged athlete is higher than 30 per cent."

On this basis, the IAAF concluded that Mr. Pistorius's prosthetic legs must be "considered as technical aids in clear contravention of IAAF Rule 144.2."

While it is tempting to jump on the bandwagon along with the many critics who rightly censure the IAAF for its inconsistent approach to what my colleague Gregor Wolbring has called "technological doping" (for example, pumping oxygen into your blood is prohibited but huffing and puffing in a little tent overnight till you achieve the same effect is not), there is something else that I find extremely curious about the decision.

Rule 144.2 seeks to prevent athletes from using technology to gain relational advantages over one another. But as one of my students, Ashley, astutely noted in class last week, the outcome of the

analysis depends entirely upon which "other athletes" are chosen as the appropriate comparators. Applying principles of equality law rather than biomechanics, Ashley unpacked a key assumption within the study. Although lauded as "objective" and "scientific," the study clearly privileges a certain body type.

Those who work in the field of (dis)ability studies are all too familiar with this approach. The medical model upon which it is based imposes biological "norms" as the baseline for any, and all, analysis. Through the narrow lens of biomechanics and from the exclusive perspective of two-legged runners, Oscar Pistorius's "Cheetahs" are seen to confer a physiological advantage.

But even Gert-Peter Brueggemann (the scientist who conducted the study) noted last week in an interview with the New York Times that his scientific observations did not necessarily translate to a finding of general advantage.

Mr. Brueggemann, like every other scientist, is well aware that the outcome of every experiment depends entirely on the determination of its control groups. As a young Einstein realized in his daydreams during his day job in the patent office, in science, assumptions about one's point of reference are key.

So what would happen if the IAAF had used a different point of reference in the study? Instead of presuming two-leggedness as the baseline and then determining whether Mr. Pistorius deviated significantly from that norm, what if the interpretation of Rule 144.2 adopted a relational approach that also took into account the many disadvantages experienced by Mr. Pistorius (biomechanical and social)?

I suspect that such an approach would not have yielded a result so clear-cut.

While it is important to be fair to the species-normative biological athletes against whom Mr. Pistorius hopes to compete, it is equally important to be fair to the bionic runners who wish to be able to become Olympians, not Paralympians. Able, not in terms of being fast enough, but in terms of gaining access to the competition.

Sports, like the practice of medicine, stands at a crossroad. In each case, it is no longer clear whether to favour natural ability or ultimate performance. As we continue to technologize sports (for that matter, as science continues to seek technological mastery of the body), the deepening merger between human and machine will only make these questions more difficult. As Gregor Wolbring has asked, once biological runners get "lapped" by their bionic counterparts, will the Paralympics become the Olympics and vice-versa?

And what does all of this mean for people?

**Ian Kerr** is Canada Research Chair in Ethics, Law and Technology at the University of Ottawa Faculty of Law ([www.commonlaw.uottawa.ca/tech](http://www.commonlaw.uottawa.ca/tech)).

