The problem of doping and the responsibility of science

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ABSTRACT

The medical and pharmacological sciences and their related industries have played an important role in the growth of the complex and interrelated problems of drug abuse and doping in sport. Except for some special cases, however, they have not helped sports organisations find the solutions necessary to alleviate the threat to high-performance sport. The contribution of sport science has not been any more encouraging. According to the author, who is a sport scientist and sport leader himself, the problem is of marginal interest to today's researchers and work in this area has been superficial and unsystematic. In his view, however, the fight against doping is a challenge of the highest interest. He outlines the main areas where work can be done and major questions that need answers. He concludes with a call for sport science to work in a joint and coordinated way to cut the "Gordian Knot" of doping.

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Drug abuse and doping are closely connected social phenomena with long-standing and interlinked histories. Drug abuse is marked by the use of chemical substances for purposes other than those intended by the pharmacologists who invented them, namely for curing diseases. It can be found in many walks of life, in both work and leisure time. For example, some people trying to achieve an ideal of beauty that is not otherwise possible attempt to shape their bodies by taking certain drugs. Artists and scientists use other drugs to improve concentration, creativity and perceptive abilities in the quest for a greater level of achievement. Drugs give people a capacity for work beyond the point where they would otherwise be exhausted. And drugs can reduce the time needed for regeneration after heavy stress. These uses and abuses are common in our society, and they are not always forbidden. Legislators even allow people to destroy themselves: suicide is not punishable.

Doping, however, is a special form of drug abuse. It exists only within the system of high-performance sport and it is tied to the fact that sports are governed by written regulations, which have the agreement of the participants. Compliance with these rules constitutes fair play, which is the maxim for acting in sport. One rule common to all serious sport is the prohibition of performance manipulation

by means of unauthorised aids, including drugs. Hence, because it violates the written rules of a sport and the implied agreement to play fairly, doping is a form of fraud.

While drug abuse and doping can be distinguished by their differing relationships to codified rules, they do have an important common feature. Both are essentially enabled, reinforced and caused by the modern system of science. With a close look at the development of science in the 20th and 21st centuries, one realises that a "take-off" has occurred in the disciplines of biology, chemistry and medicine. This has been accompanied by growth in the pharmaceutical and the medical industries. These developments have had great influence on society and the successes achieved can surely be counted as boons for our health system: aches and pains perceived as intolerable are eased by drugs, drugs offer cures for diseases that were formerly considered as incurable, and many diseases can be prevented by means of drugs.

However, the development of the medical and pharmaceutical industries has also had a negative aspect. One can see a direct relationship between their progress and the extent and forms of drug abuse and doping. They are where new substances are researched, developed and made ready for use as drugs. And although these drugs are intended for different purposes, they are subject to misuse. One could even claim that there would not be a modern doping problem, with its burdens on the reputation and credibility of high-performance sport, without the disciplines of medicine and pharmacology. We know that sport physicians have been convicted of drug dealing and we are aware that pharmacologists have developed substances specifically to help athletes enhance their performance and avoid detection.

Of course, not all physicians and pharmacologists are to be seen as guilty parties. But they must hold some collective moral responsibility for their colleagues' deeds and misdeeds.

Meanwhile, the doping problem has become a nearly hopeless trap for sport organisations: the mass media report cases of doping fraud on nearly a daily basis, almost all top performances are suspect, new records are mistrusted by experts and audiences alike, and athletes regularly cast suspicion on their competitors. For their efforts, the officials of sport organisations are increasingly made to look ridiculous, sometimes deservedly so when they act incomprehensibly. Governments try to help by passing laws against doping fraud, but most of the time these have turned out to be ineffective. Moral rhetoric is in demand.

The problem of doping is extremely complex. Its range is not easily definable and its extent can only be estimated. Importantly, reliable solutions are not coming into view. Considering this situation, the following questions need to be asked of the scientific system: What contribution to the solution of this serious social problem has it provided in the past? Which findings, which knowledge, which procedures is it offering at the moment? Which solutions could it or should it find for the future? For obvious reasons these questions are directed to pharmacology and medicine. But they also need to be directed to sport science, as it is most closely linked with the system of sport.

It is not the aim of this article to examine the results of biochemical, pharmacological and medical research in a critical appreciation. But it has to be pointed out that there is virtually no research on the problem of doping taking place in university level medical faculties. For its part, the pharmaceutical industry, with all its institutions and experts, has contributed to the research in this area only in special cases. Both medicine and pharmacology are facing the dilemma that members of their own "scientific communities" assist with doping fraud through ethically unsound practices. Their professional organisations and institutions have proven incapable or unwilling of taking this problem seriously or contributing to a solution.

The situation appears hardly any more encouraging when one inquires about the contribution of sport science. On the one hand, the sport science organisations and institutions have had a say in declarations on the doping problem. On the other hand, these declarations can hardly be beaten for their generality and lack of consequences. Otherwise, sport science can show virtually no contribution that could be called important to the fight against doping. This could be considered lamentable, but given the development of sport science, this is not surprising. Contrary to the well-meant intention of its founders, sport science has developed into a loose collection of disciplines, between which only limited communication takes place. This will probably not change much in the future.

Giving a more detailed answer to the question of the contribution of sport science towards a solution to the doping problem requires an examination of its individual disciplines. From this, the view is only marginally more positive. Kinematics and biomechanics report nothing. From sport psychology there are merely first drafts, which indicate that regarded as a psychological problem, doping has taken on considerable proportions. Pedagogics and educational science have not even started on the field of prevention. In the sport scientific institutes of universities, which are essentially committed to sport pedagogical education, one can see that the topic is only touched upon marginally in teaching and virtually not dealt with in research. Sociological studies have revealed imposed conformisms in high-performance sport, which are built on the logic of the system. Sport economists are transferring theoretical models from other fields of economy to the phenomenon of doping fraud, and thus are trying to offer alternatives to the current monitoring and punishment system. The philosophical-ethical discussion is characterised by articles that vary from playing down the problem to a determined moral condemnation. However, these articles are selective and depend on the individual researchers, who turn towards the topic out of a passing interest and then quickly return to their main areas of work. In this way the problem of doping remains a marginal topic for both the individual researchers and the respective discipline and is not worked on systematically.

Taking stock of more than 30 years of sport scientific research in respect to the doping problem, one can come to no other conclusion than that sport science has not got past the first attempts of problem description and analysis; it has gone no further than producing some articles in periodicals, manuals and encyclopedias. An interdisciplinary approach cannot be detected, and so it is hardly surprising that intelligent, innovative and practical solutions are not emerging. The current situation is marked by redundant repetitions of experiments, long-known statements and findings being copied without naming sources, nonsense talk, moral appeals and public apologies. Elite universities, graduate schools and excellence clusters are being built, but nobody seems to be ready to work together to contribute the urgently needed scientific reference to the greatest mass phenomenon of our society. It is a scene of helplessness that would be difficult to exceed.

However, the problem of doping is a challenge that could hardly be more interesting for sport science.

Sport organisations and governments are currently working together to optimise the testing system, well aware of the fact that determined cheaters can avoid even the most sophisticated testing arrangements. Laboratories are spending enormous amounts of funding in on research an effort to come up with methods to improve the evidence of doping, always working in the knowledge that whenever a new method of detection has been developed new substances invented in the meantime will be beyond identification. Ethical discussions rely on medical reasons with respect to the health and well-being of the athletes, although one should know that these arguments cannot justify modern high-performance sport itself and are not a realistic

standard for the behaviour of elite athletes. They also refer to the rule of fair play, although it is clear that this principle is constantly violated through the use of other technologies.

There are a number of big questions begging to be answered: What punishment can, in the case of doping fraud, be called "fair" when the protagonists of the fraud differ profoundly from each other in terms of social structure and economic aspects? Which deterrents are necessary if the fraud proves to be rewarding in completely different ways? Which organisational and institutional measures are required to fight doping globally? Questions of this magnitude could be continued almost endlessly. But already in this limited list they illustrate the extent of the challenge.

Considering the doping problem in all of its complexity, one can recognise that ethical, legal, organisational, economic, pedagogical, psychological and sociological questions are piling up. There is hardly any other problem in which it is so obvious that shortened, separate isolated scientific approaches can probably be a necessary prerequisite for the overall solution. But they can only be first beginnings. The "Gordian Knot" of doping needs to be cut. If sport science wants to make a real contribution, it will have to be in a joint effort, in a coordinated action, in a combined research system and by outstanding intellectual achievements of the best in each respective discipline. Creativity and the highest intelligence are essential if even a little progress is to be made.

Without comprehensive scientific help it is almost certain that high-performance sport will continue stumbling along its current path of self-destruction. Is sport science up to the task of rescuing sport from this fate?

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