Science and Ethics: Some Fundamental Considerations[1]

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The term 'ethics' has featured a lot in present-day discussions, whether that is in the media, in public discussions or in more specialised areas such as biotechnology. We are becoming more aware of the need for a code of ethics to guide our deliberations on various matters. The impression that is thus given is that adherence to such a code (particularly if that has been drawn up by the profession) makes our conduct 'ethical'.

This brief note on the relationship between science and ethics will largely be dictated by the academic discipline that informs my views on these matters; namely, philosophy. By that I mean that in exploring the topic, I would be more concerned with articulating and clarifying some of the more fundamental issues in the hope of enabling us to arrive at some kind of an answer.

The first point that I want to state and clarify is that 'ethics' and 'ethical conduct' are much more than merely following an agreed way of behaving — the impression one gets from all the talk about the need for ethics in various areas or fields, e.g. biotechnology. Having a code of conduct is of course important and essential, but it would be misleading to think that 'ethics' or 'ethical decision/judgment' is merely a matter of 'going by the book' as it were. That is what makes discussions regarding ethical issues, be they in biotechnology or in any other areas, so complicated and so seemingly inconclusive. Why? Because when we ask the question: what is the ethical thing to do in this situation, it is a question that is actually multi-faceted. It is not the same as merely asking for information, as when we ask for directions to reach our destination. In ethical discourse, for instance, asking the question: is it time to stop GM, stem cell research, or genetic research?, we need to consider not just what it is that we are proposing to do, but also why we want to do it, how it would affect various parties, whether this is in keeping with values that we ought to uphold, whether we are setting precedents or whether we would be acting if there is the risk that everyone else would be following our

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example. Acting ethically, whether personally or professionally is much more complex and involved than simply adopting a code of conduct or following certain agreed guidelines.

My first point leads me to the second: the kind of questions that drive our scientific interests and those that need to be pursued in ethics are quite distinct. Scientific endeavours, as I understand them, are not only largely based on what is tangible, what can be verified, but also and perhaps more importantly, on what *can* be done. Science concerns itself with pushing the boundaries of what we presently know about ourselves and the world we live in. Not only is this a legitimate enterprise, it is also in many ways one that has developed and even improved our lives. Ethics, for its part, is about what we *ought to do or not do*. And in many cases, what we can do, what we want to do, what we are told to do — is something different from what we ought to do. It is therefore a different line of inquiry compared to the scientific one, but just as legitimate.

Does this mean then that ethical considerations always set limits to what we can do? Does this amount to saying that science and ethics are poles apart? Should we call a halt now to genetic testing, to GM products, to stem cell research because it may be deemed unethical? Not necessarily. First, because both questions: what can we do? and what ought we to do? are important human questions. It is the same humanity that enables scientists and ethicists to ask and to pursue those questions. Secondly, what this means is that we cannot or ought not to totally exclude either question from our considerations. As we seek, in science, to enlarge our knowledge and our capabilities, as we pursue greater control of our destiny, we also need to pause and ask: ought we to go any further? Similarly, those of us who are more concerned with the ethical question, ought we to do or not do it?, should also stop and ask ourselves: what can we do further? What this last comment means for ethicists like myself is that ethics and ethical decision-making cannot simply be informed by past knowledge or by moral principles that we have worked out based on information available then. We also have to listen to and be informed by developments in empirical science even to the extent of revising our ethical judgments. Why? Because even if we can defend the view that there are moral absolutes, our knowledge of what is ethical in specific matters is not absolute. The principles of doing good and avoiding evil at all times or of not inflicting harm on an innocent party are universally acknowledged, but how these principles apply to specific cases require a more nuanced judgment. This is because application is always to specific cases or situations, and this move to the concrete situation from the abstract principle is dependent on several factors — some of which I mentioned earlier. Developments in biotechnology are a prime example of this. They alert us to the need for ethicists to take account of the findings of science before making ethical judgements.

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This brings me to my last point (which I want to connect with the first) as I consider the debate between science and ethics: what we need to focus and work on is developing our moral sense. By this I mean, a sense of responsibility that is spurred on by what we can do but is constantly guided by what we ought to do or not do. In the case of GM, genetic testing and stem cell research, that point translates to asking continuously: are there justified and justifiable reasons for proceeding with pushing the boundaries?

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