Comments by J.A.L. Robertson on

"Roundtable on Ethics - 2005"

"Banishing the terms of arid Hegelian debate, *Principia Ethica* (by G.E. Moore, 1903) went back to moral basics, demanding only a willingness to judge every case on its intrinsic merits, independently of received conventions or traditions. Moore denied the Victorian rhetoric of reverence and duty: philosophically, one had no obligation to obey external authority. Goodness lay in the purity of one's state of mind, not in deeds, which always had uncertain consequences. Values and statements have to stand up to the scrutiny of reason, not social or religious codes."

- "Intimate Relations", Rupert Christiansen, Cam, 42, p.31, Easter 2004

The framework recommended by the Round Table on Ethics illustrates how some academic ethicists fail to distinguish between the theory and practice of ethics. The broad principles enunciated in the framework are widely accepted but difficulties and controversy arise in specific applications.

Even the principles are worded in sufficiently woolly language to have different meanings for different people. For instance, "respect for life" sounds good but it is interpreted very differently by pro- and anti-abortionists. The recent case of Terri Schiavo being taken off life support created highly charged polarization. And how is a soldier under enemy fire to interpret the principle?

"Fairness" is another abstract principle that sounds good. The difficulty arises, however, in balancing all the incommensurate factors involved. Where the balancing requires value judgements the outcome is subjective and depends on who performs the assessment. Similarly for the "precautionary principle" for which several interpretations exist and there is no agreement on its meaning. In a submission to the NWMO posted 2003 November 28 I have discussed some of the problems with this principle. The chief one is judging the proposed action in isolation, ignoring the harm and risks of the status quo, e.g., nuclear versus coal-fuelled generation of electricity.

When the framework is applied in areas outside the ethicists' expertise it becomes dangerously misleading. This is most obvious in the demand for "some solution to managing this material as safely and effectively as possible". In real life making any activity as safe as possible means devoting a disproportionate amount of limited resources to that end. The consequence is that these resources are unavailable to make more dangerous activities safer. The net result is to reduce overall safety, contrary to the principle of "respect for life". The truly ethical principle should be to optimize, not maximize, safety having regard to all relevant factors, as practised in the nuclear industry.

"Le mieux est l'ennemi du bien" - Voltaire

This deficiency in the framework illustrates how applying ethical principles to a particular proposal in isolation while ignoring options and the consequences of them all can lead to an unethical conclusion. If this framework were applied to each option in succession, one can find ethical objections to them all so that the outcome is paralysis. In real life, nothing is perfect and we should seek the *most* ethical option. There is no hint of this in the framework.

Not only does the framework use too narrow a focus to allow a holistic assessment of the ethics, its wording suggests a prejudice against nuclear energy or, at least, a lack of knowledge and understanding of the subject. Examples are:

- Reference to a "large stockpile". Large compared to the volume of other hazardous wastes that are simply consigned to landfills? Or compared to the 150 truckloads a day of Toronto's wastes sent to Michigan, containing undeclared hazardous wastes?
- Reference to "hazardous for thousands of years". Compared to the mercury, lead, asbestos and other hazardous materials that will last forever in municipal landfills?
- Reference to "available options". The realistic option to nuclear energy is coal. If the same framework were applied to coal, nuclear would appear highly ethical.
- Repeated reference to a "least-bad" option.
- The fact that only negative issues are identified for nuclear energy.

The framework is justified in distinguishing between used fuel from existing reactors and any from future reactors. Ideally, governments would have enunciated their policies on the future of nuclear energy in Canada for the NWMO's information. In real life, however, decisions have to be made in the absence of full information. It is for this reason that I criticized the Assessment Team's Report (in my submission posted 2004 November 9) for failing to allow for future fuel, and why the NWMO's recommendations must provide for either eventuality.

From my experience with the NWMO I provide the following answers to the framework's questions:

Q1 The NWMO is doing all that is reasonable to gain participation in its activities. However, the extremely low response indicates that the issue is not a major concern. It claims "Dialogue" as an important component of its process but its website consists of a series of monologues with no resolution of the differences between them.

Q2 Since it is unknown who within the NWMO will be making the decisions one cannot say whether these will be impartial. However, impartiality is not sufficient: to be sound, decisions must be informed. The NWMO has not had the necessary technical competence. Until recently, there was no scientist or engineer on its staff and in February 2005 there was only one to cover all relevant disciplines.

Q3 Implicit in the question is the assumption that taxpayers/ratepayers should be subsidizing interveners despite the fact that they are already paying for multiple layers of regulation and assessment.

Q4 The ethical fallacy of demanding "best" anything has been discussed earlier in this document.

Q5 The NWMO proposes justifying its decisions through influence diagrams described in the Assessment Team Report. However, I have criticized this in my submission posted 2004 November 9 and there has been no resolution of the differences.

Q6 In view of the number of interpretations of the "Precautionary approach" the question is meaningless without a definition. I have discussed this in my submission posted 2003 November 28 criticizing Andy Stirling's Background Paper on the subject. Again, there has been no resolution.

Q7 To the extent that the major issue is potential effects on future generations, the question of "Informed consent" is meaningless. For potential host communities and transportation routes the question does not arise until the siting stage and then can be answered by the "Voluntarism principle".

Q8 As already mentioned, "Respect for life" is one of the woolly expressions that need definition and reveal difficulties only in application. The nuclear industry and its regulators have demonstrated its respect for life from their start. The framework demonstrates no appreciation of the fact that nuclear energy, inevitably producing wastes, makes a *positive* contribution to health and the environment, i.e., a respect for life.

Q9 The NWMO would claim to assess "Cost, harms, risks and benefits" in the influence diagrams of its Assessment Team Report. As mentioned, I have submitted a critique. Again the question assumes only costs, not benefits.

Q10 The framework offers no help in how the abstract concept "Fair" should be defined and applied. There is often a false assumption that the beneficiaries of nuclear energy are only those supplied by its electricity. In our society it would be unusual to expect fairness to be applied to each facility in isolation, and not averaged out.

Q11 There is no recognition that "liberty", or freedom of choice, for future generations is inconsistent with the ethic of not burdening future generations with the management of our wastes. Either one ethic must be preferred or some compromise sought.

SI1 The need for monitoring and the potential need for remediation are recognized.

SI2,3 The issue of storage versus disposal, implicit in these questions is perhaps the most contentious one as seen in public input to the NWMO. As noted under Q11, this constitutes an ethical dilemma that the framework fails to recognize, let alone solve.

SI4 Two lessons that I draw from the experience to date are that solving the technical problems in a socially acceptable manner is simple compared with obtaining political decisions; and that my colleagues in the nuclear industry are far more ethical than ethicists.

The framework has revealed no ethical principle or consideration that has not been long recognized by those within the nuclear industry responsible for proposing means for managing nuclear wastes. It has illustrated how good intentions (academic principles) applied in the absence of sound knowledge and understanding of the subject matter can lead to faulty conclusions. Ethicists should perhaps consider the ethics of making recommendations in subjects outside their area of expertise. This reinforces my conviction of the need for my submission on practical ethics, posted on the NWMO website since 2003 but apparently ignored by the Roundtable on Ethics. It can be viewed more conveniently at www.magma.ca/~jalrober/practeth.htm.

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