Revitalizing Radiation Protection Ethics

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Long history

- 1957 Taylor’s Philosophy of radiation protection
- 1992 Sievert Lecture (IRPA), G. Silini
- 2000 Seminal international workshop of the Swedish Radiation Protection Institute.
- 1999 ICRP Pub.82, §(D.3)
- 2002 IAEA-TECDOC-1270
- 2005 UNESCO ‘precautionary principle’
- 2008 NEA-OECD Science and Values in Radiological Protection Workshop, Finland
- 2009 Vaulx de Cernay
Doctrines on Ethics

- Teleological (consequence)
- Utilitarian (utility)
- Deontological (duty)
- Areatic (virtue)
Ethical Aphorisms

**Teleological**
*Mind the ends, which justify the means*

**Utilitarian**
*Do the greatest good for the greatest number of people*

**Deontological**
*Not do unto others what they should not do unto you*

**Areatic**
*be virtuous, wise and prudent, aim at humanity*
Protection Principles

- Justification of Actions
- Optimization of Protection
- Individual Restrictions
- Prudence (commitment & environment)
Ethics of Protection

Justification = Teleology

Optimization = Utility

Limitation = Deontology

Prudence = Areatic
Teleology & Justification

- The ends or consequences of a protective action should determine its morality, namely whether such act is good or evil.

- Any decision that alters the radiation exposure situation should do more good than harm.
Utility & Optimization

• The morality of protective actions should be judged against its contribution to the overall utility, namely to the best welfare among all people.

• The level of radiation protection should be the best under the prevailing circumstances, maximizing the margin of benefit over harm.
Deontology & Individual Protection

- The morality of protection should be judged by the goodness or rightness caused by the protective actions on specific individuals, rather than by their overall consequences or utility.

- Inequitable protection options should be prevented by restricting individual doses (dose limits, constraints and reference levels).
Areatism & Precaution

- The focal point for judging the moral of protective actions should be their virtuosity rather than their consequences, utility or duty.

- Protection should be provided to both, present and future generations and their environment, against scientifically plausible radiation harm even if it is uncertain.
Justification = Teleology
Optimization = Utility
Limitation = Deontology
Prudence = Areatic

Ethics of Protection
Are we satisfied?
## Ethical Matrix

<table>
<thead>
<tr>
<th>Ethical Framework</th>
<th>Teleology (consequ.)</th>
<th>Utilitarian (utility)</th>
<th>Deontology (duty)</th>
<th>Areatic (virtue)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antropocentric</td>
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<td>Bio-centric</td>
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<td>Eco-centric</td>
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- **Done**
- **Being done**
- **?????**
The ICRP objectives of radiological protection of the environment

- to maintain biological diversity,
- to ensure the conservation of species, and
- to protect the health and status of natural habitats, communities, and ecosystems
Deborah Oughton’s analysis

Historical increase in realm of moral and legal standing
Thank you for your tolerance!

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