



TG94: The Ethical Foundations of the ICRP System of Radiological Protection

Deborah OUGHTON

Ethics Workshop
4-6 February 2015



INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION

Terms of Reference/Scope

To develop an ICRP Publication presenting the ethical foundations of the system of radiological protection.

To clarify the rationale for recommendations, to assist in implementation, identify potential conflicts and to provide a basis for communication on radiation risk.

Central focus on values underpinning the system, rather than the development and implementation of the system



INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION

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Where are we now?

Draft Report Structure

Historical Context

Common Values

Core Ethical Values Underpinning the System

- Beneficence/Non-maleficence
- Dignity
- Justice
- Prudence/Acting Prudently

Applications

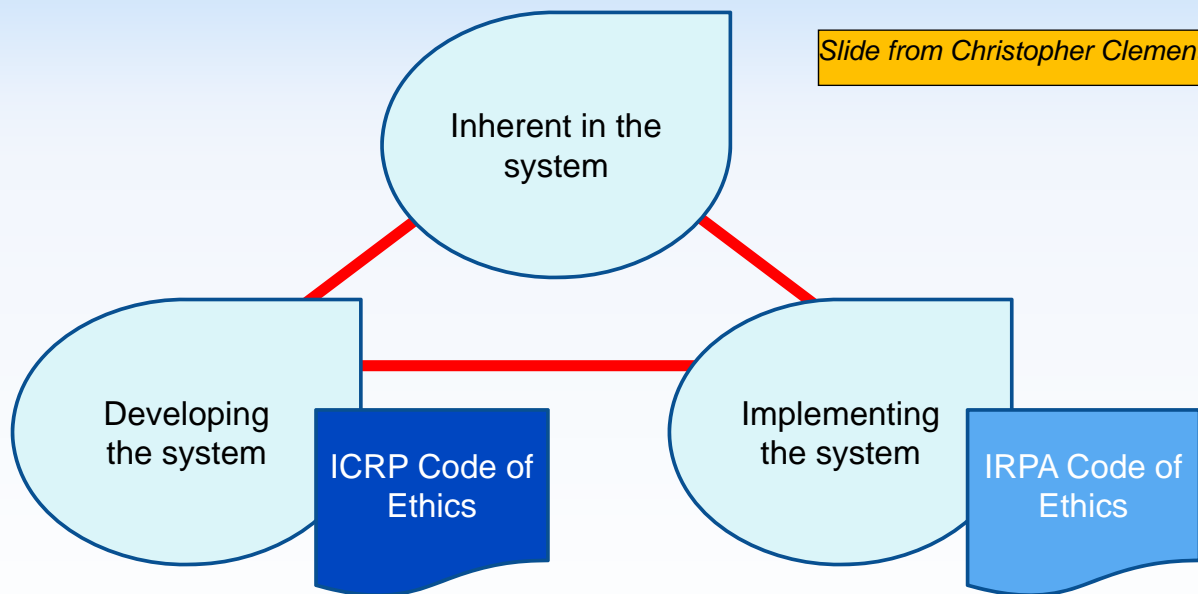
- Medical
- Worker and Nuclear Safety
- Waste Management
- Accidents
- Environmental Protection

Important “Floaters”

- Reasonableness and Tolerability
- Transparency and Accountability
- Part of **development** and **implementation** of the system rather than key values underpinning the system?

Ethics in Radiological Protection

Slide from Christopher Clement



ICRP Code of Ethics

Committed to public benefit: *ICRP acts to protect humans and the environment from the harmful effects of radiation*

Independent: *ICRP acts independently of governments and organisations, including industry and other users of radiation*

Impartial: *ICRP acts impartially in its development of recommendations and guidance*

Transparent: *ICRP engages stakeholders and strives to be transparent in its actions and judgements*

Accountable: *ICRP is accountable to the framework that governs the activities of a charity*

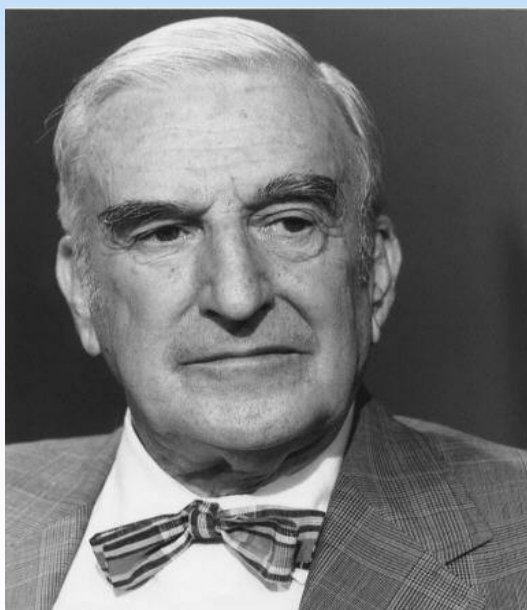
Historical Context

Evolution of the System of Radiological Protection: Science, Ethical Values, and Experience

- Influence of scientific developments
- Influence of different applications – medical, energy, accidents, ...
- Influence of changes in societal and cultural attitudes



Science and ethics in radiological protection - A long tradition -



"Radiation protection is not only a matter for science. It is a problem of philosophy, and morality, and the utmost **wisdom.**"

Lauriston S. Taylor (1902 – 2004)

The Philosophy Underlying
Radiation Protection

Am. J. Roent. Vol. 77, N° 5,
914-919, 1957

From address on 7 Nov. 1956

Slide from Jacques Lochard

Implicit Values

- "the dangers of over-exposure ... can be avoided by the provision of adequate protection" ICRP 1928
- "every effort be made to reduce exposures to all types of ionizing radiation to the lowest possible level". ICRP 1951
- "... to contribute to an **appropriate level of protection** against the detrimental effects of ionising radiation exposure without unduly limiting the **benefits associated** with the use of radiation." ICRP 103, § 26
- "... to manage and control exposures to ionizing radiation so that **deterministic effects are prevented**, and the risks of stochastic effects are reduced to the extent **reasonably achievable**." ICRP 103, § 29

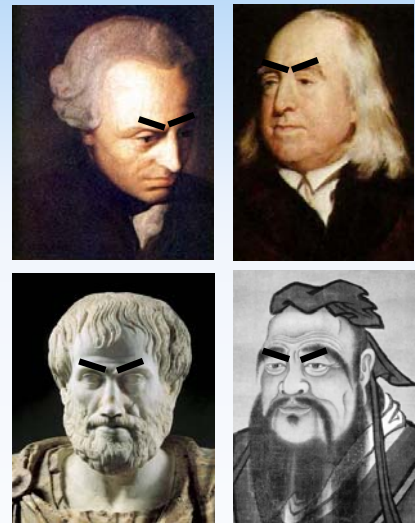
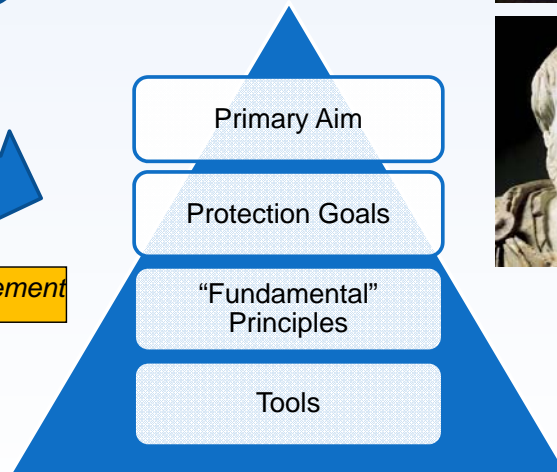
... implicit values

- The principle of justification. Any decision that alters the radiation exposure situation should **do more good than harm**
- The principle of optimisation of protection. All exposures should be kept **as low as reasonably achievable**, taking into account **economic and societal factors** with restrictions on individual exposure to **avoid inequities** between individuals
- The principle of application of dose limits. The total dose to any individual from **deliberately introduced sources** other than medical exposure of patients should **not exceed the appropriate limits** recommended by the Commission

Behind the System of Protection



Slide from Christopher Clement

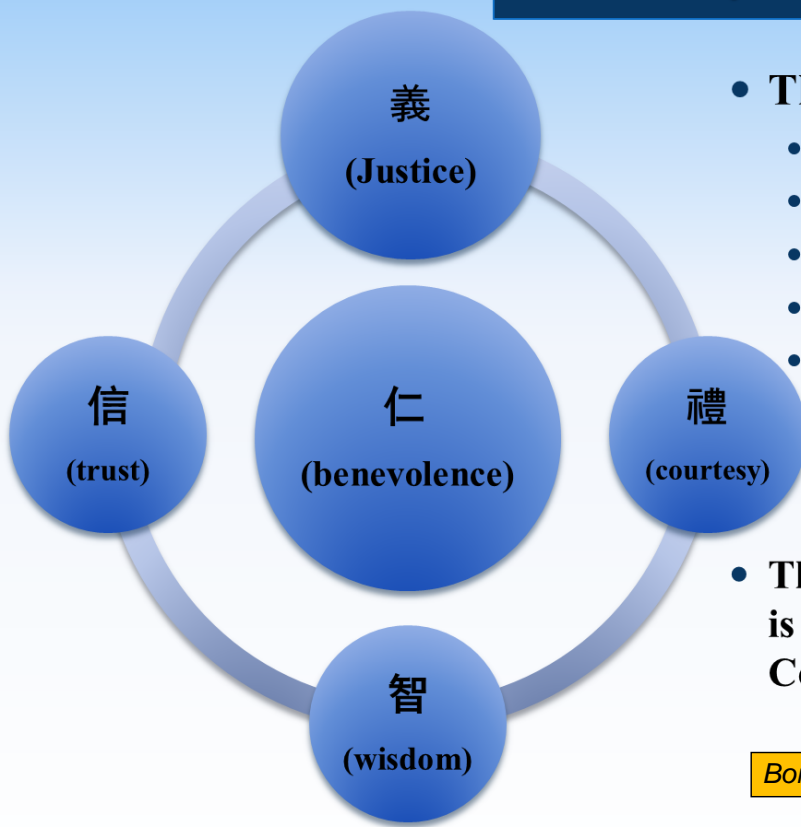


Common Values Approach



Not grounded in Western Ethical Theories, “but by a **study of the oral and written traditions** which have guided people in different cultures over the ages (Friedo Zoelzer, 2011)” ... including the values implicit in the ICRP Recommendations

The value system of Classic Confucianism



- **The five virtues:**
 - Benevolence
 - Righteousness/justice
 - Courtesy (Propriety, Manners)
 - Wisdom
 - Sincerity/trust
- **The traditional ethics in China is mainly derived from Classic Confucian thought.**

Borrowed from: Senlin Liu / KunWoo Cho

Courtesy of Mr. Senlin Liu, ICRP C4
& slightly modified by K. Cho, ICRP C4

Biomedical Ethics - Beauchamp and Childress, 1979 (1st edition)

- **Respect for autonomy** (a norm of respecting the free-will and decision-making capacities of self-governing persons)
- **Nonmaleficence** (a norm of avoiding the causation of harm)
- **Beneficence** (a group of norms for providing benefits)
- **Justice** (a group of norms for distributing benefits, risks and costs fairly)

UTILITARIANISM

DEONTOLOGY

*Ethical
Theories*

Broadly compatible with the principles of:

Autonomy

Beneficence

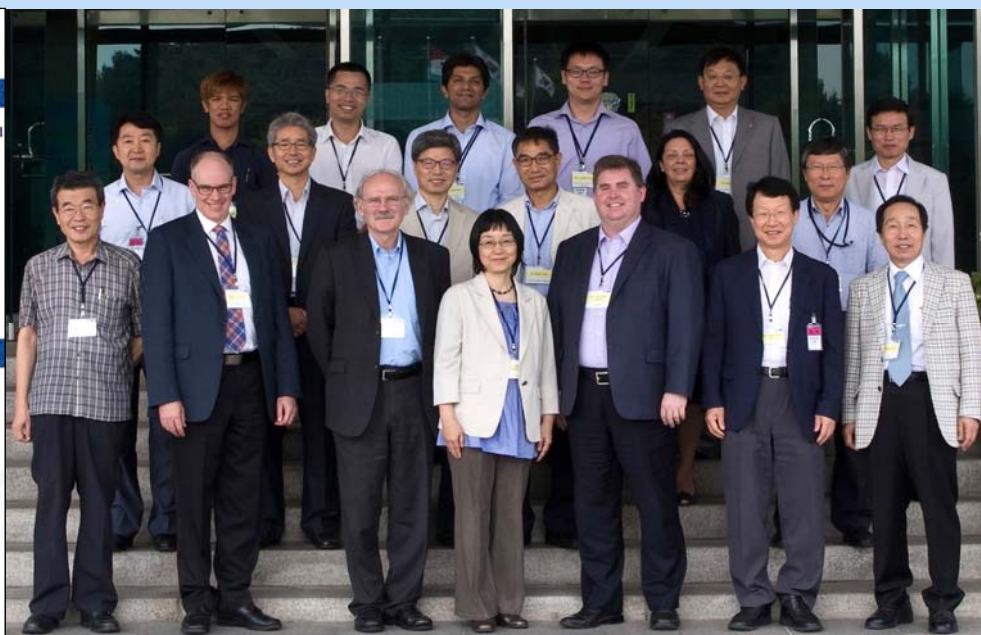
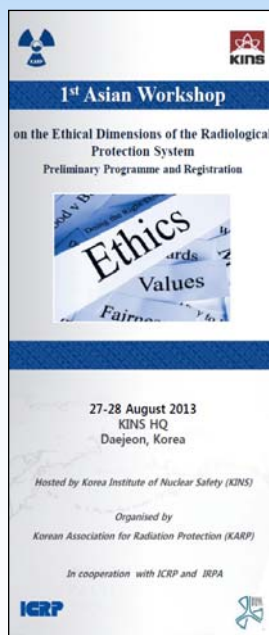
Non-Maleficence

Justice

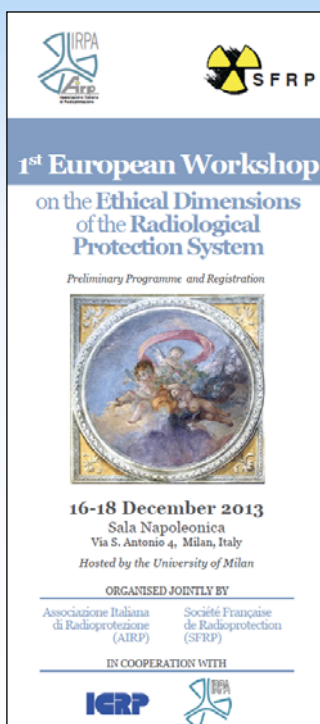
*Biomedical
Principles*

Widely adapted in other areas: public health
and environmental ethics, technology assessment, etc

First Asian workshop on the ethical dimensions of the radiological protection system Daejeon, Korea, August 2013



1st European workshop on the ethical dimensions of the radiological protection system 16 -18 December 2013, Milan, Italy



UK Workshop on the ethical dimensions of the radiological protection system 11 June 2014, London, United Kingdom



UK Workshop on the Ethical
Dimensions of the Radiological
Protection System

Wednesday 11 June 2014
British Dental Association,
64 Wimpole Street
London W1G 8YS



2nd International symposium on ethics of environmental health 15-19 June 2014, Budweis, Czech Republic



Core Ethical Values Underpinning the System

- Beneficence/Non.maleficence
- Dignity
- Justice
- Prudence

In no particular order or hierachy. Balance will depend on case and context.

Values or principles (or norms or....)

Beneficence/Non-Malifcence

Definition in ethics

Beneficence (and non maleficence) – promoting or doing good as well as preventing, removing or avoiding evil or harm (Frankena, 1963)

Relevance in RP

Beneficence – health benefits of radiotherapy; indirect benefits of other applications involving radiation exposure; benefits of reducing exposure

Non-Malifcence – all exposures have an inherent risk of causing harm

Challenges – distribution of risks, harms and benefits;
measurement of benefits and harms
WHO definition of health – well being

Dignity

Definition in ethics

Respecting Autonomy – the capacity to choose freely for oneself and be able to direct one's own life; to be treated as an end, and not only as a means

Recognition of human dignity a cornerstone of Human Rights (UN, 1948)

Relevance in RP

Dose limits and constraints – individual rights

Consent – patients, workers (public)

Stakeholder engagement – empowerment

Justice

Definition in ethics

Fair distribution of resources, risks and benefits

Focus on the vulnerable/worst-off (Rawls)

Distributive Justice and Corrective/Reciprocal Justice

Equity – equal opportunity/equal treatment or equal status

Relevance in RP

ALARA and constraints

Distribution of risks and benefits

Differences across age, gender time and space

Future generations

Prudence/Acting Prudently

Definition in ethics

Long ethical tradition: Aristotle, Buddhism, Confucianism, ancient peoples of Oceania and America

OED: “to recognize and follow the most suitable or sensible course of action ... caution”

Rio 1992: “the precautionary approach ... where there are threats of serious or irreversible damage, lack of full scientific certainty shall be not used as a reason for postponing cost-effective measures to prevent environmental degradation”

Relevance in RP

Cornerstone of radiation protection

ALARA, LNT, etc

Where to next?

Evaluation of core values against applications/examples

Forthcoming Meeting

- Harvard workshop 10-12 March 2015
- 2nd Asian Ethics Workshop 2-4 June 2015
- ICRP Main Meeting Seoul

ICRP

www.icrp.org

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Corresponding Members:

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