



Recent Reflections on the Ethical Basis of Radiological Protection

4th Asian and Oceanic Congress on Radiation Protection

Kuala Lumpur, Malaysia
2014 May 12-16



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INTERNATIONAL COMMISSION ON RADIOPROTECTION

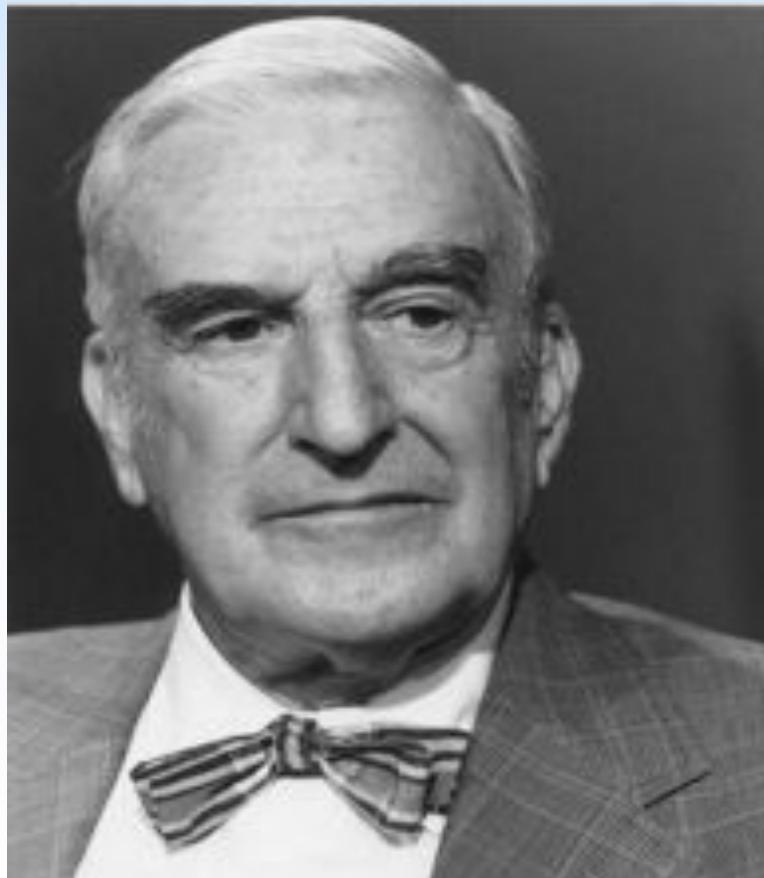
Disclaimer

much of this presentation summarises results of workshops where participants discussed a wide variety of views

this presentation does not necessarily reflect the views of the presenter, the International Commission on Radiological Protection, or the International Radiation Protection Association, or any other single individual or organisation

Science and values in radiological protection

- A tradition -

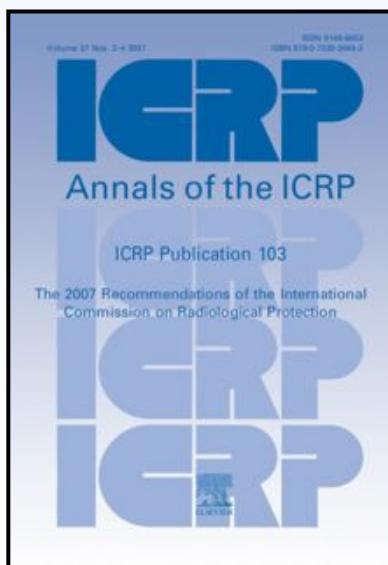
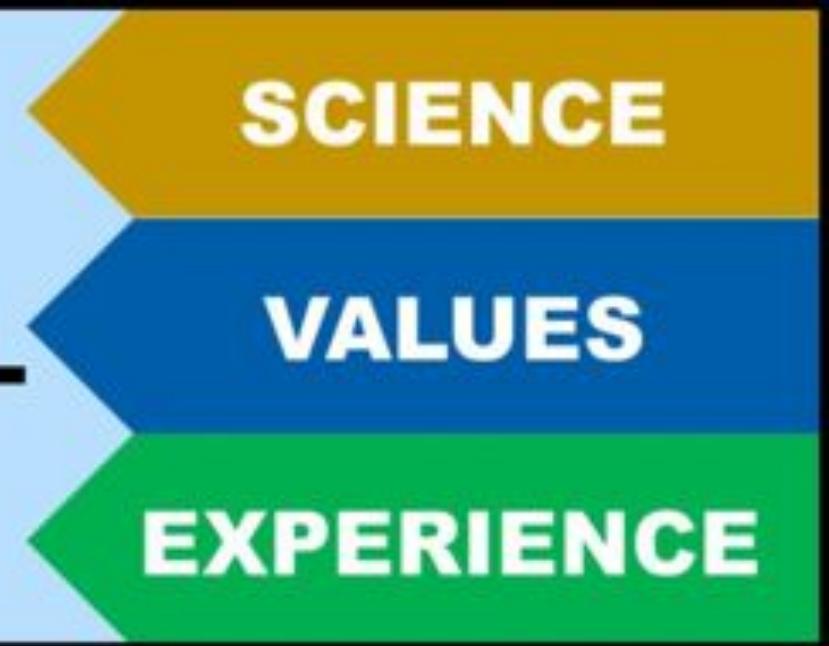


"Radiation protection is not only a matter for science. It is a problem of philosophy, and morality, and the utmost wisdom."

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

SYSTEM OF RADIOLOGICAL PROTECTION



The System of Radiological Protection developed by ICRP is based on the latest science, social and ethical values, and nearly a century of experience

ICRP / IRPA Cooperative Effort



Task Group 94 on Ethics
of Radiological Protection



Background / Timeline

- 2009 – ICRP Committee 4 establishes a Working Party to reflect on the ethics of radiological protection
- 2012 – ICRP Main Commission formally initiates collaborative effort on philosophy of radiological protection, inviting IRPA to collaborate
- **Aug 2013 – 1st Asian workshop, Daejeon, Korea**
- Oct 2013 – ICRP Task Group 94 on Ethics of Radiological Protection is established
- **Dec 2013 – 1st European workshop, Milan, Italy**
- Jun 2014 – 2nd International Symposium on Ethics of Environmental Health, Budweis, Czech Republic (OPERRA Workshop on Ethics of Radiation Protection)
- **Jul 2014 – 1st North American workshop, Baltimore, USA**

ICRP Task Group 94

Ethics of Radiological Protection

Chair: Deborah Oughton, Norwegian University of Life Sciences

- Marie-Claire Cantone (University of Milan, Italy)
- Kun-Woo Cho (KINS, Korea)
- Sven Ove Hansson (Royal Institute of Technology KTH, Sweden)
- Chieko Kurihara-Saio (NIRS, Japan)
- Thierry Schneider (CEPN, France)
- Richard Toohey (HPS, USA)
- Sidika Wambani (Kenyatta National Hospital, Kenya)
- Friedo Zölzer (University of South Bohemia, Czech Republic)

Corresponding Members:

- Renate Czarwinski (IRPA)
- Emilie van Deventer (WHO)
- Bernard LeGuen (IRPA)

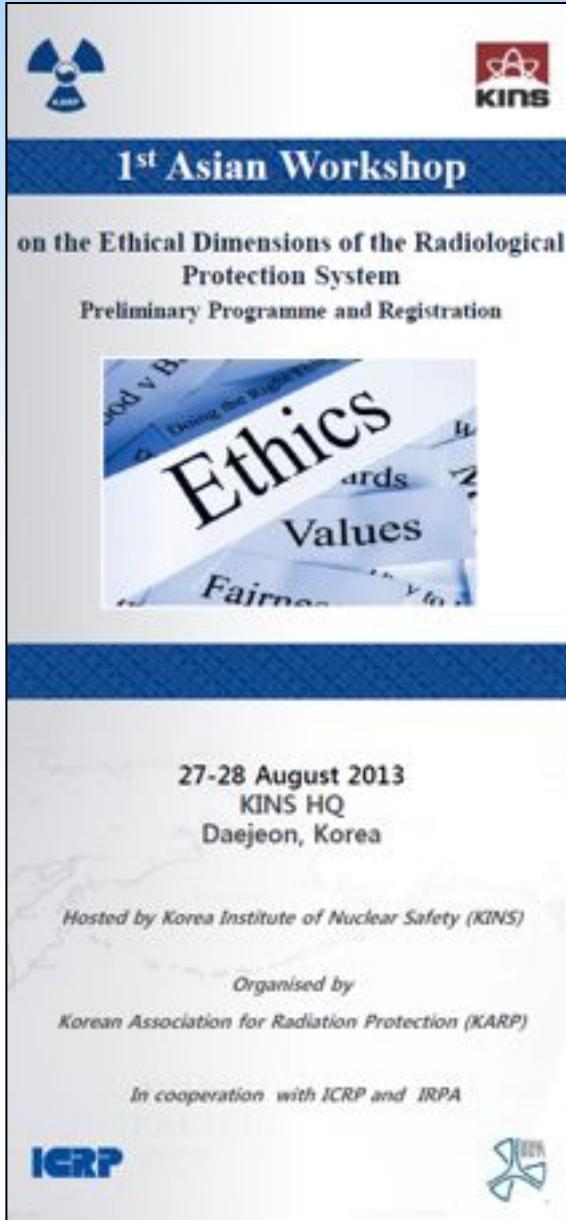
ICRP Task Group 94

Ethics of Radiological Protection

Mandate

Develop an ICRP publication presenting the ethical foundations of the system of radiological protection

- Consolidate the basis of the Recommendations
- Improve the understanding of the system
- Provide a basis for communication on radiation risk and its perception



1st Asian Workshop

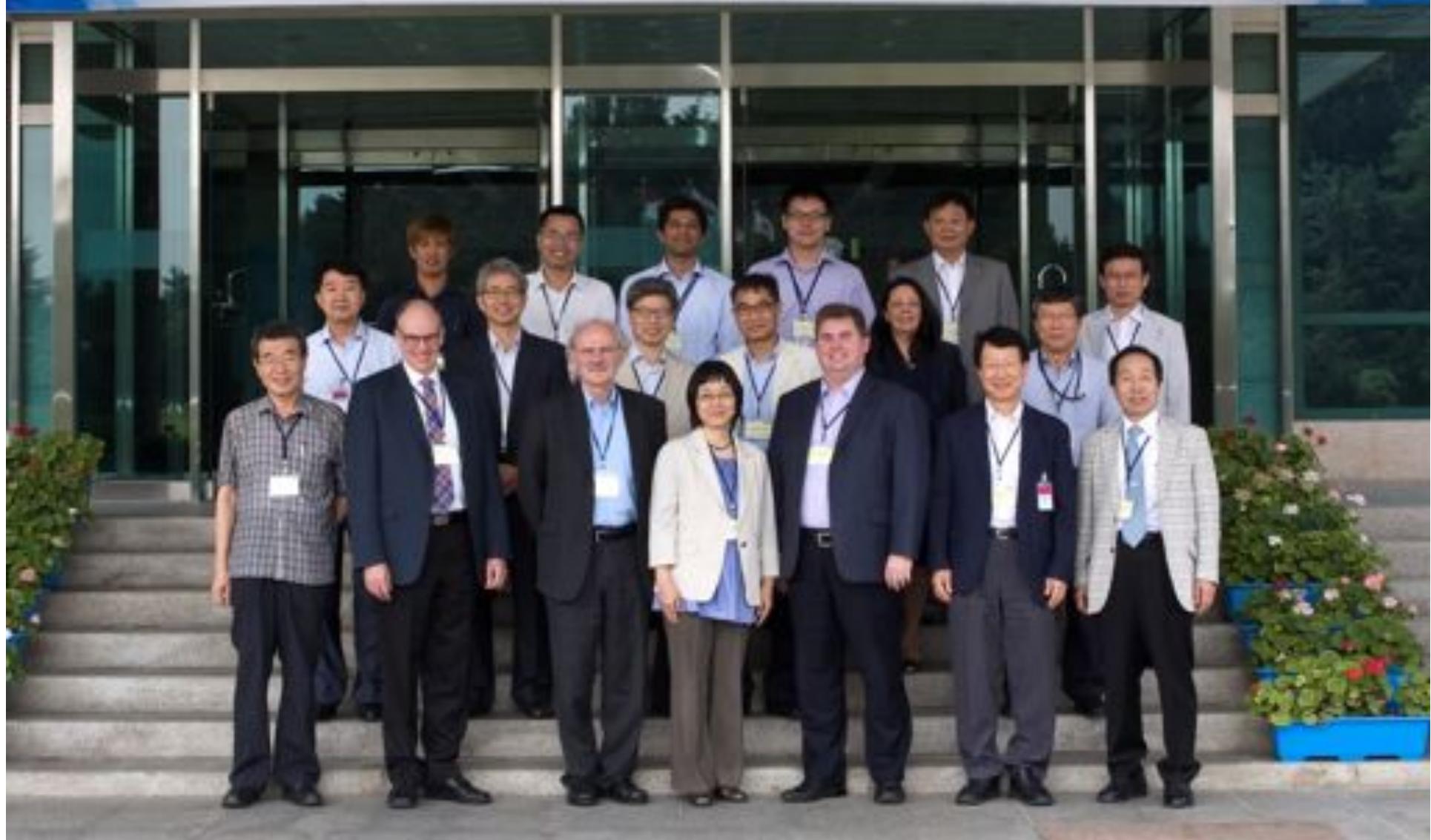
1st Asian Workshop on the Ethical Dimensions of the Radiological Protection System

2013 Aug 27-28, Daejeon, Korea

Organised by the Korean Association for Radiation Protection (KARP), and hosted by the Korea Institute of Nuclear Safety (KINS) and

1st Asian Workshop on the Ethical Dimensions of the Radiological Protection System

27-28 August 2013, KINS HQ Daejeon, Korea



Main Points: Daejeon

(Public) Communication

- Complexity of the system of radiological protection
- Communicating radiological protection in simpler language
- Failure of patriarchal top-down approach to risk communication
 - Need to address questions asked by the public
- Public misunderstanding
 - Living in a “radiation free” world
 - Equating radiation with atomic bombs

Main Points: Daejeon

Tolerability/Acceptability of risk

- Failure of broad acceptance due to overemphasis of solely scientific approach
- Primarily a question of ethics, informed by science

Well-being

- For protection of people: consider well-being vs. “classical” health protection
- People need to be protected from harm AND to feel “safe”

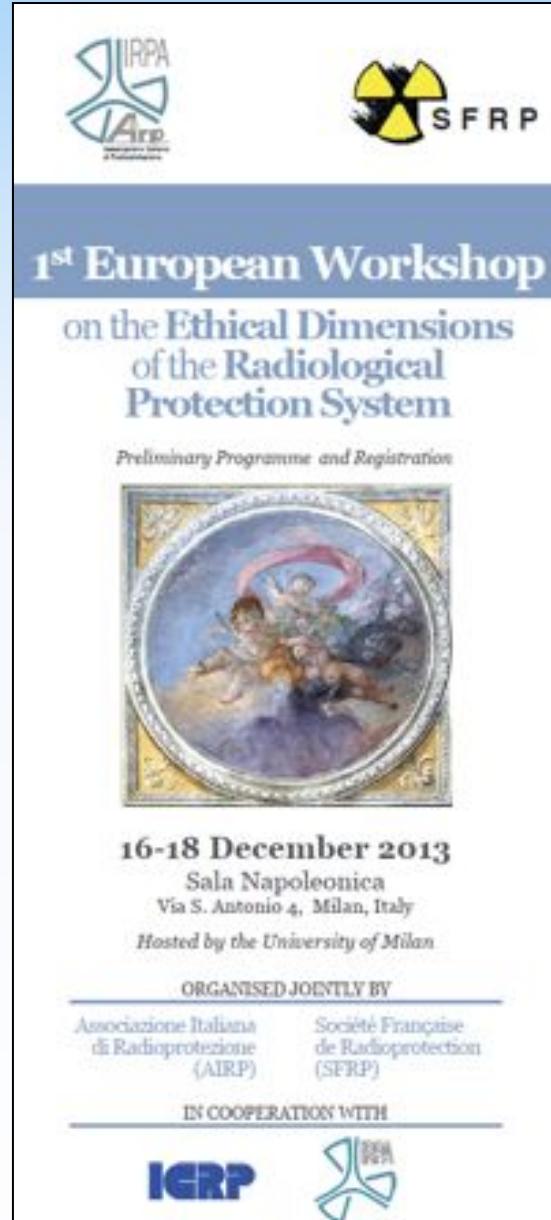


WHO Definition of Health

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity

From the Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19-22 June, 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948.

The Definition has not been amended since 1948.



1st European Workshop

1st European Workshop on the Ethical Dimensions of the Radiological Protection System

2013 Dec 16-18, Milan, Italy

Organised jointly by the
Associazione Italiana di
Radioprotezione (AIRP), and
Société Française de
Radioprotection (SFRP)



ORGANIZED BY:
Istituto Italiano
di Radioprotezione (IIRP)
IIRP

IN COLLABORATION WITH:
SFRP
Società Italiana
di Radioprotezione (SFRP)

1st European Workshop

on the Ethical Dimensions
of the Radiological
Protection System



SPONSORED BY THE UNIVERSITY OF MILAN

16-18 December 2013
Sala Napoleonica
Via S. Antonio 4, Milan, Italy

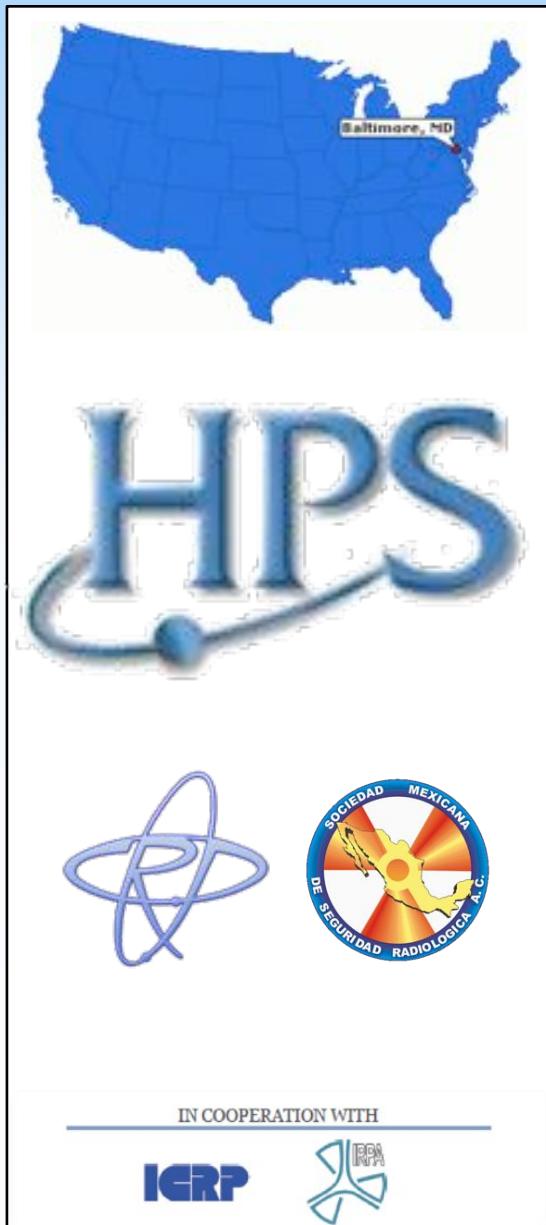
Main Points: Milano

A set small of central **values** were identified

Focus on understanding and applying these values, rather than worrying too much about classical philosophical traditions

Use plain language and examples of practical application of these values to ensure a broad common understanding

ICRP is charged with development of the System of Radiological Protection, but it is essential to prepare the ethics publication cooperatively with the broader RP community



1st North American Workshop

1st North American Workshop on the Ethical Dimensions of Radiological Protection

2014 July 17-18, Baltimore, MD, USA
(following the 59th Annual Meeting of the Health Physics Society)

Organised jointly by the US Health Physics Society (HPS), the Canadian Radiation Protection Association (CRPA), and the Sociedad Mexicana de Seguridad Radiologica (SMSR)

Baltimore

(from the first announcement)

Although consistent with major Western and Eastern philosophical traditions, there is no clear and comprehensive description of the ethical basis of the system of radiological protection that can be applied globally

Use of LNT is based on the virtue of prudence, but:

- may lead to violations of the principles of respect for personal autonomy and dignity
- may result in the imposition of a real risk of premature death to avert a potential risk

e.g. evacuation of elderly and ill persons from around Fukushima Daiichi appears to have violated a fundamental principle of medical practice: first, do no harm. However, if this population were not evacuated, would the right of caregivers to avoid an involuntary potential risk have been violated?

Moving from competing ethical schools of thought to a common set of values



Ethics (Moral Philosophy)

The study of the moral value of human conduct

Normative Ethics: Figuring out what is right and wrong behaviour

VIRTUE

Virtue
Ethics

Focus on habits of
character of a person

DUTY

Deontological
Ethics

Actions are judged
based on duty or
obligation

CONSEQUENCE

Utilitarian
Ethics

Actions are judged by
their consequences

Ethical Theories



- Kant: actions are inherently right or wrong (**deontology**)
- Aristotle: right actions are those that arise from virtuous character (**virtue ethics**)
- Bentham: right actions are those that result in good outcomes (**utilitarianism**)

Value Judgements in Radiological Protection

Utilitarian Ethics

- *Actions are judged by their consequences*

- **Justification**

- Do more good than harm

- **Optimisation**

- Maximize good vs. harm

Deontological Ethics

- *Actions are based on duty or obligation*

- **Dose Limitation**

- No individual is unduly harmed

- Dose Constraints aid optimization & increase equity

W.D. Ross: Balancing Obligations

**What is right is a matter of
balancing potentially
conflicting responsibilities
(values)**



Which Values?

- Accountability
- Accuracy
- Adaptability
- Benevolence
- Candor
- Charity
- Clarity
- Compassion
- Competence
- Confidence
- Consistency
- Correctness
- Credibility
- Decisiveness
- Dignity
- Effectiveness
- Efficiency
- Empathy
- Environmental protection
- Fairness
- Fidelity
- Gratitude
- Harmonisation
- Honesty
- Human health
- Individual autonomy
- Individual benefit
- Integrity
- Justice
- Knowledge
- Leadership
- Logic
- Mercy
- Meticulousness
- Modesty
- Non-maleficence
- Open-mindedness
- Partnership
- Paternalism
- Peace
- Practicality
- Pragmatism
- Precaution
- Promise-keeping
- Promotion of aggregate good
- Protection of animals
- Protection of children
- Protection of future generations
- Privacy
- Rationality
- Reasonableness
- Reparation
- Responsibility
- Human rights
- Scientific correctness
- Significance
- Simplicity
- Sincerity
- Social benefit
- Societal autonomy
- Soundness
- Stability
- Timeliness
- Tolerance
- Trustworthiness
- Truth
- Understanding
- Usefulness
- Vision
- Wisdom

Group 3

- Values of RP ethics
 - Tolerance of people's views (positive and negative aspects)
 - Human dignity
 - Justice
 - Respect for persons
 - Beneficence
 - Prudence
 - Understanding / simplicity
 - Wellbeing
 - Physical, mental, and social aspects

Borrowed from: Breakout group 3 at Daejeon Workshop

One of the most widely used frameworks of biomedical ethics is the one developed by Beauchamp and Childress (1979).
It is based on four principles

- 1) Autonomy
- 2) Non-Maleficence
- 3) Beneficence
- 4) Justice

These are assumed to be rooted in a “common morality”, which is “not relative to cultures or individuals, because it transcends both”.

Borrowed from: Friedo Zölzer

Ross on Right: Balancing Fundamental Responsibilities (*prima facie* duties)



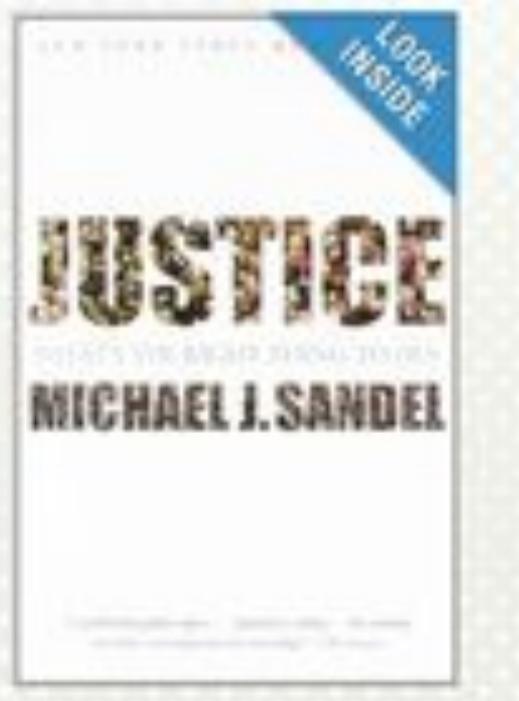
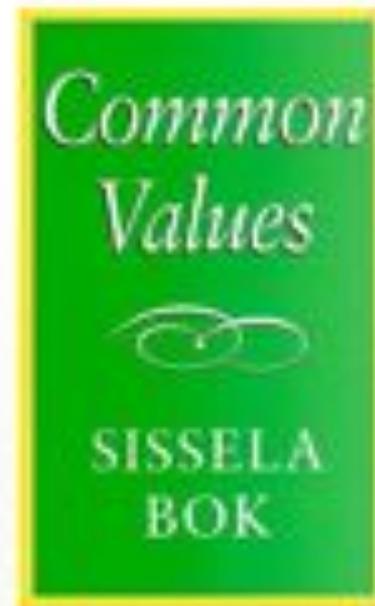


Underlying Ethical Values

- **Autonomy** and Dignity, Personal Control
- **Justice** and Distribution of Risks
- **Community Values** and Societal Impacts

Relevance can be grounded in ethical theories, common cultural values, biomedical principles, ...

Borrowed from: Deborah Oughton



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

Ethical and societal values underlying the system

- Where are we after the Daejeon seminar? -

- **Benevolence** : to do more good than harm
- **Prudence** : to keep exposure ALARA
- **Justice**: to reduce inequities in the dose distribution
- **Dignity**: to involve stakeholders
- Two 'values' to be carefully considered: **reasonableness** and **tolerability**
- A prospective question: should we broaden the objective of protection and consider moving to the promotion of the **well-being** of persons?

Borrowed from: Jacques Lochard

Values: A Pragmatic Way Forward

Seek a set of values:

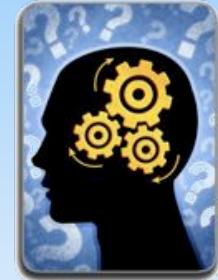
- Relevant to the system of radiological protection
- Common (or at least acceptable) to the widest possible range of cultures today
 - International recommendations must be broadly applicable
- That stand the test of being applied to current and foreseeable problems, with sensible results

Moving Forward

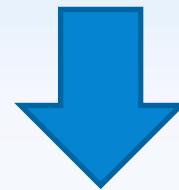
- 2nd round of regional workshops (Asia, Europe, North America ??)
- Broad discussions with RP professionals at:
 - ICRP 2015 in Seoul, October 20-22, 2015
 - IRPA 14 in Cape Town, May 9-13, 2016
- Collaboration at other venues and through other means
- Aiming for publication in 2017



The Objective



Clearer ethical framework



Professionals and the public better understand what
the system is designed to achieve and why
(how is more a matter for professionals)

Solid basis, together with science and experience, for
evolution of the system



www.icrp.org