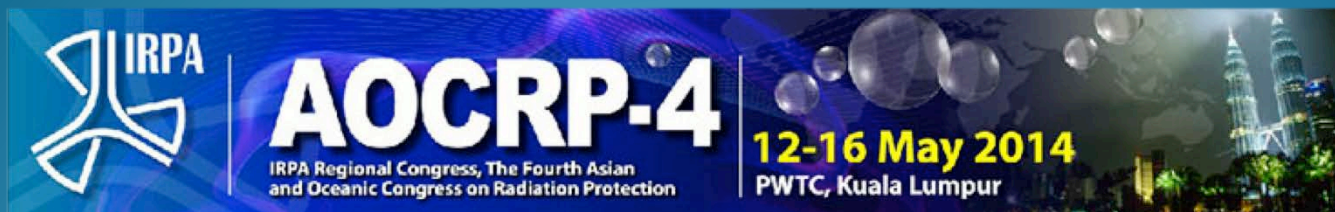


# Recent Reflections on the Ethical Basis of Radiological Protection

4<sup>th</sup> Asian and Oceanic Congress on Radiation Protection

Kuala Lumpur, Malaysia

2014 May 12-16



**Christopher Clement**

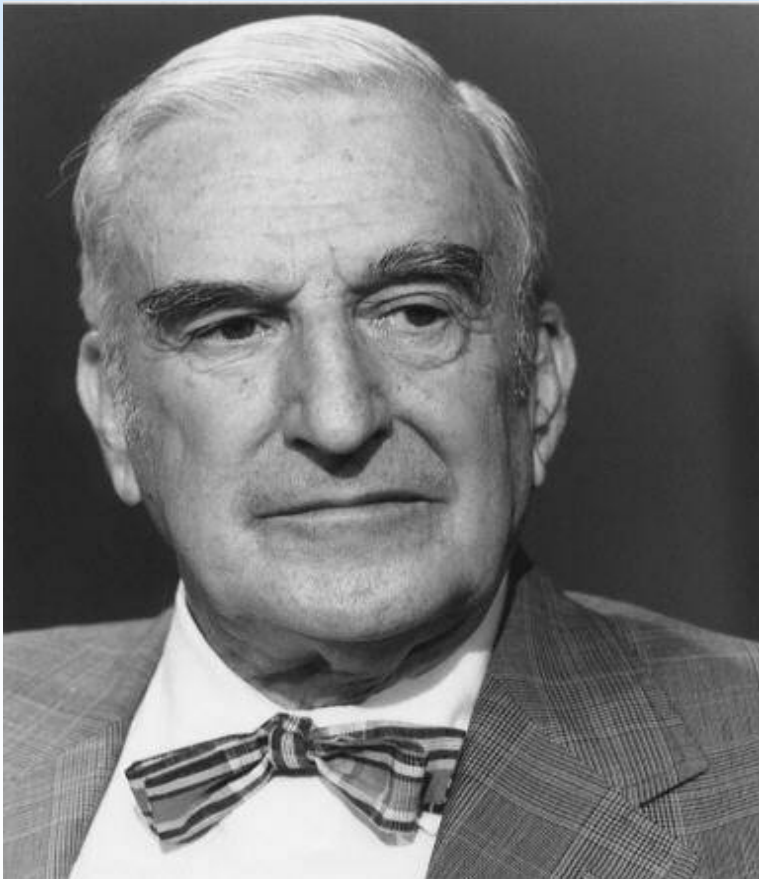
ICRP Scientific Secretary & Publications Director, IRPA Executive Council

# 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

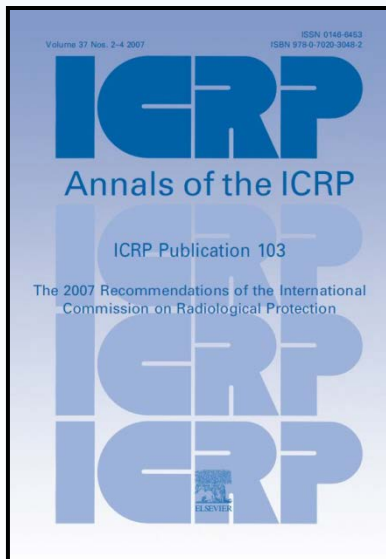
From address on 7 Nov. 1956

# SYSTEM OF RADIOLOGICAL PROTECTION

**SCIENCE**

**VALUES**

**EXPERIENCE**



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 – 1<sup>st</sup> Asian workshop, Daejeon, Korea**
- Oct 2013 – ICRP Task Group 94 on Ethics of Radiological Protection is established
- **Dec 2013 – 1<sup>st</sup> European workshop, Milan, Italy**
- Jun 2014 – 2<sup>nd</sup> International Symposium on Ethics of Environmental Health, Budweis, Czech Republic (OPERRA Workshop on Ethics of Radiation Protection)
- **Jul 2014 – 1<sup>st</sup> 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



# 1<sup>st</sup> Asian Workshop

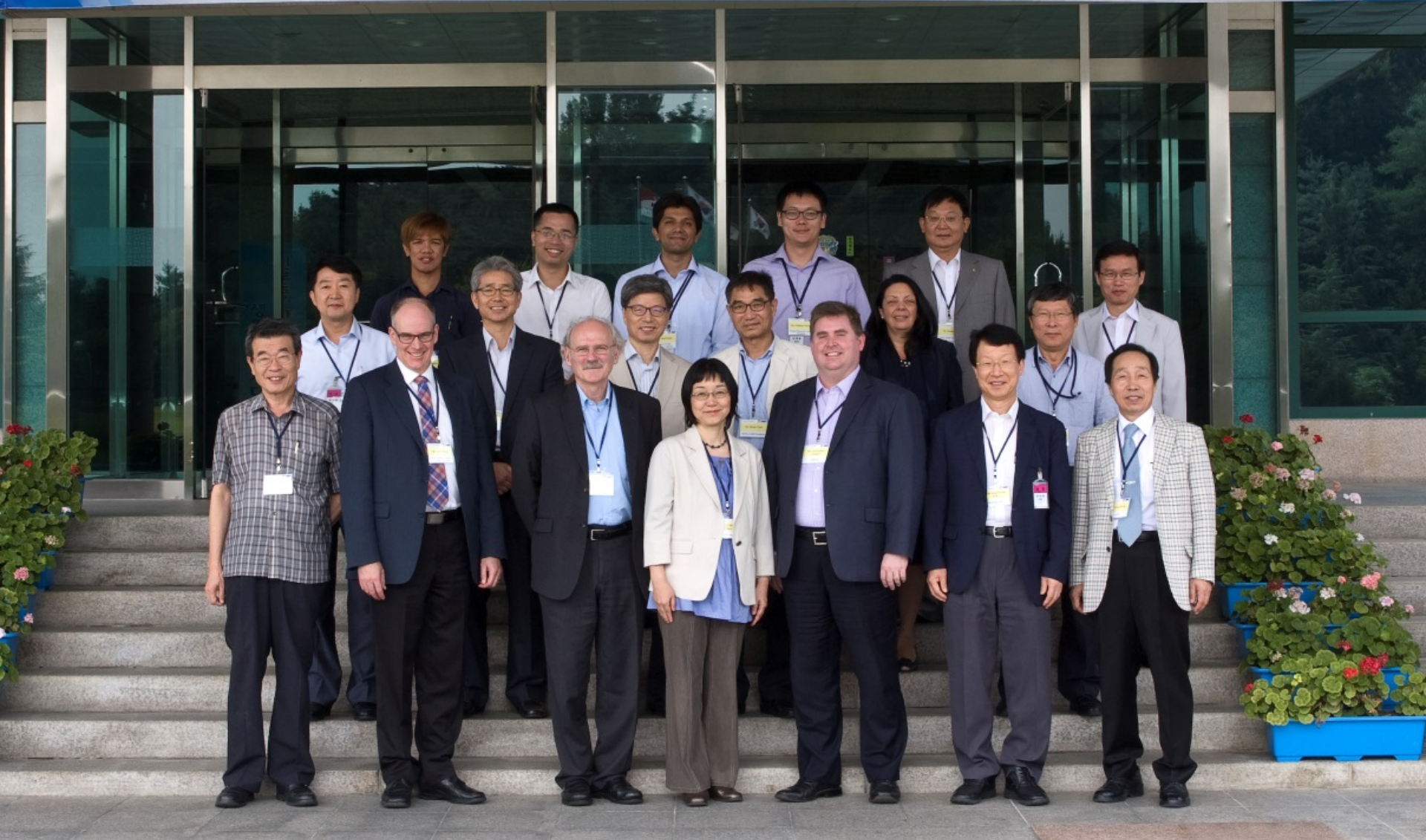
1<sup>st</sup> Asian Workshop on the Ethical Dimensions of the Radiological Protection System

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

The poster features the KARP logo (a radiation symbol with 'KARP' below it) in the top left and the KINS logo (a stylized atom symbol with 'KINS' below it) in the top right. A dark blue horizontal band contains the title '1<sup>st</sup> Asian Workshop' in white. Below this, the text reads 'on the Ethical Dimensions of the Radiological Protection System' and 'Preliminary Programme and Registration'. A central image shows a stack of papers with the word 'Ethics' prominently displayed, along with other terms like 'Values', 'Fairness', and 'Doing the Right Thing'. The dates '27-28 August 2013' and location 'KINS HQ, Daejeon, Korea' are listed. It also states 'Hosted by Korea Institute of Nuclear Safety (KINS)', 'Organised by Korean Association for Radiation Protection (KARP)', and 'In cooperation with ICRP and IRPA'. Logos for ICRP and IRPA are at the bottom.

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.*

**1<sup>st</sup> European Workshop**  
 on the **Ethical Dimensions**  
 of the **Radiological**  
**Protection System**

*Preliminary Programme and Registration*



**16-18 December 2013**  
 Sala Napoleonica  
 Via S. Antonio 4, Milan, Italy  
 Hosted by the University of Milan



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ORGANISED JOINTLY BY

Associazione Italiana di Radioprotezione (AIRP)	Société Française de Radioprotection (SFRP)
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IN COOPERATION WITH

# 1<sup>st</sup> European Workshop

1<sup>st</sup> 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)



ORGANISED JOINTLY BY



Associazione Italiana  
di Radioprotezione (AIRP)

Société Française  
de Radioprotection (SFRP)



IN COOPERATION WITH



# 1<sup>st</sup> European Workshop on the Ethical Dimensions of the Radiological Protection System



HOSTED 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

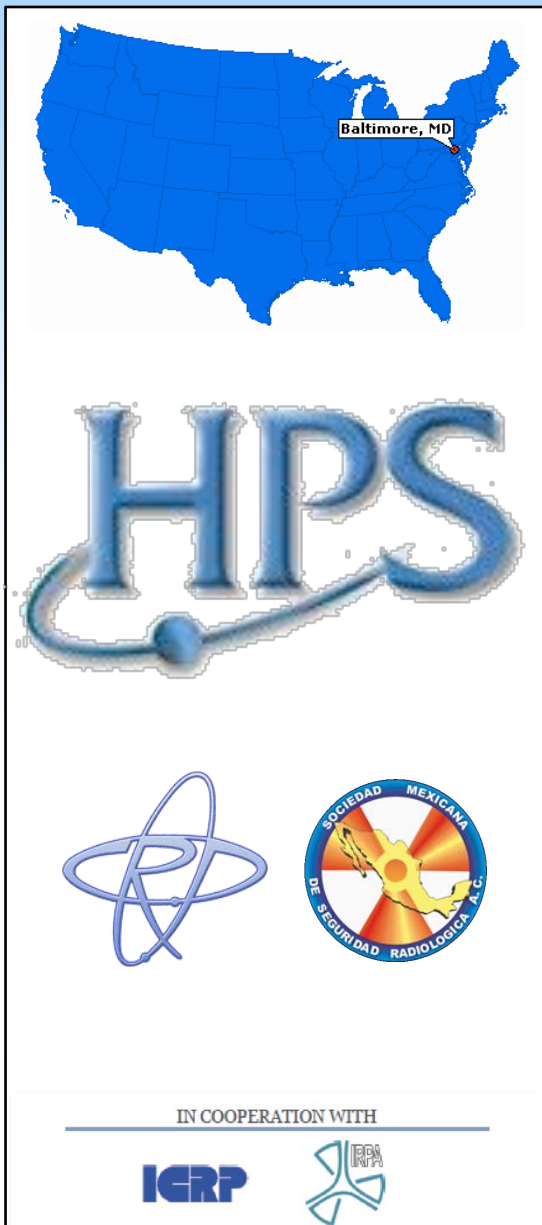
ICRP is charged with development of the System of Radiological Protection, but it is essential to prepare the ethics publication cooperatively with the broader RP community

# 1<sup>st</sup> North American Workshop

1<sup>st</sup> North American Workshop on the  
Ethical Dimensions of Radiological  
Protection

2014 July 17-18, Baltimore, MD, USA  
(following the 59<sup>th</sup> 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”.

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

**Fidelity**

(keeping promises)

**Reparation**

(righting our wrongs)

**Gratitude**

(returning services to those from whom we have accepted benefits)

**Non-maleficence**

(avoidance of the bad)

**Promotion of aggregate good**

(including justice and self-improvement)

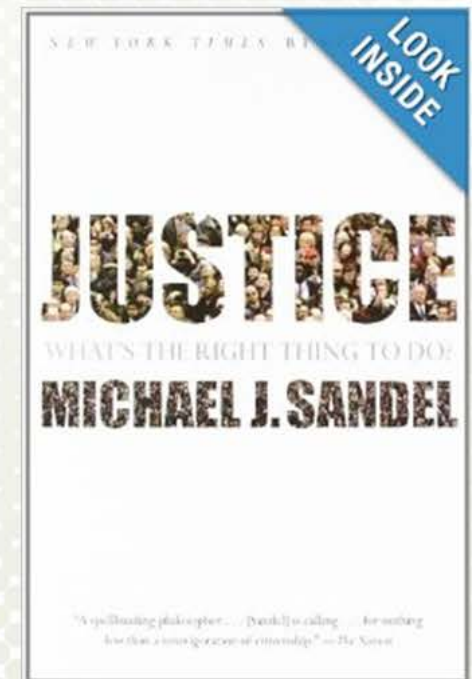
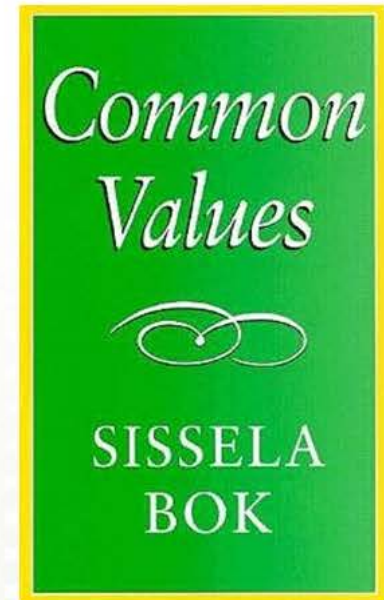


## Underlying Ethical Values

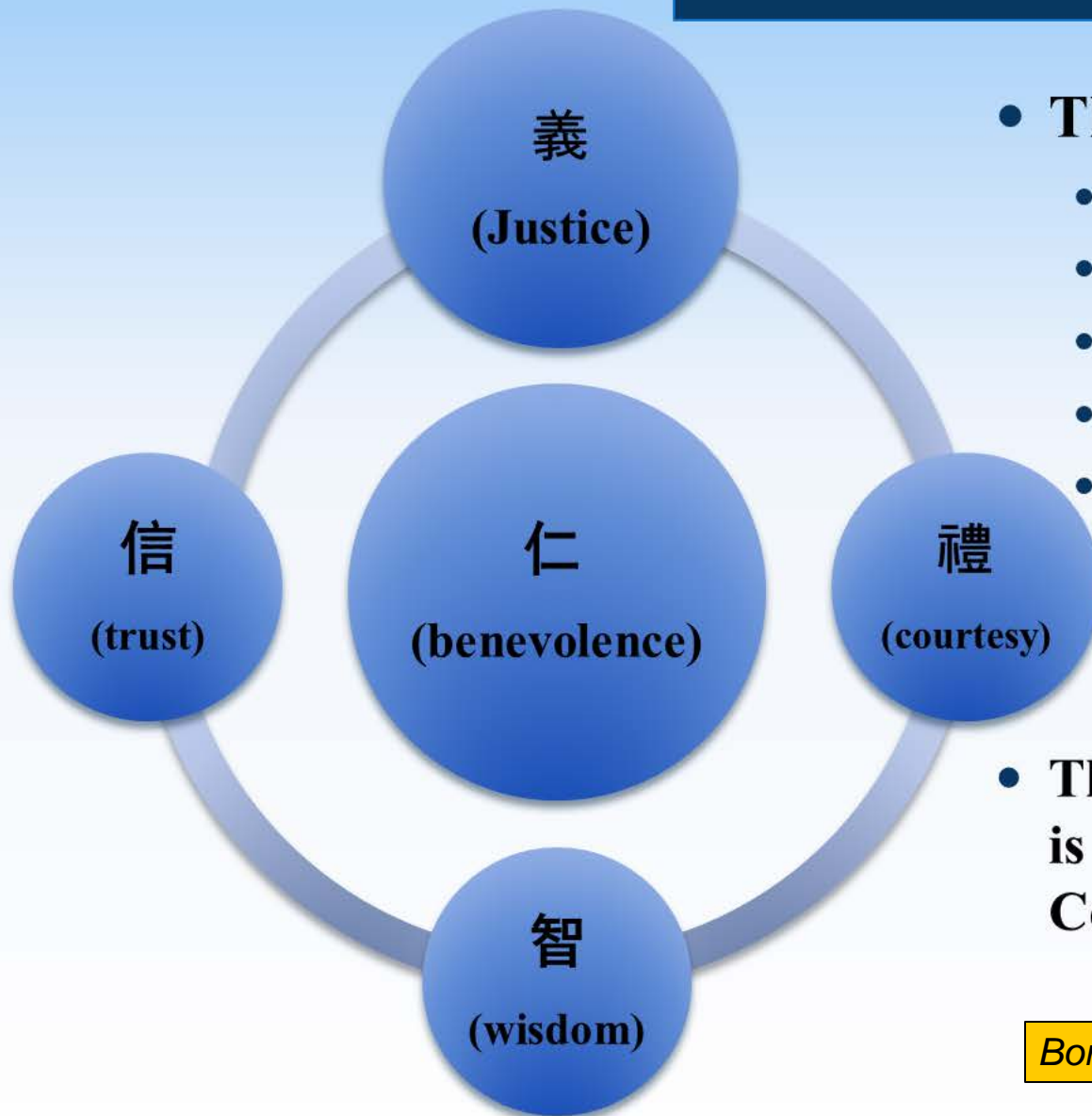
- **Autonomy** and Dignity, Personal Control
- **Justice** and Distribution of Risks
- **Community Values** and Societal Impacts

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*



# 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

- 2<sup>nd</sup> 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

# ICRP

[www.icrp.org](http://www.icrp.org)



INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION