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A Part, Not Apart From Nature: The IUBS Ethics Commission – An Overview of a Journey From 2000-2012.

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This paper explores the development of the way in which humans interact and have interacted with their natural environment. In particular, it places this within the context of the International Union of Biological Science's Ethics Commission, a body established in 2007 to develop ethical norms for bioethics and environmental ethics. The Ethics Commission grew out of what was the IUBS Bioethics Committee – the name change being dictated by confusion about the meaning of the term bioethics – which had recently been captured by the medical profession and was increasingly applied to medical practice alone. The new IUBS Ethics Commission (ICE) had a public presence as the International Centre for Environmental and Bioethics (ICEB), the web page of which was a vehicle to facilitate the provision and dissemination of ideas, news, concerns and case studies about the ethical management of the biosphere. In July 2012, the commission ceased to exist as a stand-alone entity. The reasons for this closure were varied; ranging from a lack of interest, to a belief that the commission was no longer required, to an inability or a lack of willingness to be personally involved in environmental ethics. The ICE is nonetheless still an important part of IUBS – currently as a subcommittee within the Biological Education Commission. The paper finishes with a review of the achievements of the commission over the last few years, and assesses where the critical ethical issues in biological sciences are likely to arise in the next decade: continued environmental degradation, increased intellectual theft and scientific obfuscation.

Key words: Bioethics; ethics; environmental ethics; codes of practice; biodiversity loss; environmental degradation.

Introduction

As a result of environmental degradation, humans are being forced to see themselves not as separate from nature, but as an integral part of it.

Buckeridge, 2007.

Ethics is defined as an application of moral values, particularly in a professional capacity (Buckeridge, 2011). It thus involves developing protocols and making decisions about how humans interact with

their environment. This paper explores the manner in which we interact with the natural environment (or biosphere), then focuses on the International Union of Biological Science's Ethics Commission (ICE), a body established in 2007 to develop ethical norms for bioethics and environmental ethics. The ICE arose from what had for many years been the IUBS Bioethics Programme. The Bioethics Committee was however quite unlike most other programmes within IUBS, as it did not have a finite task to complete. Rather it had the broad task of ensuring an

ethos of ethics within the bioscience community. The IUBS Ethics Commission had a public presence as International Centre for Environmental and Bioethics (ICEB), the web page of which was seen as a vehicle to facilitate the provision and dissemination of ideas, news, concerns and case studies about the ethical management of the biosphere. This was undertaken in anticipation that it would lead to the development and implementation of guidelines and best practice systems for the ethically sound and sustainable management of global biota and ecosystems. Although the name *International Centre for Environmental and Bioethics* is rather long, it was judged necessary due to the confusion about terms such as bioethics.

Mankind... a part, not apart from nature

Although the word *bioethics* didn't appear in the literature until the twentieth century, humans have had a long and deep (and necessary) relationship with the natural world. This relationship arose from necessity (i.e. nature provided all), but it was also founded in awe – in the magic, the beauty and the wonder with which humans saw their natural environment.

This wonderment is encapsulated almost two and a half millennia ago by Aristotle (384-321 BC), who in *Parts of Animals* 645^a: 16 stated: *In all the things of Nature, there is something marvellous...* If this is placed in the context of Aristotle's broader worldview, wherein a good person is one who cultivates virtues such as fairness, honesty, justice and self-discipline, then we have all the elements of environmental stewardship (Buckeridge, 2011). This wonderment was extended during the 13th century, by Saint Francis of Assisi (1181-1226), who envisaged Nature and God inextricably as one. It is recorded that St. Francis had a very intimate and

compassionate relationship with living things, and on this basis was made patron saint of animals and plants (Robinson, 1909). Importantly however, this bio-centric attitude is reflected globally and for example, is exemplified through the reverence of nature embodied in Taoism, to the Buddhist compassion for organisms under stress (Sass, 2012).

In addition to wonderment, a growing appreciation of the fragility of the natural world was being recognised by environmentalists such as the American forester, Aldo Leopold (1887-1948). It was Leopold who first advocated an ecocentric or holistic ethic to land management, and this sowed the seeds (no pun intended), which ultimately led to the modern concept of *bio-ethics* (Cramer, 1988). Nonetheless, humans have long wrestled with their inheritance of the natural world, many perceiving it as a thing to deal with as they willed. At this point, it is worth sharing a reflection on mankind's place in the natural realm, made by William Shakespeare – albeit tongue in cheek of course...

*What a piece of work is a man, how noble
in reason, how infinite in faculties, in
form and moving how express and
admirable, in action how like an angel, in
apprehension how like a god! the beauty
of the world, the paragon of animals –
and yet, to me, what is this quintessence
of dust?*

Hamlet 2(2): 303-312.

Shakespeare's next few lines confirm that man (or woman) is not as special as many might believe. This essence is reflected too by biologists. An observation of Charles Darwin, made in 1838, when he visited Jenny, the first orangutan to be shown at London Zoo, is particularly poignant:

Let man visit Ouranoutang in domestication, hear expressive whine, see its intelligence when spoken [to]; as if it understands every word said... see its passion & rage, sulkiness, & very actions of despair; ... and then let him boast of his proud preeminence ... Man in his arrogance thinks himself a great work, worthy the interposition of a deity. More humble and I believe true to consider him created from animals.

Charles Darwin, 1838 (ZSL, 2008).

In search of a *bio*-ethical ethos for the biosciences

Use of the term “bioethics” was proposed in 1927 by the German philosopher and theologian Fritz Jahr (1895-1952). Jahr introduced the term as a moral imperative in his article *Bio-Ethik. Eine Umschau über die ethischen Beziehungen des Menschen zu Tier und Pflanze* [Bio-ethics. An assessment of the ethical relationships between man and animals and plants] (Jahr, 1927, 1928). Jahr was a keen student of Immanuel Kant and saw Kant’s categorical imperative (Kant, 1781), as an appropriate model for bioethics (Lolas, 2008). Following Kant, Jahr concluded that the most appropriate guidance for moral action(s) arose from what he termed the *Bio-Ethical Imperative* – i.e. *Respect every living being, including animals, as an end in itself and treat it, if possible, as such!* (Jahr, 1928). There was a subtle difference between Jahr’s and Kant’s approach: Kant used the term “always”, and as such is categorical; but Jahr used “possible”, with the statement becoming situational (Sass, 2012). This change has great significance, for it requires us to take into account our obligations not only to each other, but also to the present environment and any *future* environments.

By the mid 20th century Leopold had published his series of essays advocating

holistic land management (Leopold, 1949). Leopold, like Rachel Carson (1907-1964), was very aware of the degrading natural environment and the role that humans had had in this degradation (see also Carson, 1962). Both were to have significant and long-reaching influence on environmental movements.

A drift in meaning of bioethics from *bio*-ethics more to *medical*-ethics increased in the 1970s, when Van Rensselaer Potter II (1911-2001) used it to integrate biology, ecology, medicine, and human values. Potter saw biology combined with diverse humanistic knowledge as *forging a science that sets a system of medical and environmental priorities for acceptable survival* (Potter, 1971; 1988).

In 1993, the United Nations established the International Bioethics Committee (IBC), a body of 36 independent experts that *follows progress in the life sciences and its applications in order to ensure respect for human dignity and freedom* (UNESCO, 1993). The first task of the IBC, as listed on their web site, is surprisingly focused: *To promote reflection on the ethical and legal issues raised by research in the life sciences and their applications*. However, exactly what this means is not entirely clear until one goes deeper into their web site, where one finds in bold, under “About the Bioethics Programme” what can be deduced as their primary objective:

Stem cell research, genetic testing, cloning: progress in the life sciences is giving human beings new power to improve our health and control the development processes of all living species. Concerns about the social, cultural, legal and ethical implications of such progress have led to one of the most significant debates of the past century. A

new word has been coined to encompass these concerns: bioethics.

(UNESCO. 1993).

This objective is indeed laudable, but it is certainly not what Jahr, Leopold or Carson would have promoted, for although it has much to do with human health, good laboratory practice and the use (or otherwise) of genetic engineering, it ignores much about how humans should responsibly interact with the natural environment, such as land (and ocean) use, natural resource use, recycling and waste disposal, conservation and biodiversity.

Bioethics for the biosciences

Until 2007, the International Union of Biological Sciences' engagement with ethics was through its Bioethics Committee. The use of the term *bioethics* in this instance was made in the knowledge that *bio* (= life) and *ethos* (= behavior, or the manner in which we interact with the world around us). This apparently covered what biologists would term "good practice".

But as noted, there were problems with the term *bioethics*, for at both the most general and fundamental levels, it had come to mean little more than medical ethics (Buckeridge, 2004). It had everything to do with good practice, but little to do with practice outside the world of physicians and geneticists. This approach was, I believed, not in the best interests of the natural environment, especially because the wider community too had begun to accept this mantra. This change is best encapsulated by Chadwick (2012), who defined bioethics as a field of applied ethics that *studies the philosophical, social, and legal issues arising in medicine and the life sciences. It is chiefly concerned with human life and well-being, though it sometimes also treats ethical questions relating to the nonhuman biological*

environment. This was certainly the attitude at the 2004 special session of UNESCO's International Bioethics Committee (IBC), held over 27- 29th April in Paris, where non-human aspects of the "biological environment" were glaringly absent.

On behalf of the IUBS, I took a stand on this issue, my stance being that 'bioethics' was no longer a useful vehicle for issues pertaining to the natural environment and that we had unfortunately strayed from the real meaning and the intent of bioethics (Buckeridge, 2004). In the following months, UNESCO set up a special working group of which I, as chair of the IUBS Bioethics Committee, was a member. Our task was to establish a series of protocols for best practice in environmental ethics, and to have these endorsed by UNESCO. After a rather tortuous few years in gestation, a consensus was finally reached and UNESCO's "Environmental Ethics Theme" was established. It provides a range of activities on environmental ethics that generate intellectual knowledge, plays an advisory role for Member States and offers a basis for reflecting on the relevance of standard-setting initiatives (UNESCO, 2010).

But whilst UNESCO deliberated, IUBS took the initiative and in 2005, closed its Bioethics Committee and established the International Centre for Environmental and Bioethics (ICEB). The ICEB Secretariat was set up at RMIT University, Melbourne, Australia. The ICEB was charged with the development of ethical norms for both bioethics and environmental issues. It was a virtual centre and provided a vehicle for the free dissemination of ideas, news, concerns and case studies about the ethical management of the biosphere. To further strengthen the importance of ethics in biosciences, the IUBS replaced the Bioethics

Committee with a new Ethics Commission (ICE) in 2007. This upgrade to commission status was taken to reflect the importance of ethics; in doing so the new commission joined the other keystone IUBS programme, the Bioeducation Commission.

The Ethics Commission’s purpose was to provide guidance on the holistic and sustainable management of the biosphere, and more latterly to provide comment and dialogue on the increasing levels of unethical behavior in research – especially in issues like plagiarism and intellectual theft. This rationale was encapsulated in the following objectives:

1. To support the development of ethics education for researchers in biosciences, through links with the BioEducation Commission.
2. To provide free and accessible environmental ethics teaching and learning materials via the internet.
3. To provide input into the development and implementation of existing global, regional and national protocols and codes of practice for the sustainable management of biological resources, including those in bioengineering.
4. To act as a resource on issues relating to breach of scientific practice in publishing and general research.

5. To encourage dialogue amongst the biological science community in matters ethical.

The increasing influence of the internet provided an opportunity to develop on-line learning resources. In conjunction with RMIT University, the first of these were launched in 2011, and included a self-paced, self-assessed module, based on a variety of case studies (<http://its-wn-web1.its.rmit.edu.au/faculty/resources/ethics/>). This package is still available free-of-charge, and as well as biological sciences, a range of disciplines, including engineering, currently uses it.

An ICE Report Card

Over the 12 years during which some form of secretariat functioned at RMIT University, a healthy number of presentations and publications resulted. The 30 written works (Figure 1) were primarily conference and journal papers (e.g. Buckeridge & Tapp, 2000; Buckeridge, 2004, 2005, 2006, 2009), although a number of books and book chapters on ethics were also produced – and importantly these had multidisciplinary currency – being used as texts in engineering education as well as science (e.g. Buckeridge, 2011).

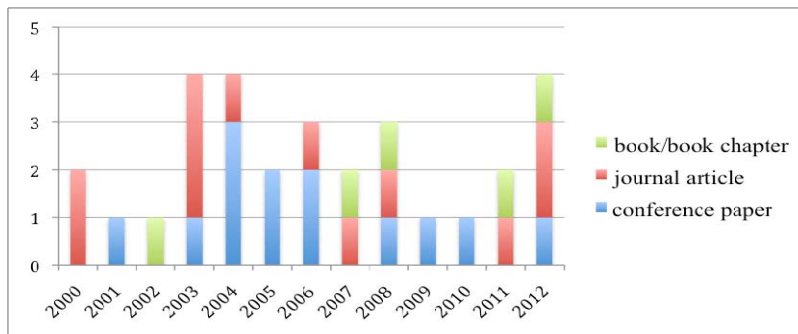


Figure 1: Publications. Written works on bioethics and environmental ethics produced by the IUBS International Centre for Environmental and Bioethics over the period 2000-2012. The vertical axis is the number of outputs per annum. Books/book chapters include the 1st and 2nd editions of *4 Es: Ethics, Engineering, Economics & Environment* and the 2011 course manual for indigenous education as part of *Project Echo Island*.

There has also been extensive international outreach as keynote talks, seminars and workshops, with presentations at many community and scientific colloquia (Figure 2). The importance of targeting young people has been demonstrated through a very successful course, run every year on ethics for aspiring young scientists, as part of the two week Rotary International Science Forum in Auckland, New Zealand. A further initiative, to encourage indigenous children to consider careers in biological sciences and help conserve the natural environment was delivered at Elcho Island, situated in the Arafura Sea, NE of Darwin,

Australia. This three-day course aimed to extend the scientific knowledge of Aboriginal children as well as to reinforce the relevance of traditional indigenous knowledge in resource management. A brief report on the project and the course manual are available as downloads from *Biology International* volume 50 (<http://biologyinternational.org/wp-content/uploads/2012/03/Buckeridge-manual.pdf>). In addition, a poster has been printed with government support, and is being circulated to junior schools in Australia's Northern Territory.

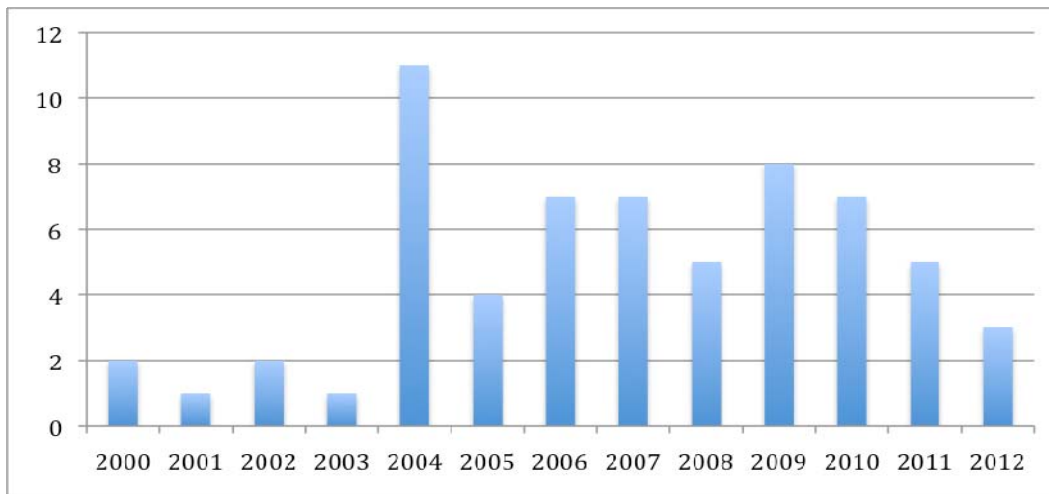


Figure 2: ICE Outreach 2000-2012. IUBS presentations on environmental ethics, bioethics and professional ethics have been delivered in Australia, Brazil, China, England, Fiji, France, Germany, Hong Kong, Malaysia, New Zealand, Norway, Scotland, Singapore, South Africa, Sweden, Thailand and the United States of America. An annual workshop/seminar for secondary school students run at Auckland's Rotary International Science Forum has consistently been voted as one of the most interesting and provocative courses of the forum.

ICE funding has come from a small annual stipend provided by IUBS, which in latter years rose to €7,500.00 (c.AUD9,000.00). With in-kind support from RMIT University this sustained the office, established the web site and over the last two years even provided airfares for delegates from Africa and Asia to attend environmental ethics meetings, ensuring a depth in cultural exchange that would otherwise have been absent from these meetings.

In July 2012, the ICE and the ICEB ceased to exist as stand-alone entities. The reasons for this closure were varied; ranging from a lack of interest, to a belief that the commission was no longer required, to a lack of willingness, or inability to be personally involved in environmental ethics. Even though we had implored commission members to send case studies for the web site from their own regions, none were received – the ICE Secretariat at RMIT University developed all of the case studies

and the self-paced learning modules. This lack of unwillingness to provide material and to be involved (beyond membership of the commission) effectively sealed the fate of ICE. Nonetheless, many ethical issues in biology remain unresolved. There are increasing pressures on scientists, especially academics, and these pressures include greater expectations that staff will win large research grants. Unfortunately research grants in bioethics and environmental ethics are rare...

The future

It is evident that our natural environment is still degrading. Guidance on issues such as sustainable practice and environmental ethics are just as necessary now as they have always been. In addition, increased pressure on university staff to *serve industry* has removed many from partaking in the

essential role that they once undertook. For in serving industry they have become partial – i.e. a conflict of interest now precludes many from functioning “as critic and conscience of society” (Buckeridge, 2012). There is also pressure, much more pressure, on emerging academics to publish, and to do so in quantity. Not surprisingly, the availability of technology has tempted many to cheat, with the universities currently facing alarming levels of plagiarism and intellectual theft.

There will also be continuing pressures on ecosystems as a result of human population growth; in Australia this is no more effectively demonstrated than in the ongoing competition for space between humans and our extraordinary endemic marsupials (Figure 3).



Figure 3. Biodiversity under pressure. In Australia, nature is under pressure from both increased land subdivision and changing fire regimes due to human intervention. Even if arboreal mammals like the koala survive forest fires, the impact of diminished food sources may still kill. A: The koala - an iconic marsupial of Victoria obtains both its food and moisture from the leaves of eucalypts. These were unavailable for some weeks after the devastating forest fires of February 2009. B: Regrowth 8 weeks after the 2009 forest fire near Marysville, Victoria.

In light of the above, perhaps ICE should not have been decommissioned. Clearly there remains a need for IUBS to demonstrate leadership in the manner in which we manage both natural and human environments. In light of this, an invitation for the commission to exist as a subcommittee within the Biological Education Commission was grasped enthusiastically; indeed, it seemed that much of what ICE had done, and should be doing, lay within the broad domain of education. A gap however still remains – the absence of any formal IUBS structure for guidance on environmental and professional ethics. Although it can be argued that this service is provided (at least in part), by other institutions such as UNESCO and ICSU, there was something special about having a commission dedicated to biology... A decision on whether to pursue this role within the union is something that future IUBS leaders must address.

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