

# Economics for the Anthropocene

REGROUNDING THE HUMAN-EARTH RELATIONSHIP

## ***NRSC 685 - Ethics and Cosmology for a Mutually Enhancing Human-Earth Relationship***

Fall 2017

*Syllabus*

### **Meeting Time**

This course is open to graduate and senior undergraduate students from McGill University. Classes will meet Thursdays at 2:35-5:35 pm in Room MS3-041. Students interested in taking the course should contact Professor Peter Brown at [peter.g.brown@mcgill.ca](mailto:peter.g.brown@mcgill.ca).

### **Course Description**

The increasing scale of human activities has become a major influence on the Earth's biophysical processes and led to an imbalance in the human-earth relationship, leading some to suggest that we are entering a new era, the *Anthropocene*. This intensified human impact is destabilizing the Earth's life support systems, resulting in urgent environmental problems such as climate change and the loss of biodiversity, and compelling us to reground the human-Earth relationship.

This course will explore the ethical considerations required by such a re-grounding. We aim to establish the foundations for a mutually enhancing human-Earth relationship by examining diverse worldviews and systems of values and analysing the considerations that drive individual and collective decision-making.

In the first section, we consider value systems and worldviews. In particular, the first module aims at building the awareness of how our decisions – both individual and collective – are influenced by values and self-interest, and reflecting on how this awareness can ameliorate our behaviour towards the environment. Following from this, the second module explores Evolutionary Theory and the various worldviews it has influenced, including Religious Naturalism and Social Darwinism. By critiquing these worldviews, this module seeks to determine whether they can contribute to developing a new human-nature relationship. The third module discusses indigenous worldviews and how they can offer particularly valuable guidance in formulating a new paradigm and according environmental policies that support a mutually enhancing human-earth relationship. The dominant cultures of our time need to remember that our relationship with this planet is one of sacredness and not one of exploitation. Policy makers should be obligated to learn important principles and techniques from governance systems of indigenous peoples, in order to develop Earth-centered frameworks for our common future. Thus, it is fundamentally important to establish policies that strongly consult indigenous traditions and cosmologies.

The second section tries to operationalize these ethical considerations to reground the human-earth relationship. More specifically, the fourth module will look at normative ethics, with a focus on environmental virtue ethics (EVE), in natural resource management to guide decision-making in support of life systems and a mutually enhancing human-earth relationship. Lastly, the fifth module will address the real-world issues expected in embedding the new ethical frameworks needed for mutually enhancing human-Earth relationships, specifically those related to the behaviour of groups and individuals in complex, interdependent networks.

The course will follow an interactive format and will include several guest speakers. Evaluation will be based on both oral and written contributions.

### **Course Objective**

Providing the students with information on selected topics in Ethics that are particularly relevant to the human-Earth relationship in the Anthropocene. Supporting and encouraging critical reflection on these topics.

### **Learning Objectives**

By the end of the course, students will be able:

- (1) to gain an understanding of how ethics can be used to inform environmental policy and human activities;
- (2) to appreciate how different worldviews, including Indigenous knowledge, can add to a better Human-earth relationship;
- (3) to be able to critique approaches to the environment and economics offered by different communities;
- (4) to grasp the implications of worldview for the human-Earth relationship and how we perceive our place in the cosmos;
- (5) to identify, define and critically consider individuals' and societies' ethical objectives; to propose new paradigms and ways to transition to these new paradigms; and
- (6) to understand the implications of complexity for operationalizing ethical worldviews, and some different ways to conceptualize these implications.

### **Faculty**

Prof. Peter G. Brown

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### **Student Instructors**

Timothy Crownshaw - timothy.crownshaw@mail.mcgill.ca  
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## **SECTION 1**

### **MODULE 1 - The Relationships Among Ethics, Economics and Society**

**Student Instructor: Alice Damiano**

#### **Description:**

To what extent are our decisions - both individual and collective - influenced by ethical values, and to what extent are they based on calculated self-interest?

This section analyzes the main assumptions on which Economics and decision-making are based, i.e. that human beings are acting as a rational, utility-maximizer *homo economicus*. Students will be invited to reflect on the correctness of these assumptions and the consequences of their adoption on individual behaviour, social problems and the society in general.

Then, some key literature on alternative models will be proposed, and students will be encouraged to consider these alternatives, reflect on the role of models, identify their desirable characteristics, and discuss the necessity and feasibility of the transition to a new model.

By the end of this section, students will have acquired a critical awareness of their own values, motivations and assumptions, as well as new tools to interpret the decisions taken in the society in which they live.

#### **Required Readings:**

##### First class:

These readings are supposed to provide inputs to critically understand some of the current ways of framing human beings' relationships with the other beings and with the environment.

Daly, H. E., & Cobb, J. B. (1994). *For the common good: Redirecting the economy toward community, the environment, and a sustainable future* (No. 73). Beacon Press. -- Selected chapters

Daly, H.E. (2016). *Ethics in Relation to Economics, Ecology and Eschatology*, in DeMartino, G. F., & McCloskey, D. N. (Eds.). (2016). *The Oxford handbook of professional economic ethics*. Oxford University Press.

Miller, D. T. (1999). The norm of self-interest. *American Psychologist*, 54(12), 1053.

### Second class:

These readings are supposed to provide examples of new ways of modeling human beings' relationships with the other beings and with the environment (Becker, Nyborg, Siebenhüner) and ideas that can inspire new models (Lindsey).

Becker, C. (2006). The human actor in ecological economics: Philosophical approach and research perspectives. *Ecological economics*, 60(1), 17-23.

Lindsey, T. C. (2011). Sustainable principles: common values for achieving sustainability. *Journal of Cleaner Production*, 19(5), 561-565.

Nyborg, K. (2000). Homo economicus and homo politicus: interpretation and aggregation of environmental values. *Journal of Economic Behavior & Organization*, 42(3), 305-322.

**NOTE:** Please focus on the ideas behind the models, rather than the formalization of the models.

Siebenhüner, B. (2000). Homo sustinens—towards a new conception of humans for the science of sustainability. *Ecological Economics*, 32(1), 15-25.

### **Additional Resources:**

Palazzo G., Hoffrage U. Unethical Decision Making in Organizations G. Palazzo, U. Hoffrage, University of Lausanne, *Coursera* course accessible for free at <https://www.coursera.org/learn/unethical-decision-making>, in particular weeks 4 and 6.

This course is focused on unethical decisions in general, especially in the context of companies and organizations.

Pertinent mostly to the first class.

Edwards, W. (1954). The theory of decision making. *Psychological bulletin*, 51(4), 380.

Reading useful to those who need some more information on decision making and the ideas behind it.

Pertinent mostly to the first class.

Faber, M., Petersen, T., & Schiller, J. (2002). Homo oeconomicus and homo politicus in ecological economics. *Ecological economics*, 40(3), 323-333.

On the homo economicus and the homo politicus.

Pertinent to both classes.

Ferguson, C. (2010) Inside job, *Representational Pictures, Screen Pass Pictures* (documentary movie).

Movie that shows real examples of unethical decisions.

Pertinent mostly to the first class.

Fong, C. (2001). Social preferences, self-interest, and the demand for redistribution. *Journal of Public economics*, 82(2), 225-246.

A real case study (with data gathering and statistics) on the presence of self-interest and values. Pertinent to both classes, because it is useful to question the current models and it can inspire new models.

Gintis, H. (2000). Beyond Homo economicus: evidence from experimental economics.

*Ecological economics*, 35(3), 311-322.

On the homo economicus and on discounting.

Pertinent to the first class.

Gobby, J. (2017). An E4A student's reaction to Doughnut Economics: 7 Ways to think like a 21st Century Economist, <https://e4a-net.org> blog post accessible for free at:

<https://e4a-net.org/2017/09/05/an-e4a-students-reaction-to-doughnut-economics-7-ways-to-think-like-a-21st-century-economist-by-jen-gobby/>

A blog post on a new book that points out the current shortcomings in the human-Earth relationship, and the relationships between these shortcomings and Economics.

Pertinent mostly to the first class.

Leiserowitz, A. A., Kates, R. W., & Parris, T. M. (2006). Sustainability values, attitudes, and behaviors: A review of multinational and global trends. *Annu. Rev. Environ. Resour.*, 31, 413-444.

Different values and their presence in the last decades.

Pertinent to the second class, useful to create new models.

Moore, M. (2009). Capitalism: A love story, *Dog Eat Dog Films, The Weinstein Company* (documentary movie).

Movie that shows real examples of unethical decisions.

Pertinent mostly to the first class.

Persky, J. (1995). Retrospectives: The ethology of homo economicus. *The journal of economic perspectives*, 9(2), 221-231

On the origins of the idea of homo economicus.

Pertinent to the first class.

Toman, M. A. (1994). Economics and "sustainability": balancing trade-offs and imperatives. *Land economics*, 399-413.

Different values.

Pertinent to the second class, useful to create new models.

Weber, E. U., & Coskunoglu, O. (1990). Descriptive and prescriptive models of decision-making: implications for the development of decision aids. *IEEE transactions on Systems, Man, and Cybernetics*, 20(2), 310-317.

About descriptive/prescriptive decision making models. Useful to reflect on the differences between prescriptive and descriptive models, even though the overall approach and aim are totally different from the ones of this course.

This paper is also a reminder of the fact that even if we conceive a perfect model for the human-Earth relationship, we will always have to face human irrationality and, more in general, biases that hinder the full implementation of the model.

Pertinent to both classes.

**Guest speaker:**

Herman Daly

**MODULE 2 - The Influence of Evolutionary Theory on Narratives and Worldviews**

**Student Instructor:** Gabriel Yahya Haage

**Description:** Evolutionary Theory has had a strong impact in past and current social narratives, particularly in regards to environmental degradation, economics and the Anthropocene. This section will explore these narratives, how they are used and their validity (socially and scientifically). The section will begin with a brief introduction to the basics of Evolutionary Theory. Then, the concept of "Survival of the Fittest" and its uses in Social Darwinism and economics will be discussed. This will be contrasted with the narratives that stress the cooperative aspects in evolutionary history and the evolution of altruism. Finally, the idea of evolution as a path of "progress" for mankind will be explored. Throughout the Module, the validity of these narratives from a scientific perspective will be discussed, along with their importance. By the end, students will consider whether an evolutionary narrative based on scientific fact is sufficient or even desired in forming a better Human-Nature relationship.

**Required Readings:**

First class

The first class will explore the evolution of morality and altruism from a Darwinian perspective. It will also look at how different thinkers and communities have incorporated the biological concepts of competition and mutualism.

Wilson, D. S. (2007). *Evolution for everyone : how Darwin's theory can change the way we think about our lives*. New York: Delacorte Press.

Chapter "Love thy neighbor microbe"

This chapter discusses how cooperation evolved in organisms, offering several examples from a wide range of organisms. Of particular interest is how the author expands what “morally good” and “morally bad” mean so that it can be applied to more forms of life than most ethical systems tend to consider.

Dawkins, R. (2006). *Selfish Gene : 30th Anniversary Edition (3)*. Oxford, GB: OUP Oxford.  
Chapter 12 - Nice guys finish first

This chapter from the seminal book of a gene-based view of evolution, discusses how cooperation could arise from a Darwinian perspective.

Kropotkin, P. (1902). *Mutual Aid: A Factor of Evolution*. London: Heinemann.

Pages 1-6 and 38-46 of chapters 1 and 2 ("Mutual Aid Among Animals") and chapter 9 ("Conclusion")

Written by a proponent of Anarchism Communism, this text is an early critique and response to the interpretation that Darwinian evolution is largely driven by competition. It argues that cooperation is a greater component of evolution than competition. It is particularly interesting in how it applies this reasoning to human societies and human politics.

Dalai Lama. (2005). *The universe in a single atom : the convergence of science and spirituality*. New York: Morgan Road Books.

Pages 112-115 of Chapter "Evolution, Karma, and the world of sentience"

In this book, the Dalai Lama explores what modern scientific findings mean for Buddhism and visa versa. While he argues in most chapters that the two are not in conflict, in this segment he takes issue with the current view, in biology, of altruism and, in particular, its evolution.

Hunter, G. W. (1914). *A civic biology : presented in problems*. New York: American Book Co.  
Pages 194-196, 261-265

This is a American biology textbook from the early 20<sup>th</sup> Century. I selected pages that discuss evolution and Social Darwinism.

Yeboah, S. K. (1988). *The ideology of racism*. London, England: Hansib.  
Pages 54-59

This segment of the book discusses the “scientific arguments” that were made in favor of racism. It is interesting as it explores both arguments before and after the publication of *On the Origin of Species*. The book focuses on racism towards those of African descent, but it is generally applicable.

Townsend, J. (1966). A Dissertation on the Poor Laws by a Well-Wisher to Mankind. In J. R. McCulloch (Ed.), *A select collection of scarce and valuable economical tracts*. (pp. 397-449). New York: A.M. Kelley.

Pages 416-419, 438-441

Townsend's pamphlet, originally published in 1786, offers an example of a pre-Darwin argument that connects the struggle between animals in nature, the Divine Law, and the treatment of the poor.

### Second class

This class will explore how the concept of evolution has often been placed into a larger narrative of Cosmic Evolution. This section will look at the potential benefits and drawbacks of this framework and what it means for morality. We will discuss and critique Religious Naturalism, in which Evolutionary Theory is a vital narrative and from which ethics and a sense of purpose can be developed.

Grim, J., & Tucker, M. E. (2014). Journey of the Universe film (and the associated Project Overview document)

This film offers an overview of Cosmic Evolution, describing the universe from its start to the present. It also delves into what this entails for spirituality and morality.

Goodenough, U. (1999). *The Sacred Depths of Nature*. New York: Oxford University Press. Introduction (xiii-xviii). Also, the Reflections sections and selected chapters (Pages 9-15, 45-47, 59-61, 63-75, 77-87, 100-103, 105-115, 127-129, 135-141, 143-151)

This book advocates a Religious Naturalism perspective and the Reflections sections found at the end of each chapter explore what a naturalistic view of nature can mean for morality and spirituality and the search for purpose.

Millstein, R. L. (2015). Re-Examining the Darwinian Basis for Aldo Leopold's Land Ethic. *Ethics, Policy and Environment*, 18(3), 301-317.

This text looks at how our understanding of Evolutionary Theory and the interconnections within the natural world can help form a beneficial ethical view.

### **Additional Resources:**

Herron, J. C., & Freeman, S. (2014). *Evolutionary analysis*. Boston: Pearson.

Sections of Chapter 3: p. 73-78 and p. 90-97

This is a simple introduction to evolution for those who feel they are unfamiliar with the fundamentals of the science.

Kardong, K. V. (2008). *An introduction to biological evolution* (2 ed.). Boston: McGraw-Hill Higher Education.

Chapter 1: "Evolution of Evolution"

This is likewise a simple introduction to evolution for those unfamiliar with its basics.

Moore, K. D. (2015). A Roaring Force from One Unknowable Moment: Mary Evelyn Tucker in conversation with Kathleen Dead Moore. *Orion*.

This is an interview with one of the creators of *Journey of the Universe*, to give more background to the reasoning and purpose of the film.

Joyce, R. (2016). Evolution, Truth-Tracking, and Moral Skepticism. In R. Joyce (Ed.), *Essays in Moral Skepticism* (pp. 142-158). Oxford: Oxford University Press.

This article explores what Darwinian evolution can mean for our concept of morality, mainly from a philosophical perspective. It looks at different possible interpretations of these consequences.

Craig Biddle (2017) Capitalism because Science *The Objective Standard*.

This is an article from an Objectivist periodical. It makes the case that the field of biology and in fact all scientific fields argue for a laissez-faire economic system and an individual-centric ethical system.

Shermer, M. (2006). *Why Darwin matters: The case against intelligent design*. New York: Times Books.

Chapter "Why Christians and conservatives should accept evolution"

This book is written as a response to the Intelligent Design movement. In this chapter, the author argues that right-wing conservatives should actually be open to Evolutionary Theory, as the concept of Natural Selection is similar to the belief in an Invisible Hand which supposedly guides the Free Market.

Kropotkin, P. (1897) *Anarchist Morality*. The Anarchist Library

Sections 1, 2, 3, 4, 6,

In this text, the author outlines his Anarchist philosophy. He discusses Darwinism less than in the required reading but it allows the reader to get a fuller view of how he links biology to his ethical framework.

Grim, J. A., & Tucker, M. E. (2005). Teilhard's Vision of Evolution. *Teilhard Studies*(50), 1-22.

This text outlines Teilhard's beliefs about evolution. It is a good example of the expansion of evolution beyond the biological to a Cosmic Evolution. There is an added sense of purpose and direction to the standard evolutionary perspective.

Bowler, P. J. (2003). *Evolution : the history of an idea*. Berkeley: University of California Press.

A good historical exploration of the social background, development and consequences of Darwinism. Chapters 3 and 7 are particularly relevant to this course.

Lepenes, P. H. (2014). Of goats and dogs: Joseph Townsend and the idealisation of markets—a decisive episode in the history of economics. *Cambridge Journal of Economics*, 38(2), 447-457. doi: 10.1093/cje/bet024

This article explores Townsend's dissertation, including its arguments regarding the struggle for survival and its influence on Malthus and evolutionary thought.

**Guest speaker:**

Ursula Goodenough

**MODULE 3 - Indigenous Worldviews**

**Student Instructor:** Svenja Telle

**Description:** Scholars claim that there is a deeper dimension to sustainability, which is as foundational as it is almost forgotten: a spiritual dimension to our present ecological crisis. It has long been understood by indigenous peoples that the relationship to the Earth is spiritually as well as physically sustaining, which is included in their way of life and expressed through rituals and prayers. In our western scientific culture, we may sense this spiritual nourishment in the beauty, peace, or sense of wonder that the natural world gives us. This session aims to go to the root of the present ecological crisis where we will find a state of disconnection from real awareness of the effects of our materialistic culture upon the ecosystem that supports us.

**Guest speaker:**

(TBD/TBC)

**Resources**

**Week 1**

**Required Readings/Videos:**

**Video**

1. Winona LaDuke - Land, Life and Culture: A Native Perspective (49 minutes)  
<https://www.youtube.com/watch?v=UXA2zCfxxAw>
2. The Spiritual Crisis behind the Ecological Crisis - Dr. John Cobb (5 min)  
<https://www.youtube.com/watch?v=xjAcSsL1Pag>

**Required Readings**

1. Dismantling the divide between indigenous and scientific knowledge A Agrawal - Development and change, 1995 - Wiley Online Library
2. Indigenous by definition, experience, or world view: Links between people, their land, and culture need to be acknowledged C Cunningham, F Stanley - BMJ: British Medical Journal, 2003 - [ncbi.nlm.nih.gov](http://ncbi.nlm.nih.gov)
3. Robin Wall Kimmerer. Braiding Sweetgrass Chapter 1, Skywoman Falling

4. Indigenous knowledge within a global knowledge system M Durie - Higher Education Policy, 2005 – Springer
5. Who's Asking, Medin, Bang. Chapter 8. Distance, Perspective Taking and Ecological Relations
6. Worldviews and Ecology: Religion, Philosophy, and the Environment (Ecology and Justice Series) by Mary E. Tucker, John A. Grim (Paperback)  
(Chapter 1: Native North American Worldview and Ecology, John A. Grim)

### **Additional Readings:**

1. The Animals Came Dancing: Native American Sacred Ecology and Animal Kinship by Howard L. Harrod (Paperback) (Animals and Cultural Values)
2. Original Wisdom: Stories of an ancient way of knowing. Robert Wolff. Chapter 4 – Different Realities
3. Worldviews, Religion, and the Environment: A Global Anthology.  
Two essays from Chapter 3: First Peoples
  - a. Sacred Places and Moral Responsibility
  - b. Graham, M. Some thoughts about the Philosophical Underpinnings of Aboriginal Worldviews

### **Week 2**

#### **Video**

1. Mauna Kea: Temple Under Siege <https://oiwi.tv/oiwiv/mauna-kea-temple-under-siege/>
2. Ted Talk: TEDxMaui - Dr. Pualani Kanahahele - Living the Myth and Unlocking the Metaphor - YouTube <https://www.youtube.com/watch?v=8PDipPnD2d8>

#### **Required Readings**

1. Decolonizing Methodologies: Research and Indigenous Peoples by Linda Tuhiwai Smith (Paperback) (Chapter 3 Epistemology and Research: Centering Tribal Knowledge)
2. The journey between western and indigenous research paradigms. Grace A. Getty
3. Indigenous Traditions and Ecology. A Grim Chapter: Is Indigenous Spiritual Ecology Just a New Fad? Reflections from the Historical and Spiritual Ecology of Hawai'i .L. Sponsel
4. Hawaiian telescopes pruned: cultural fight over sacred mountain Mauna Kea prompts rule change Alexandra Witze
5. Wao Akua Sacred source of Life. Chapters 1 Native Hawaiian Environment – Pualani Kanaka'ole Kanahahele
6. Mauna Kea, HI (Native Hawaiians) (2009), The Pluralism Project at Harvard University,

[http://kahea.org/issues/sacred-summits/sacred-summits-documents/science-and-religion-at-14-000-feet/at\\_download/file](http://kahea.org/issues/sacred-summits/sacred-summits-documents/science-and-religion-at-14-000-feet/at_download/file)

### **Additional Readings**

1. Kumulipo A Hawaiian Creation Chant) <http://www.sacred-texts.com/pac/lku/>
2. Indigenous Religious Traditions - Mauna Kea  
<http://sites.coloradocollege.edu/indigenoustraditions/sacred-lands/sacred-lands-mauna-kea/>
3. Science needs a new ritual  
[http://www.slate.com/articles/health\\_and\\_science/science/2015/05/mauna\\_kea\\_telescope\\_protests\\_scientists\\_need\\_to\\_reflect\\_on\\_history\\_and\\_culture.html](http://www.slate.com/articles/health_and_science/science/2015/05/mauna_kea_telescope_protests_scientists_need_to_reflect_on_history_and_culture.html)
4. Davianna Pōmaika'i Mc Gregor - Nā Kua'āina. Chapter 6: Kaho'olawe: Rebirth of the Sacred

## **SECTION 2**

### **MODULE 4 - Environmental Virtue Ethics (EVE) for Natural Resource Management**

**Student Instructor:** Laura Gilbert

**Description:** Normative ethics is the study of what ought to be, an appraisal of conduct. It is implicitly or explicitly present in natural resource management. This module will look at normative ethics, with a focus on environmental virtue ethics (EVE), in natural resource management to guide decision-making in support of life systems and a mutually enhancing human-earth relationship. The first class will look at different origins of EVE, its influence on behaviour and decision-making, and its integration in natural resource management. The second class will focus on EVE in natural resource management by exploring case studies and engaging the class in a discussion on the implementability and limitations of EVE. By the end, students will have critically explored the role of EVE for natural resource management.

#### **Guest speaker:**

(TBD/TBC)

#### **Required Readings:**

##### First Class

1. Aristotle & Virtue Theory: Crash Course Philosophy #38:

<https://www.youtube.com/watch?v=PrvtOWEXDIQ>

This video summarizes Aristotle's virtue theory. It's a good introduction if you don't have a background in philosophical theory. If you already know about it, feel free to skip this video.

2. Gunn, A. S. (1994). Can Environmental Ethics Save the World? In F. Ferré & P. Hartel (Eds.), *Ethics and Environmental Policy: Theory Meets Practice* (pp. 209-214). Athens: University of Georgia Press.

This reading explains why applied ethics is useful in environmental management and how philosophy can help us use it more. This reading is more general and addresses all of the field of environmental ethics. If interested, you can consult the full list of ecological virtues and vices the author refers to in the additional resources.

3. Van Wensveen, L. (2000). Chapter 1 - The Emergence of Ecological Virtue Language *Dirty virtues: The emergence of ecological virtue ethics* (pp. 3-21).

This chapter discusses the diverse use of virtue ethics in environmental ethics work and the need to make its use more explicit.

4. Cafaro, P. (2005). Chapter 9 - Gluttony, Arrogance, Greed, and Apathy: An Exploration of Environmental Vice. In R. Sandler & P. Cafaro (Eds.), *Environmental Virtue Ethics* (pp. 135-158): Rowman & Littlefield Publishers, Inc.

This reading covers environmental vice. It provides great examples of the effects of environmental in practice. There will be a class activity related to this reading.

### Second Class

5. Van Wensveen, L. (2000). Chapter 7 - The Gender Construction of Virtue Discourse: Lessons from Experience *Dirty virtues: The emergence of ecological virtue ethics* (pp. 115-130).

This chapter draws from ecofeminism literature and historical oppression of women. It critically looks at the role of “feminine” virtues in EVE.

6. Van Wensveen, L. (2000). Chapter 8 - Sustainable Virtue: A Psychological Analysis of Courage *Dirty virtues: The emergence of ecological virtue ethics* (pp. 131-146).

This chapter explores courage as an environmental virtue: from the damaging popular conception of courage to developing an idea of courage for EVE,

7. Great Lakes Commons. “Water Friendship: Finding a healthy relationship with water”.

Retrieved from: <http://www.greatlakescommons.org/our-blog-b/2017/4/water-friendship>

This blog post discusses a project by the Great Lakes Commons that seeks to create a tool or framework that can be used to analyze a curriculum, a policy, or a project to ensure that it goes beyond economics and considers our relationship to water. Having worked on this project, I will give some personal insight in class.

### **Additional Resources:**

1. Bina, O., & Vaz, S. G. (2011). Humans, environment and economies: From vicious relationships to virtuous responsibility. *Ecological economics*, 72, 170-178.

doi:<http://dx.doi.org/10.1016/j.ecolecon.2011.09.029>

2. Frasz, G. (2005). Chapter 8 - Benevolence as an Environmental Virtue. In R. Sandler & P. Cafaro (Eds.), *Environmental Virtue Ethics* (pp. 121-134): Rowman & Littlefield Publishers, Inc.
3. Hull, R. (2005). All about EVE: a report on environmental virtue ethics today. *Ethics & the Environment*, 10(1), 89-110.
3. Hursthouse, R. (2006). Applying virtue ethics to our treatment of the other animals. *The Practice of Virtue*, 136-155.
4. Manners, I. A. (2008). The normative ethics of the European Union. *International affairs*, 84(1), 45-60.
5. Van Wensveen, L. (2000). Appendix A: A Catalogue of Ecological Virtues and Vices *Dirty virtues: The emergence of ecological virtue ethics* (pp. 163-167).
6. Welchman, J. (1999). The virtues of stewardship. *Environmental ethics*, 21(4), 411-423.

## **MODULE 5 - Game Theory and Complexity in Ethics**

**Student Instructor:** Timothy Crownshaw

**Description:** This module will address the real-world issues encountered in operationalizing ethical frameworks or rules, specifically those related to the behaviour of groups and individuals in complex, interdependent networks. We will explore aspects of social system evolution through the lens of game theory; theories of social interaction and the limits of rationality, Nash equilibria, stability domains, critical factors affecting outcomes, and philosophical and practical implications. In the second session we will expand our notion of games, attempt several applied exercises and consider tools for investigating behavior in complex social systems, such as agent based modelling, including their limitations.

### **Guest speaker:**

John Gowdy, Professor of Economics and Professor of Science and Technology Studies,  
Rensselaer Polytechnic Institute  
<http://www.economics.rpi.edu/pl/people/john-gowdy>

### **Required readings/videos:**

#### **First class**

The Prisoner's Dilemma

<https://www.youtube.com/watch?v=t9Lo2fgxWHw>

LSE Research: On The Evolution of Morality

[https://www.youtube.com/watch?v=\\_3lB05x58cM](https://www.youtube.com/watch?v=_3lB05x58cM)

Heap, Shaun Hargreaves, and Yanis Varoufakis. 1995. *Game theory : a critical introduction*. London; New York: Routledge.

- Sections 1.1 (pg. 1-4), 1.2.2 (pg. 23-28), and chapter 2 (pg. 41-79, skip boxes 2.2 and 2.3, and section 2.7.4).

Binmore, Ken. 1998. "Evolutionary Ethics." In *Game theory, experience, rationality : foundations of social sciences, economics and ethics : in honor of John C. Harsanyi*, edited by John C. Harsanyi, Werner Leinfellner and Ekehart Köhler, 277-283. Dordrecht; Boston, MA: Kluwer.

*Readings for discussion with John Gowdy (TBC)*

## **Second class**

The Iterated Prisoner's Dilemma and The Evolution of Cooperation

<https://www.youtube.com/watch?v=BOvAbjfJ0x0>

LSE Philosophy: J McKenzie Alexander

[https://www.youtube.com/watch?v=hyWYGMg\\_GBI](https://www.youtube.com/watch?v=hyWYGMg_GBI)

Heap, Shaun Hargreaves, and Yanis Varoufakis. 1995. *Game theory : a critical introduction*. London; New York: Routledge.

- Sections 5.1 & 5.2 (pg. 146-155), 6.1 (pg. 167-170), 6.7 & 6.8 (pg. 192-194), 7.1, 7.2 & 7.3.1 (pg. 195-204).

Alexander, J. McKenzie. 2007. *The structural evolution of morality*. Cambridge, UK; New York: Cambridge University Press.

- Chapter 8: Philosophical reflections (pg. 267-291)

Macal, C. M., & North, M. J. (2010). Tutorial on agent-based modelling and simulation. *Journal of simulation*, 4(3), 151-162.

## **Additional Resources:**

Hoffman, Moshe, Erez Yoeli, and Carlos David Navarrete. 2016. "Game theory and morality." In *The evolution of morality*, 289-316. Springer.

Camerer, C. (2003). *Behavioral game theory: Experiments in strategic interaction*. Princeton University Press.

Hosmer, L. T. (1995). Trust: The connecting link between organizational theory and philosophical ethics. *Academy of management Review*, 20(2), 379-403.

Stewart, Alexander J., and Joshua B. Plotkin. 2014. "Collapse of cooperation in evolving games." *Proceedings of the National Academy of Sciences* 111 (49):17558-17563. doi: 10.1073/pnas.1408618111.

Khadjavi, Menusch, and Andreas Lange. 2013. "Prisoners and their dilemma." *Journal of Economic Behavior & Organization* 92 (Supplement C):163-175. doi: <https://doi.org/10.1016/j.jebo.2013.05.015>.

Stanford Encyclopedia of Philosophy – Game Theory and Ethics  
<https://plato.stanford.edu/entries/game-ethics/>

Complexity Labs: Game Theory video series  
<https://www.youtube.com/watch?v=hLQMWjnS8jE&index=1&list=PLsJWgOB5mIMDB6ssrGKG YI4BLyHdaeUiZ&t=129s>

### Detailed Timeline

Module	Lecture	Subtopics	Activity/Guest	Date
0	<b>Introduction</b>			
	1	Presentation of the course and discussions on the key topics	TBD	Sept 7
1	<b>The Relationship Among Ethics, Economics and Society</b>			
	2	Values, self-interest and the model of <i>homo economicus</i>	Herman Daly (TBC)	Sept 14
	3	Beyond the <i>homo economicus</i> : Other models of homo, their desirable characteristics, the role of models, and the feasibility of the transition to a new model.	Activity proposed by a student	Sept 21
2	<b>The Influence of Evolutionary Theory on Narratives and Worldviews</b>			
	4	Mutualism, Competition and Evolutionary Theory	TBD	Sept 28

	5	Evolutionary Narratives: Expanding from the biological concept	Ursula Goodenough	Oct 5
3	<b>Indigenous Worldviews</b>			
	6	TBD	TBD	Oct 12
	8	TBD	TBD	Oct 26*
4	<b>Environmental Virtue Ethics (EVE) for Natural Resource Management</b>			
	9	The roots of EVE in natural resource management	N/A	Nov 2
	10	Case studies, limitations of EVE, and guest speaker	TBD	Nov 9
5	<b>Game Theory and Complexity in Ethics</b>			
	11	Game theory as a framework for understanding morality in the Anthropocene	Presentation by John Gowdy followed by Q&A	Nov 16
	12	Evolutionary game theory, agent-based modelling, and moral interactions in the real-world	Applied game theory exercises	Nov 23
6	<b>Presentations, discussion, and wrap-up</b>			
	13	Student presentations, and discussions relating to the first class	TBD	Nov 30

**\* NOTE: There will be no class on October 19. Instead, there will be an optional class (date and time TBD) that will be used to collaborate with the other seminar groups.**

## Materials

All assigned readings and other course materials will be in a Google Drive folder that will be made available to students during the course.

## Evaluation

Course evaluation for E4A student instructors will be based on four components:

1. Preparation, organization and presentation of week's readings 25%
2. Leadership in guiding the discussion and/or activity of the week's subtopic 25%

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|---|-----|
| 3. Class attendance and participation in each class discussion  | 15% |
| 4. A paper, an annotated bibliography, or a literature review . The topic has to be related to the course and discussed with and approved by Prof. Brown. | 35% |

Course evaluation for non-E4A students will be based on four components:

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|---|-----|
| 1. Class attendance and participation in each class discussion  | 20% |
| 2. Organize and run an activity of your choice during a selected module   | 15% |
| 3. A presentation of your final project   | 15% |
| 4. Individual paper, an audiovisual recording, or an artistic project on Ethics in the Anthropocene. The topic has to be related to the course, discussed with and approved by the relevant student leader and Prof. Brown. | 50% |

**Description of the Evaluation components:**

**Course evaluation for E4A students:**

***1. Preparation, organization and presentation of week’s readings***

E4A student instructors will prepare for and lead several classes, individually and collectively, throughout the semester.

***2. Leadership in guiding the discussion or activity of the week’s subtopic***

Each E4A student will prepare and guide a discussion or activity based on the teachings of their module.

***3. Class attendance and participation in each class discussion***

E4A students instructors will be graded on their participation and involvement in class discussions. All students are expected to attend every class. If a student cannot attend a class, he or she must inform another instructor beforehand, providing an explanation for the absence.

***4. A Paper, an Annotated Bibliography, or a Literature Review***

E4A students instructors will have a choice of final project between a paper, an annotated bibliography or a literature review on the topic of their module of a length of 4000 words to 5000 words. Other formats for the final project, such as a video on their topic, might also be considered as a possibility. The topic has to be related to the course and discussed with and approved by Prof. Brown. The final project will be due on December 21, 2017.

**Course evaluation for non-E4A students:**

***1. Class attendance and participation in each class discussion***

Students will be graded on their participation and involvement in class discussions. All students are expected to attend every class. If a student cannot attend a class, he or she is must to inform an instructor beforehand, providing an explanation for the absence.

## **2. An activity of your choice during the module of your choice**

Each student will appraise one week's readings and lead a class discussion or activity to explore the week's topic, including related material and key questions. Students will select a week before the second lecture. They should send their first and second choice of module to Alice Damiano (alice.damiano@mail.mcgill.ca).

## **3. A presentation of your final project**

The student will have to do a 10min presentation followed by 5min of questions to the class on their final project on November 30, 2017. The use of audiovisual aids is optional.

## **4. Individual paper, an audiovisual recording, or an artistic project on *Ethics in the Anthropocene***

The research paper will be between 4000 and 5000 words (not including citations or appendices) and can be on a topic of the student's choosing, but must relate to the themes in the course. Alternatively, the student can submit an audiovisual recording on a topic related to the course, or an artistic project with a written analysis. If the student chooses to do a project other than the paper, they should speak to the evaluator before submission. The topic has to be related to the course, discussed with and approved by the relevant student leader and Prof. Brown. The final project will be due on December 21, 2017.

## **Academic Integrity**

McGill University values academic integrity. Therefore all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see <http://www.mcgill.ca/integrity/> for more information).

Right to submit in English or French written work that is to be graded: In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.