

ERS 102- Sustainability and the really long view

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QUEST SUMMARY

Focusing on the relationship between complexity and energy in bio-physical, ecological and social contexts, we review trends in 'Big History' as it has unfolded from the Big Bang to the Internet, and everything in between. The course explores the implications of this 'deep-time' perspective for our understanding of the great challenge of sustainability.

OVERVIEW

Imagine that you could look at the Earth and the universe from a vantage point outside space and time. Imagine that you could press a re-wind button ... and go all the way back? What would you see? What would be the most significant features of cosmic history in reverse? Great episodes such as World War I or the French Revolution would disappear into a blur. A series of more significant punctuations would come into view: modernity and the connecting up of a global human culture; agriculture and the emergence of the first cities; fire culture and language; the Cambrian explosion and multicellular organisms; the evolution of life; the creation of planets and solar systems; the birth of stars...the big bang.

That is a lot of history and seemingly an impossibly large canvas. How can such a big picture help us to navigate the social and ecological problems of the twenty-first century?

Although all species eventually become extinct, most manage to stay the course for around two million years. In the long view, sustainability is about whether humanity manages to live out this evolutionary potential. For this reason, it should not be measured in decades or even centuries, but rather millennia and aeons. Longer than recorded history, such a time-scale is difficult to conceive, let alone to operationalize at the level of politics. But this is the task facing the current generation and their great grandchildren. The problem is made more difficult by the fragmentation and increasing specialization of scientific knowledge which makes it difficult see the big picture. At the same time, without a shared, taken-for-granted religious world view it is also difficult to find meaning and significance in the world.

The 'Big History' approach allows students to join the dots and to make connections between different modules, courses and disciplines. Viewing the past on multiple time scales, the emphasis of the module is on seeking out common themes and patterns. Synthesizing the headline findings from cosmology and physics, chemistry and the life sciences, history and

anthropology, *Big History* provides the ultimate 'Hitch Hiker's Guide' – identifying key episodes in the development of complexity in the universe and an underlying order which links the birth of stars with the origins of life and even the current social and ecological crises of civilization. Focusing on critical threshold moments, the module focuses on the 'Goldilocks conditions'— 'not too hot, not too cold...but just right' – which periodically allowed the emergence of entirely new forms of complexity. The fragility of these pinpricks of complexity and the Goldilocks conditions which sustain them provides a foundation for a more nuanced and long-term view of the possible futures for humanity and the biosphere.

TEXTBOOKS AND REQUIRED READINGS:

1. Required textbook:
 - a. BOOK: Christian, David. *Maps of Time: An Introduction to Big History* (Berkeley, 2004)
 - OR**
 - b. BOOK Harari's *Sapiens*
- AND ALSO**
- c. VIDEOS: Selected videos from The Big History Project (<https://www.bighistoryproject.com>)
2. Electronic readings posted on Waterloo LEARN
3. Additional resource posted on Waterloo LEARN
4. OTHER Important and valuable resources
 - a. The Big History Project (<https://www.bighistoryproject.com>)
 - b. Jared Diamond's *Guns Germs and Steel*
 - c. McNeill and McNeill's *The Human Web*

Every student should buy a copy of either Harari's *Sapiens* and Christian's *Maps of Time*...and just behind these titles, McNeill and McNeill's *The Human Web* and Jared Diamond's *Guns Germs and Steel* – are recommended reading. I strongly advise you to cooperate and share books between you. These titles will be available at the campus bookshop, but you can often pick up cheap secondhand editions at Abebooks.ca. Bill Bryson's popular science title is also useful and very readable!

Christian, D., (2011). *Maps of time: An introduction to big history* (California world history library; 2). Berkeley: University of California Press.

Yuval Noah Harari (2014) *Sapiens. A Brief History of Human Kind* (Signal)

Bryson, B. (2008). *A really short history of nearly everything* (Abridged and illustrated ed.). Toronto]: Doubleday Canada.

Diamond, J. (2005). *Guns, germs, and steel: The fates of human societies*. New York: Norton.

McNeill, J., & McNeill, William Hardy. (2003). *The human web: A bird's-eye view of world history* (1st ed.). New York; London: W.W. Norton & Company.

THE BIG HISTORY PROJECT

Big History as a field has been pioneered by many eminent scholars including notably Fred Spiers, Norbert Elias (although he never used the term) and his student (now a leading figure in his own right) Joop Goudsblom. But the most influential framing contribution has come from David Christian. I would like to acknowledge the long-time support of Joop Goudsblom and David Christian, and in particular David Christian's generosity in allowing me to pillage a variety of audiovisual materials and graphics. Christian has been successful in getting the support from the Bill Gates Foundation and establishing the Big History project as an increasingly important perspective on the human condition and the grand challenges (e.g. climate change) facing our species as we move into the new millennium. The course will draw upon many of these resources and students will benefit from many very well produced video documentaries produced by Christian with Gates' support and funding.

For more details see <https://www.bighistoryproject.com/home>

PLEASE NOTE:

STUDENTS SHOULD SIGN UP FOR FREE MEMBERSHIP OF THE BIG HISTORY PROJECT IMMEDIATELY. YOU WILL NEED THIS TO ACCESS KEY RESOURCES FOR CERTAIN SESSIONS

<https://www.bighistoryproject.com/home>

There will be a link on LEARN

LECTURES

PLEASE NOTE: ** denotes minimal compulsory reading/viewing; * denotes highly recommended reading; other texts are necessary for a fuller exploration of the topic.

ALSO: This is the first year I have taught this course. Because I haven't road-tested the length and sequencing of the various topics, the timing and weekly schedule may not quite match this outline exactly. The sequence will not alter.

Pre-course Preparation

David Christian TED Talk: The History of Our World in 18 Minutes:

http://www.ted.com/talks/david_christian_big_history

1. Introduction and Overview

Overview: In this introductory session, we will introduce the idea of 'Big History' and the value of multiple, long and overlapping timescales.

A theory of knowledge: We will also introduce a basic epistemological framework – i.e. a sociological theory of knowledge ('How do we know things?'). Physical, biological and social phenomena will be introduced and compared as successive and hierarchical 'levels of integration'.

How knowledge progresses: Drawing upon Norbert Elias's contrast between the modalities of 'involvement' and 'detachment', the lecture will explore how language allows humans to construct and share progressively more realistic models of the world in which they live.

Reading:

**ONLINE RESOURCE: BIG HISTORY PROJECT, CHAPTER 1 (6 short videos)

**David Christian, Maps of Time, Introduction [TEXTBOOK]

*Fred Spier (2011) Chapter 1 [on LEARN]

*Stephen Mennell, chapter [on LEARN]

*Quilley and Loyal (2005) 'Eliasian Sociology as a 'Central Theory' for the Human Sciences' [LEARN]

Norbert Elias (2007 [1987]) *Involvement and Detachment* (Dublin: UCD Press) IN LIBRARY IN COLLECTED WORKS. **The original 1950s article (below) is much shorter, but the book is much better edited and more clearly laid out.**

*Elias, N. (1956). Problems of involvement and detachment. *British Journal of Sociology*, 7(3), 226-252. [AVAILABLE ON LINE]

*Harari, ch 14-15 [TEXTBOOK]

2. Cosmogogenesis: The origins of the universe, the formation of planets, stars and the earth

This session will cover the theory of the Big Bang and survey what scientists now understand about the broad process of 'cosmogenesis' (i.e. the unfolding development of the cosmos). We will explore the idea that this process can be understood in terms of the emergence of steep matter and energy gradients, making possible an increase in matter and energy flows and thus facilitating increasing complexity and differentiation (not least, the formation of countless billions of stars and planets).

Reading

**ONLINE RESOURCE: BIG HISTORY PROJECT, CHAPTER 2 (several short videos)

**Christian, ch1-3 [TEXTBOOK]

*Spier ch3 [LEARN]

PART III: The Living Universe

3. Life: The emergence of the biosphere and the theory of evolution

This session covers the origins of life, the increasing complexity of both organisms and ecosystems and the theory of evolution.

Reading

**ONLINE RESOURCE: BIG HISTORY PROJECT, CHAPTER 3 (6 short videos)

**Christian, ch4-5 [TEXT BOOK]

Spier, Ch5 [LIBRARY]

4. Energy and complexity: galaxies, ecosystems, civilization

Building on this broad account of cosmogenesis and biological evolution, session four further explores the relationship between energy flows and complexity in relation to very different entities, timescales and spatial scales; relating to galaxies, ecosystems and cultural-economic systems (civilization). We look at the idea of 'goldilocks conditions' for a series of 'thresholds' in the emergence of (i.) life, (ii.) social life and culture, and (iii.) complex civilizations – and the significance of the idea that with complexity comes fragility. I review one very influential analysis, by Joseph Tainter, of the relationship between problem-solving, complexity and

societal collapse. Finally, we explore how these ideas relate to contemporary problems of sustainability and limits to growth.

Reading

BIG HISTORY INTRO on 'Thresholds': <https://www.bighistoryproject.com/thresholds/intro>

**Christian, Intro [TEXTBOOK]

*Quilley 2011 chapter [LEARN]

Rachel Nuwer 'How western civilization could collapse' <https://homerdixon.com/how-western-civilization-could-collapse/>

Tainter, J. (2011). Energy, complexity, and sustainability: A historical perspective. *Environmental Innovation and Societal Transitions*, 1(1), 89-95. [LEARN]

PART IV: The cognitive revolution and the Anthroposphere

5. The triad of basic controls: fire and civilization

In this session, we will look at Norbert Elias's elegant proposition that ecological, social and psychological controls develop in tandem – the 'triad of basic controls'. The implication of this idea is profound: namely that with different material/energy regimes (different 'modes of production' as Marx would have put it; or different 'ways of making a living' in ordinary language) – human beings engage in very different relationships with the natural world and at the same time experience very different patterns of socialization and acculturation which engender equally distinctive average psychological profiles or average personality types i.e. that all people are individually distinctive, but at the same time different societies differ from each other systematically in terms of their sociological and ecological profiles. One consequence of this is that it is that you can't transpose one set of psychological traits, ideas or modes of behaviour easily from one society to another, not without changing the concomitant social and ecological profiles.

Reading

**ONLINE RESOURCE: BIG HISTORY PROJECT, CHAPTER 4 (6 short videos)

**Mennell - Chapter from his 1992 book Norbert Elias: An Introduction [LEARN]

*Quilley and Loyal – Eliasian sociology and a central theory [LEARN]

**Elias – very short section from *What is Sociology?* 1978 [LEARN]

Goudsblom 1992 *Fire and Civilization*

**Goudsblom & De Vries 2000 *Mappae Mundi* 'Introduction: The expanding anthroposphere'
[LEARN]

Goudsblom's Lund Essay [LEARN]

6. Agrarianization and domestication

In this session, we will look at what was once called the 'Neolithic revolution' i.e. the transition to agriculture. In the early 20th century, archaeologists such as the Australian Gordon Childe, showed that in just a few millennia, humanity embarked on what seemed like a wholesale shift away from a hunting and gathering lifestyle that had endured for two million years on five continents and through all manner of climatic shifts. Instead people began to farm. And once just a few populations were engaged in farming, there seems to have been an inexorable pressure for others to follow suite, such that the last hunter-gathers may become extinct within a century. We will start by asking how and why this transition took place and what it meant for the future of humanity. Specifically we will look at: (i) the relation between fire culture and agrarianization; (ii) agriculture and domestication of animals and plants as a largely unintended evolutionary process; (iii) the significance of 'neoteny' (the evolutionary retention of juvenile characteristics) in domesticated species including human beings; (iv) the difference between 'delayed' and 'immediate' return economies; and (v) and the relationship between agrarianization and the emergence of hierarchy, inequality and violence.

Reading

**ONLINE RESOURCE: BIG HISTORY PROJECT, CHAPTER 4 (6 short videos)

**Harari's *Sapiens*, CH5-8 [TEXTBOOK]

Berman (2000) Ch2 [and Introduction] [LEARN]

McNeill and McNeill CHIII [LEARN]

Budiandy – *Covenant of the Wild* [LIBRARY]

Budiandy – *The Truth about Dogs* [Amazon –for dog lovers]

Eisenberg chapters [On LEARN]

7. Language, mind and culture

In this session, we will explore: the impact of language on human cognition and culture; the difference between natural signs and symbols; and the impact of 'symbol emancipation' (i.e. the evolution of language) on collective learning and the emergence of culture. I will also provide an overview of Walter Ong's famous book *Orality and Literacy* which details the cognitive changes that accompany mass literacy and the shift away from oral culture. Like it or not, reading changes the way you think. We will examine what this implies for the project of sustainability.

Reading

**ONLINE RESOURCE: BIG HISTORY PROJECT, CHAPTER 4 (6 short videos)

**ONLINE RESOURCE: <https://www.bighistoryproject.com/en/thresholds/6> [the Big History riff on 'collective learning']

*Christian's Maps of Time – use the index and read the pages referenced under 'collective learning'

**Harari, Ch1-4 [TEXTBOOK]

*McNeill and McNeill, Section I [LEARN]

Norbert Elias (1989) *The Symbol Theory* (UCD PRESS)

Walter Ong - Chapter [LEARN] – Use Wikipedia to learn a little more about Ong and his book *Orality and Literacy*

8. The history and consequences of consciousness: Enchantment /disenchantment; orality and literacy; Involvement and detachment

The modern condition has often been characterized in terms of a trade-off between the scientific worldview, which allows us to intervene in the world much more effectively and do more things, on the one hand; and a process of what Max Weber called 'disenchantment' on the other – the loss of a sense of being 'at one' with the cosmos, a feeling of alienation and perhaps loneliness, and above all the sense that the universe is dead and ultimately meaningless. In this session, we will explore this idea of modernity as a process of disenchantment. Building on Elias's idea of the involvement/detachment balance (see materials from Week 1), we will look at:

- (i) the relationship between language and the human capacity to manipulate symbols on the one hand, and self-consciousness and awareness on the other;
- (ii) the psychological and social consequences of being self-aware, and particularly awareness of mortality;

- (iii) the cognitive transformation (i.e. changes in the growth and development of the brain and the capacity for abstract thought, organization and coordination of activities) that accompany the shift from the primacy of oral culture to mass literacy.
- (iv) The sociology of 'disenchantment' as a feature of modern societies
- (v) Ernest Becker's theory of mortality awareness as the most significant motivator of human behaviour.

Reading

**ONLINE RESOURCE: BIG HISTORY PROJECT, CHAPTER 4 (6 short videos)

** ONLINE RESOURCE: Listen to Sheldon Solomon's entertaining introduction to Ernest Becker and his famous book *The Denial of Death* <https://www.youtube.com/watch?v=XpVkrldz9-Y>
[LINK WILL BE ON LEARN AS WELL]

*Elias, N. (1956). Problems of involvement and detachment. *British Journal of Sociology*, 7(3), 226-252. [ELECTRONIC RESOURCE; and ON LEARN] – from Week 1

*Morris Berman 1981 *The Re-enchantment of the World* – Chapter on LEARN [But the whole book is fantastic]

*Janice Dickinson 2009. *The People Paradox* [LEARN, and available online <https://www.ecologyandsociety.org/vol14/iss1/art34/>]

PART V: The Juggernaut of Modernity

9. Jared Diamond's 'Guns Germs and Steel' and Norbert Elias's 'On the Process of Civilization'

The first half of this session will be devoted to Jared Diamond's argument in *Guns, Germs and Steel* with regard to the geo-political outcome of the long-term process of global integration, and in particular the role of continental geography, infectious disease and demography.

I will spend the last hour, summarizing Norbert Elias's thesis in 'On the Process of Civilization [nee 'The Civilizing Process'] – namely that the growth of complexity and the scale and scope of interdependencies between individuals and groups, in tandem with the growing power of the state, has seen a pacification of social relations through 'external controls' (i.e. police, laws, rules, regulations, surveillance) that become internalized into the psychology of citizens. Hence, counter intuitively to some, there has been a long term decline in inter-personal violence between citizens in most effectively organized and function Western-type states; but this can't

be dissociated from the coercive power of the state and its capacity to regulate and surveil its citizens; from the catastrophic ecological profile of industrial societies; and from a massive increase in death rates for conflicts *between* states; and as we shall see next week, from the enormous social and cultural costs of state-building in terms of both internal pacification and external colonization.

Reading

**ONLINE RESOURCE: BIG HISTORY PROJECT, CHAPTER 5 (6 short videos)
McNeill and McNeill - VI and VII [LEARN; TEXTBOOK]

**Harari Ch9-13

Berman 2000 –ch2 [from LAST WEEK] [ON LEARN]

*Lawson's short review of Diamond [ON LEARN]

*Jared Diamond *Guns, Germs and Steel* [LIBRARY; Student purchase – if you intend to write on this topic]. **This is book is an absolute classic and very worthwhile buying. It is brilliantly written, very engaging and provides many talking points.**

**Quilley and Loyal (2005) 'Eliasiian Sociology as a 'Central Theory' for the Human Sciences' [LEARN] – FROM WEEK 1

Mennell, S. (1992). *Norbert Elias: An introduction*. Oxford, UK ; Cambridge, Mass., USA: Blackwell.

10. Modernity and the system of nation states: 'nation-state-market' and the 'individual'

In this session after finishing my summary of Norbert Elias's theory of civilizing processes, I will introduce the ideas of modernity and modernization. Drawing upon ground-breaking contributions by Max Weber, Karl Polanyi, Norbert Elias, and Ernest Gellner, I will outline the contours of modern society and the ways in which it differs from traditional agrarian societies. We will look what is involved in the process of nation-state formation focusing in particular on the monopolies of:

- violence i.e. the state's capacity to inflict violence whilst restricting the ability of individuals and groups to perform violence acts;
and
- education: i.e. its capacity to dictate the content and form of education for all citizens and gradually circumscribe and restrict the extent and scope of family and community socialization and acculturation.

The overview presented here will focus on the idea that the state depends on a relationship with individuals (unmediated by clans, families, tribes or other place-bound forms of association). Individualization makes possible a democratic-liberal conception of a politics organized around the rational decision-making of individual citizens. At the same time,

individualization is a prerequisite for the kind of capitalist market economy that we take for granted. And finally, this growth-oriented, market economy is in turn a prerequisite for the existence of the state because it produces the steady flow of fiscal resources necessary to fund all manner of state infrastructures, from roads, communications and government administration, to education, health and the military.

The session will finish with a short discussion of a central paradox that is of crucial significance for the problem of the long-term sustainability of human society. Many of the features of modern societies that we most value depend on the society of individuals. But this form of society is relatively new, and depends upon the continuance of effective nation-states, upon economic growth and a high and continuing throughput of energy and materials.

Reading

Quilley 'Education for the anthropocene' [to be posted shortly ASK ME** of not there]

**Quilley blog 'Identity politics, community, state formation and modernity in Europe and America: Some basic propositions' <http://navigatorsoftheanthropocene.com/identity-politics-community-state-formation-and-modernity-in-europe-and-america-some-basic-propositions/>
[LEARN]

[LEARN]

*Gellner *Nations and Nationalism* – chapter on LEARN

Weiner, S. *Rule of the Clan*

PART VI: Sustainability? Jump off, slow down, speed up?

11. Environmental Politics and Sustainability: from 'Limits to Growth', to 'Smart, Green Growth' to the 'Dark Mountain' and beyond

In this penultimate lecture, we will review the history of environmental politics and green political economy over the last 50 years. Starting with dawning of a new global ecological consciousness that emerged on the back of the space age, we will consider Meadows et al's 1972 *Limits to Growth* report, the subsequent policy discourses of *sustainable development* and *ecological modernization* (in the 1980s and 1990s) and more recently the preoccupation with *resilience*, the recognition of the *Anthropocene* the renewed (though sometimes tacit) discussion of limits to growth (the projects of *relocalization*, *Transition*, and *degrowth*) and the possibility of collapse.

Reading

**Quilley chapter 'Navigators of the Anthropocene' [On LEARN]

** Turner and Alexander newspaper article 'Limits to growth was right'

<https://www.theguardian.com/commentisfree/2014/sep/02/limits-to-growth-was-right-new-research-shows-were-nearing-collapse> [LINK ON LEARN]

Interview with Graham Turner <https://permaculturenews.org/2015/09/15/my-interview-with-graham-turner-on-limits-to-growth/> [LINK ON LEARN]

*Dryzek chapter from The Politics of the Earth [On LEARN]

**Rockstrom et al article [ON LEARN]

Turner, G. (2014) Is Global Collapse Imminent. An Updated Comparison of *The Limits to Growth* with Historical Data http://sustainable.unimelb.edu.au/sites/default/files/docs/MSSI-ResearchPaper-4_Turner_2014.pdf [Link on LEARN]

Tim Morgan (2013) *A Perfect Storm. Energy Finance and the End of Growth.*

<https://ftalphaville-cdn.ft.com/wp-content/uploads/2013/01/Perfect-Storm-LR.pdf?mhq5j=e6> [Link on LEARN]

12. God(s), Spirituality and the Meaning of Life: The elephant in the room

In this final session, the goal will be to bring the various threads and processes working on very different timeframes together. The underlying idea is that long-term sustainability requires not only new technology and better forms of regulation, but renewed sources of meaning. The session will introduce the ideas of 'epistemology' (how we 'know' things; theories of knowledge) and 'ontology' (the nature of 'being' and problems of meaning). We will look at the tension that arises from the fact that our increasing technical capacity to do things in the world significance seems to undermine our shared sense of purpose and existential meaning. Specifically, the session will focus on (i.) *re-enchantment and meaning*; (ii.) the problem of *relationality* and the balance between rights and obligations in our societal structures and (iii.) the promise of *new technologies* for reconciling 'small and beautiful' patterns of production and consumption with a continuing trajectory of technical innovation.

- (i.) **MEANING:** we will explore the extent to which perhaps the biggest obstacle to a sustainability transition is not lack of understanding (solution: education), or bad technology (solution: smart tech.) or even poorly designed institutions (solution: good governance; effective incentive structures) – but rather the 'death of meaning' and the tension between a scientific worldview (**logos**) that is essential for an adequate understanding of the ecological problems that we are creating on the one hand, and the mythological understanding (**mythos**) that grounds shared meaning ('ontology') and guides commonsensical patterns of behaviour. It will be argued

that the human capacity for ritual may provide an important mechanism with which to reconcile science and spirituality; detached, materialist models of the biophysical world with more involved but meaningful worldviews and 'irrational' forms of behaviour and conscience formation.

(ii.) RELATIONALITY: Drawing on a range of examples including the Basque cooking club (the 'Txoko'), we will examine how the innovation of new social structures might help partially to re-embed individuals in constraining and supporting webs of relationships.

(iii.) TECHNOLOGY: Reflecting on recent technical developments, we will conclude by exploring the extent to which new technology can facilitate much more eco-cyclical, just-in-time forms of highly localized micro-production, stripping out a great deal of the energetic and material flows associated with modern life, whilst sustaining global connectivity and technical innovation.

Reading:

*Adam Seligman 2010 'Ritual and Sincerity' [LEARN]

Quilley 2012 'Social Innovation and System Transformation' [ON LEARN]

READING LIST

**** essential reading**

***highly recommended**

*Berman, M. 2000. *Wandering God. A study in nomadic spirituality* (NY: SunyPress)

Berman, M. 1981 *The Reenchantment of the World* (Cornell UP)

Bryson, B. (2008). *A really short history of nearly everything* (Abridged and illustrated ed.). Toronto]: Doubleday Canada. [LIBRARY]

Chaisson, E.J. (2001) *Cosmic Evolution: The Rise of Complexity in Nature* (Cambridge, MA, Harvard University Press)

****Christian,D (2011) *Maps of Time: An Introduction to Big History* (Berkeley, CA, University of California Press)**

Davies,P. (2006)*The Goldilocks Enigma* (London, Allen Lane)

****Diamond,J. 1999 *Guns Germs and Steel***

Dickinson, J. L. 2009. The people paradox: self-esteem striving, immortality ideologies, and human response to climate change. *Ecology and Society* 14(1): 34. [online] URL:

<http://www.ecologyandsociety.org/vol14/iss1/art34/>

Elias, N., & Schroter, Michael. (1987). *Involvement and detachment* (Complete English ed.). Oxford: Blackwell. [ALSO AVAILAVBLE IN THE COLLECTED WORKS – SEE BELOW]

Elias, N., Kilminster, N., & Kilminster, Richard. (1991). *The symbol theory* (Theory, culture & society (Unnumbered)). London: Sage. [ALSO AVAILAVBLE IN THE COLLECTED WORKS – SEE BELOW]

Elias, N. On the Process of Civilization (Nee 'The Civilizing Process') Volume in Elias, N., Jephcott, E., Kilminster, R., Dunning, E., & Mennell, S. (2006). *The collected works of Norbert Elias* (Revised ed.). Dublin, Ireland: University College Dublin Press.

Elias, N. (1956). Problems of involvement and detachment. *British Journal of Sociology*, 7(3), 226-252. [ELECTRONIC RESOURCE]

*Evan Eisenberg (1998) *The Ecology of Eden* [Picador] [LIBRARY]

Elias, N., Jephcott, E., Kilminster, R., Dunning, E., & Mennell, S. (2006). *The collected works of Norbert Elias* (Revised ed.). Dublin, Ireland: University College Dublin Press. [LIBRARY]

Goudsblom, J. (1992) *Fire and Civilization* (London: Allen Lane)

Gellner, E. (1983). *Nations and nationalism* (New perspectives on the past (Basil Blackwell Publisher)). Oxford: Blackwell. [LIBRARY: SHORT LOAN]

Mennell, S. (1992). *Norbert Elias: An introduction*. Oxford, UK; Cambridge, Mass., USA: Blackwell.

* McNeill, J.R. and W McNeill **** *The Human Web. A bird's eye view of human history* (Norton)

Quilley, S., & Loyal, S. (2005). Eliasian Sociology as a 'Central Theory' for the Human Sciences. *Current Sociology*, 53(5), 807-828. [ELECTRONIC RESOURCE]

Quilley, S. (2013). De-Growth Is Not a Liberal Agenda: Relocalisation and the Limits to Low Energy Cosmopolitanism. *Environmental Values*, 22(2), 261-285.

Quilley, S. (2011). Entropy, the anthroposphere and the ecology of civilization: An essay on the problem of 'liberalism in one village' in the long view. *Sociological Review*, 59(Supp.1), 65-90.

Quilley, S. (2012). System Innovation and a New 'Great Transformation': Re-embedding Economic Life in the Context of 'De-Growth'. *Journal of Social Entrepreneurship*, 3(2), 206-229.

Rockström, J., W. Steffen, et al. 2009. Planetary boundaries: exploring the safe operating space for humanity. *Ecology and Society* **14**(2): 32. [online] URL: <http://www.ecologyandsociety.org/vol14/iss2/art32/>

Seligman, Adam B. 2010. Ritual and Sincerity. *Philosophy & Social Criticism*, 2010, Vol.36(1), pp.9-39

Smil,V. (2006) *Energy: a beginner's guide* (One World)

*Spiers,F (2010) *Big History and the Future of Humanity* (Oxford: Wiley Blackwell)

Tainter, J. (2011). Energy, complexity, and sustainability: A historical perspective. *Environmental Innovation and Societal Transitions*, 1(1), 89-95.

Weiner, M. (2013). *The rule of the clan: What an ancient form of social organization reveals about the future of individual freedom* (First ed.). New York: Farrar, Straus and Giroux.

**Yuval Noah Harari (2014) *Sapiens. A Brief History of Human Kind* (Signal, M&S)

Learning Objectives:

At the end of this course, students will have

- a) a strong general knowledge of complexity theory in relation to Big History and more specifically, sustainability and the long term process of human development;
- b) a firm grasp on the eight major “thresholds of increasing complexity” over time;
- c) general abilities to explain important events and ideas from within each threshold;
- d) the capacity to see and explain the bigger history of activities, objects and ideas;
- e) a basic understanding of Big History’s role in looking to the future;
- f) a capacity to understand the links between various thresholds;
- g) an understanding of the successive phases in human development as linked *ecological/energy regimes, patterns of social and economic organization* and processes of *psychological acculturation*.
- h) A broad understanding of sustainability as a problem of reconciling social complexity with ecological integrity.

Achievement of Objectives:

- a) a strong general knowledge of complexity theory in relation to Big History, sustainability and long term social development;
 - a. Lectures
 - b. reading *Maps of Time* and/or *Sapiens* the foundational books in Big History.
 - c. Weekly readings
- b) a firm grasp on the eight major “thresholds of increasing complexity” over time;
 - a. Achieved through the “team poster”. Each group of 2 – 3 students will focus on one threshold, make a poster and do a short presentation in tutorial.

- c) general abilities to explain important events and ideas from within each threshold;
 - a. Achieved through the weekly diary process that will engage with weekly topics in creative and innovative ways in tutorial.
- d) a basic understanding of Big History's role in looking to the future;
 - a. Achieved through the encouragement of pattern recognition, identification of complexity and energy limits and a final lecture on looking toward the future.
- e) a capacity to understand the links between various thresholds;
 - a. Achieved through the journal process and the team poster exercise.
- f) and to identify the connections with environmental studies and Big History.
 - a. Achieved through the reflective contribution that will discuss connections between environmental issues, long-view thinking, energy, complexity or the anthroposphere.

Expectations:

The instructor and students will attend all classes. Students will come to class prepared by having read the required text and all supplementary materials provided by the instructors. Students will participate meaningfully through regular structured group work in tutorials. Students will hand in assignments on time and will abide by the rules of the university regarding plagiarism and academic integrity. The instructor will assess all student work as objectively as possible and deliver grades to students as expeditiously as possible.

Attendance & participation: policy and sanctions

Attendance at lectures is highly recommended. Registration will not be taken, but you will not do well if you don't attend.

Attendance at the six tutorials is **compulsory**. Students will lose 1% for each session missed (unless the TA is notified in advance with a good reason and gives permission)

Course website:

Course information will be delivered through the UW-LEARN system. Through this website students will submit assigned work, receive feedback and access additional course materials.

ASSESSMENT:

Please see a separate sheet on LEARN

Summary

- *Attendance and Participation in tutorials: 6%*
- *On-line viewpoint diversity exercise: 9%*
- *Weekly diary, annotated bibliography and reflection: 25%*
- *Team poster: 20%*
- *Term essay: 40%*

Attendance and Participation 6%

Students will be required to attend all tutorials (attendance to be taken) and to participate each week through thoughtful discussion and participation in the tutorial activities.

PLEASE SEE NOTE ON ATTENDANCE AND SANCTIONS ABOVE

Viewpoint diversity exercise: 9%

Students should do the viewpoint diversity exercise developed by the *Heterodox Academy* and submit a printed record of from the site to their TA in the tutorial in week 5 or 6. The link will be on Learn. It should take 2 hours.

Weekly tutorial diary, annotated bibliography and reflection 25%

Every week (12 in total), students should write a one page *annotated bibliography* and *reflection* summarizing the essential take out from the lecture and whatever readings they have done. To this should be added a compilation of all the completed *assignments and activities done in tutorial*. The assignment should include an **introduction page**, that introduces the overarching themes, ideas and topics that will be covered in the portfolio; and **conclusion** page that situates the journal in overarching themes of the course and the student's learning outcomes.

This will be submitted on LEARN using the electronic drop box in Week 12.

Students are STRONGLY ADVISED to do this as they go along, week by week.

Team poster: (20%)

In the 4th tutorial, students will work together in small teams (2-3 students) to produce a 'team poster'. This will be handed in one week after the tutorial to the TA (who will make arrangements for delivery). The poster will demonstrate the important concepts, ideas and necessary "Goldilocks" conditions for a particular threshold. Each group will present their poster at the Threshold Presentation day in their tutorial. Students should be prepared to field questions regarding their particular threshold and its importance in the overall Big History story.

Term Essay (40%)

Write a 2000 word essay on one of the following topics. The essay should be submitted on LEARN in the electronic drop box in week 12. **PLEASE SEE NOTES ON ESSAY WRITING AND REFERENCING BELOW**

- a) What is the role of Big History in environmental studies and thought?
- b) Why is it useful to look at things from afar and close-up? Provide examples of when this may have helped you, or others, in understanding a problem. How does this theme relate to Big History and humans and to the project of sustainability?
- c) Outline a Big History analysis of a topic of your choice (**with approval from your TA**) – e.g. disease, brewing, music, pets, pizza, gender relations...pretty well anything you can think of. Be sure to look at the full history of that particular topic and take a *multidisciplinary* approach! Look at language, history, sociology, technical development, relation to social and economic complexity, ecological implications, possible future developments etc.
- d) Discusses and the nature of “complexity” and the role of “Goldilocks” conditions. What are the implications of these conditions for humans in the world? Why is it important to think about complexity and all of the special conditions that were necessary to lead to modern life?
- e) What is the “Big History” of you and your kin and kith? What do you feel intimately connected with over a long-view? What does Big History suggest you are connected to? How does this relate to humanity overall?
- f) What are the differences and similarities in methods used to study the past using physics, geology, biology and sociology? What advantages are there of using different approaches or all of them together? What approach is necessary for understanding humanity’s role and place in Big History? Do problems arise when using various methods of knowledge creation and understanding?
- g) Write your own ‘short history of nearly everything’?
- h) Choose one object or activity and use it as a lens through which to explore and write an account of all, or some significant aspect of, long term human development? (it could be anything from the tomato, writing, the guitar, contraception, the biro ...pretty well anything). The important thing is to use it as a lens. It is not the history of the object per se, but what this reveals about more general patterns in human development.
- i) Critically review the Goudsblom’s idea of the expanding anthroposphere. In your account refer to Elias’s theory of civilizing processes and the ‘triad of basic controls’.
- j) Critically review Elias’s understanding of the relationship between the involvement /detachment and the expanding social stock of knowledge (and especially science). Refer to Elias’s book and the essays by Quilley & Loyal and the book by Mennell.

Integrity statement: For all the term paper and the diary exercise (but not the poster) please print out the following statement and sign, handing in with a hardcopy of the assignment to your TA. **The assignments should also be submitted via LEARN. The statement is in the ‘Assignments Document’ on LEARN**

Assignment Checklist

Please read the checklist below following the completion of your assignment. Once you have verified these points, hand in this signed checklist with your assignment.

1. I have referenced and footnoted all ideas, words or other intellectual property from other sources used in the completion of this assignment.

2. I have included a proper bibliography, which includes acknowledgement of all sources used to complete this assignment.
3. This assignment was completed by my own efforts and I did not collaborate with any other person for ideas or answers.
4. This is the first time I have submitted this assignment or essay (either partially or entirely) for academic evaluation.

Signed: _____ Date: _____

Print Name: _____ UW-ID# _____

COURSE POLICIES

◆ **Intellectual Property:**

Students should be aware that this course contains the intellectual property of their instructor, TA, and/or the University of Waterloo. Intellectual property includes items such as:

- Lecture content, spoken and written (and any audio/video recording thereof);
- Lecture handouts, presentations, and other materials prepared for the course (e.g., PowerPoint slides);
- Questions or solution sets from various types of assessments (e.g., assignments, quizzes, tests, final exams); and
- Work protected by copyright (e.g., any work authored by the instructor or TA or used by the instructor or TA with permission of the copyright owner).

Course materials and the intellectual property contained therein, are used to enhance a student's educational experience. However, sharing this intellectual property without the intellectual property owner's permission is a violation of intellectual property rights. For this reason, it is necessary to ask the instructor, TA and/or the University of Waterloo for permission before uploading and sharing the intellectual property of others online (e.g., to an online repository).

Permission from an instructor, TA or the University is also necessary before sharing the intellectual property of others from completed courses with students taking the same/similar courses in subsequent terms/years. In many cases, instructors might be happy to allow distribution of certain materials. However, doing so without expressed permission is considered a violation of intellectual property rights.

Please alert the instructor if you become aware of intellectual property belonging to others (past or present) circulating, either through the student body or online. The intellectual property rights owner deserves to know (and may have already given their consent).

◆ **Academic Integrity:**

In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. The University's guiding principles on academic integrity can be found here: <http://uwaterloo.ca/academicintegrity>. ENV students are strongly encouraged to review the material provided by the university's Academic Integrity office specifically for students: <http://uwaterloo.ca/academicintegrity/Students/index.html>

Students are also expected to know what constitutes academic integrity, to avoid committing academic offenses, and to take responsibility for their actions. Students who are unsure whether an action constitutes an offense, or who need help in learning how to avoid offenses (e.g., plagiarism,

cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. Students may also complete the following tutorial: <https://uwaterloo.ca/library/get-assignment-and-research-help/academic-integrity/academic-integrity-tutorial>

When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to Policy 71 - Student Discipline: <https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-71>. Students who believe that they have been wrongfully or unjustly penalized have the right to grieve; refer to Policy #70, Student Grievance: <https://uwaterloo.ca/secretariat-general-counsel/policies-procedures-guidelines/policy-70>

◆ **Note for students with disabilities:** [AccessAbility Services](#), located in Needles Hall, Room 1401, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with [AccessAbility Services](#) at the beginning of each academic term.

◆ **Mental Health:** The University of Waterloo, the Faculty of Environment and our Departments/Schools consider students' well-being to be extremely important. We recognize that throughout the term students may face health challenges - physical and / or emotional. **Please note that help is available.** Mental health is a serious issue for everyone and can affect your ability to do your best work. Counselling Services <http://www.uwaterloo.ca/counselling-services> is an inclusive, non-judgmental, and confidential space for anyone to seek support. They offer confidential counselling for a variety of areas including anxiety, stress management, depression, grief, substance use, sexuality, relationship issues, and much more.

◆ **Religious Observances:** Students need to inform the instructor at the beginning of term if special accommodation needs to be made for religious observances that are not otherwise accounted for in the scheduling of classes and assignments.

◆ **Grievance:** A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. See Policy 70 - Student Petitions and Grievances, Section 4, www.adm.uwaterloo.ca/infosec/Policies/policy70.htm. When in doubt please contact your Undergraduate Advisor for details.

◆ **Appeals:** A decision made or penalty imposed under Policy 70 - Student Petitions and Grievances (other than a petition) or Policy 71 – (Student Discipline) may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72 (Student Appeals) www.adm.uwaterloo.ca/infosec/Policies/policy72.htm

◆ **Unclaimed assignments:**

Unclaimed assignments will be retained for ... [period of time*]; or: “until one month after term grades become official in quest”. After that time, they will be destroyed in compliance with UW’s [confidential shredding procedures](#).

◆ **Communications with Instructor and Teaching Assistants:**

All communication with students must be through either the student's University of Waterloo email account or via Learn. If a student emails the instructor or TA from a personal account they will be requested to resend the email using their personal University of Waterloo email account.

◆ **Recording lectures:**

Use of recording devices during lectures **is only allowed with explicit permission of the instructor of the course.**

If allowed, video recordings may only include images of the instructor and not fellow classmates.

Posting of videos or links to the video to any website, including but not limited to social media sites such as: facebook, twitter, etc., is strictly prohibited.

ESSAY WRITING AND REFERENCES: IMPORTANT NOTES

The bottom line is:

1. Don't plagiarize. If you use sources, always acknowledge them with a full reference in an appropriate academic style (APA, Chicago etc.)
2. If you quote directly using someone else's words, then use quotation marks and include a PAGE reference.
3. For online material give a URL and the date accessed
4. Don't plagiarize. If you have any doubts, ask!
5. If in doubt, find out about using TURNITIN to check your own work.

Students are advised to consult the resources available in the library:

<https://uwaterloo-ca.proxy.lib.uwaterloo.ca/writing-and-communication-centre/resources>

How to avoid plagiarism: <http://subjectguides.uwaterloo.ca/avoidplagiarism?hs=a>

Students are also advised to complete the academic integrity tutorial

<https://uwaterloo.ca/library/get-assignment-and-research-help/academic-integrity/academic-integrity-tutorial>

The APA reference guide is also available on LEARN