

EVOLUTION AND CONFLICT BEHAVIOR

MA SEMINAR SYLLABUS (FALL 2016)

Instructor:

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Class meetings:

Tuesdays, 14:00–17:00 (weeks 36–41, 43–47)

Location:

Building 1330, class 018

Supervision:

Thursdays, 08:00–14:00 (weeks 48, 50)

Location:

Building 1327, class 024

[Aarhus University map](#)

Office hours:

Mondays and Tuesdays by appointment

Dear participant,

I look forward to meeting you in the course *Evolution and Conflict Behavior*. Below, you will find a detailed course description that will guide you through your readings and home preparations. I hope you will find this syllabus interesting and informative. If you would like to discuss course-related issues before the start of semester you are very welcome to contact me or come by my office.

1 Course Summary

This course presents an evolutionary approach to human coalitional aggression. It aims to help you develop (i) knowledge of evolution in general and evolution of human coalitional aggression in particular, (ii) competences needed for the application of evolutionary analysis to modern forms of human coalitional aggression, and (iii) original hypotheses and explanations of modern forms of human coalitional aggression, in particular large-scale armed conflicts. Accordingly, the course is divided into three main parts:

1. *Human evolution.* This part covers topics that form the basis for the subsequent parts the course: the theory of evolution by natural selection, evolution of *Homo sapiens*, the environment of evolutionary adaptedness, and the evolved architecture of the human mind. This part of the course mainly draws on evolutionary biology, biological anthropology, and evolutionary psychology.
2. *Evolutionary analysis.* The second part of the course covers adaptationism and reverse-engineering framework and aims to help you develop competences and skills needed for an evolutionary analysis of human coalitional aggression. This part of the course mainly draws on evolutionary psychology and political science.
3. *Coalitional aggression.* The third part focuses on contexts in which coalitional aggression occurs. It aims to help you develop original hypotheses and explanations of modern forms of human coalitional aggression. We will examine warfare in modern societies, coalitional aggression among chimpanzees, warfare among ethnographic societies, and warfare in prehistory. This part of the course draws on primatology, ethnology, archeology, and political science.

2 Intended learning outcomes

By the end of the course you should be able to:

1. Explain the main principles of modern theory of evolution and its basic elements (natural selection, adaptation, fitness, inclusive fitness, etc.)
2. Explain the adaptationist approach to the study of the human mind (as developed within evolutionary psychology)

3. Explain the reverse-engineering framework to study the human mind (as developed within evolutionary psychology)
4. Evaluate the usefulness of the adaptationist approach and reverse-engineering framework to explain modern forms of human coalitional aggression
5. Employ them in empirical analyses of modern forms of human coalitional aggression
6. Generate original hypotheses and explanations of modern forms of human coalitional aggression.

3 Course materials

We will use three types of reading materials: [coursebooks](#), [compendium](#), and [online](#) resources. The coursebooks are as follows:

1. Buss, David (2014) *Evolutionary psychology: The new science of the mind*, 5th edition. Psychology Press.
2. Fry, Douglas (2015) *War, peace, and human nature: The convergence of evolutionary and cultural views*. Oxford University Press.
3. Pinker, Steven (2012) *The better angels of our nature: The decline of violence in history and its causes*. Penguin.

Below, the three books are referred to as Buss (2014), Fry (2015), and Pinker (2012). Compendium contains chapters from other books that you do not need to purchase.

The books and compendium can be purchased in **Politologisk Bogformidling** (building 1332, room 016; see location [here](#)).

Online resources mainly include journal articles that you can access online via Statsbiblioteket (<http://library.au.dk/>).

While I have indicated some optional (recommended) readings below, you are welcome to contact me for recommendations for additional materials.

4 Course requirements

(a) Readings. This is a 10 ECTS course, which entails a workload of 250–300 hours. Class meetings compose only 45 hours of the workload. This implies that most of your work will be done individually with readings.

The list of readings is provided bellow. You are responsible for completing all of these before every class and coming to a class prepared to discuss issues indicated for every session. Please pay attention to the page numbers indicated for each reading and *focus* points.

(b) Active participation in the class. The course will mainly be run as a seminar. For seminar to be successful it is necessary that you take active participation in class discussions, group work, and other class activities.

(c) Home preparations. You are responsible for preparing for every session (*you do not need to do this for Introductory Session on 6 September*):

1. One would-be research question (which you may eventually want to deal with in your exam paper) addressing theoretical, empirical, or methodological issues in one of the readings.
2. **For 1-4 Sessions:** A comment on three most important points (for you, as a student) you have learned from your home readings. Your comment should not only list the three points but also explain why you find them important.

For 5-10 Sessions: A comment on issue(s) addressed in one of the readings. The comment should reflect your critical understanding of the materials (for example):

- What do the readings contribute to our understanding of human coalitional aggression?
- What are the strengths and weaknesses of their theoretical models?
- Which elements of the theories sound unconvincing? Why?
- What are their methodological strengths and weaknesses?

Please bring your questions and comments to the class—they will serve as a starting point for class discussions and other class activities.

(d) Class activities. The course is a mixture of lecturettes (short lectures), group work, structured discussions, and other activities (we will talk about these in detail during the introductory session). We will also watch and discuss video documentaries on specific topics.

(e) Examination. The examination method is a take-home assignment (i.e., paper). We will talk about the details of the exam during the introductory session).

5 Calendar

Session	Topic	Date	Time
Introductory Session	Introduction	6 September	14:00-17:00
1 Session	Principles of Evolution #1	20 September	14:00-17:00
2 Session	Principles of Evolution #2	27 September	14:00-17:00
3 Session	Evolution of <i>Homo sapiens</i>	4 October	14:00-17:00
4 Session	Evolutionary Psychology	11 October	14:00-17:00
5 Session	Adaptationism and Rev. Eng.	25 October	14:00-17:00
6 Session	Aggression as Adaptation	1 November	14:00-17:00
7 Session	Modern War	8 November	14:00-17:00
8 Session	Chimpanzee “War”	15 November	14:00-17:00
9 Session	Ethnographic War	22 November	14:00-18:00
10 Session	Prehistoric War	(Joined with 9 Session)	
1 Supervision	Supervision of papers #1	1 December	08:00-15:00
2 Supervision	Supervision of papers #2	12 December	08:00-15:00

6 Course outline and schedule

Introductory Session (Tuesday, 6 September)

First session is an introduction to the course. We will cover formalities and requirements of the course, teaching and learning principles, and historical developments leading to the emergence of evolutionary political science. At the end of the class, we will watch a video documentary that will serve as an introduction to the next session.

Focus:

- Active learning
- The teaching model “what the student does”
- Alignment (between learning outcomes, class activities, and examination)
- Evolutionary psychology
- Evolutionary political science

Readings:

1. [online](#): Freeman et al (2014) Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, 111(23): 8410–15.
2. [compendium](#): Ambrose et al (2010) *How learning works: Seven research-based principles for smart teaching*. Jossey Bass: 1–9.
3. [compendium](#): Bigs and Tang (2011) *Teaching for quality learning at university*, 4th edition. Open University Press: 16–33; 95–110.
4. [coursebook](#): Buss (2014): xv–32 (Preface, Acknowledgements, and Chapter 1).
5. [compendium](#): Petersen (2016) The evolutionary psychology of mass politics. In S. Craig Roberts (ed.) *Applied evolutionary psychology*. Oxford University Press: 115–30.

Total: 102 p.

Optional readings

1. Lopez and McDermott (2012) Adaptation, heritability, and the emergence of evolutionary political science. *Political Psychology*, 33(3): 343–62

2. Petersen (2015) Evolutionary political psychology: On the origin and structure of heuristics and biases in politics. *Political Psychology*, 36(S1): 45–78.
3. Alford and Hibbing (2004) The origin of politics: An evolutionary theory of political behavior. *Perspectives on Politics*, 2(4): 707–23.
4. Hibbing (2013) Ten misconceptions concerning neurobiology and politics. *Perspectives on Politics*, 11(2): 475–89.

PART ONE: HUMAN EVOLUTION

1 Session: *Principles of Evolution #1* (Tuesday, 20 September)

Evolutionary analysis of human coalitional aggression requires basic understanding of the modern theory of evolution. Therefore, the first two sessions of PART ONE will be devoted to the main principles and elements of the theory of evolution by natural selection. 1 Session will focus on evolution at an organismal level.

Focus:

- Evolution by natural selection
- Survival selection
- Sexual selection
- Adaptation
- Fitness
- Tinbergen's four "why" questions

Readings:

1. **online:** Understanding Evolution Team (2016) *Evolution 101*: 1–56. (Available [here](#)).
2. **compendium:** Stanford, Allen, and Anton (2011) *Biological anthropology*. Pearson: 14–33.
3. **compendium:** Futuyama (2013) *Evolution*. Sinauer: xiv–10.
4. **compendium:** Davies, Krebs, and West (2012) *An introduction to behavioural ecology*. Wiley-Blackwell: x–23.

Total: 120 p.

2 Session: *Principles of Evolution #2* (Tuesday, 27 September)

2 Session will focus on evolution at a genetic level. Basic understanding of evolutionary genetics is necessary for the understanding of the key elements of the theory of evolution since the so-called “Modern Synthesis”. We will focus more on the implications of evolutionary genetics for behavior of organisms than on the molecular mechanisms that underpin evolutionary genetics.

Focus:

- The Modern Synthesis
- Evolutionary genetics
- Gene-centred view of evolution
- Units of selection
- Kin selection
- Inclusive fitness

Readings:

1. [compendium](#): Futuyama (2013) *Evolution*. Sinauer: 10–17.
2. [compendium](#): Daly and Wilson (1983) *Sex, evolution, and behavior*, 2nd edition. Wadsworth: iii–viii; 1–36.
3. [online](#): Dawkins (2006) *The selfish gene: 30th anniversary edition*. Oxford University Press: vii–108. (Full book available online via Statsbiblioteket [here](#)).

Total: 169 p.

Optional readings:

1. [online](#): Laland et al (2014) Does evolutionary theory need a rethink? *Nature*, 514(7521): 161–4
2. [online](#): Laland et al (2015) The extended evolutionary synthesis: Its structure, assumptions and predictions. *Proceedings of the Royal Society B*, 282(1813): 1–14.

3 Session: *Evolution of Homo sapiens* (Tuesday, 4 October)

3 Session is an introduction to the evolution of *H. sapiens*. We will briefly cover key events in the evolutionary history of *H. sapiens* since the ancestors of *H. sapiens* split from the ancestors of *Pan troglodytes* (the chimpanzee). We will then center on ecology of Pleistocene—a geological epoch during which more recent ancestors of *H. sapiens* and *H. sapiens* evolved. Finally, we will cover the concept of environment of evolutionary adaptedness (EEA), focusing on the likely adaptive problems/selection pressures that ancestors of *H. sapiens* and *H. sapiens* faced.

Focus:

- Archaic humans
- Anatomically modern humans
- Behaviorally modern humans
- Pleistocene ecology
- Holocene and agriculture
- Environment of Evolutionary Adaptedness
- Adaptive problems/selection pressures

Readings:

1. **online:** Pontzer (2012) Overview of hominin evolution. *Nature education knowledge*, 3(10): 1–6. (Available [here](#)).
2. **compendium:** Stanford, Allen, and Anton (2011) *Biological anthropology*. Pearson: 417–445 (optional); 502–527.
3. **coursebook:** Buss (2014): 68–99 (Chapter 3).

Total: 97 p.

4 Session: *Evolutionary Psychology* (Tuesday, 11 October)

Building on knowledge of the first principles of the theory of evolution and evolutionary history of *H. sapiens* covered in 1–3 Sessions, 4 Session turns to the human mind. Understanding evolutionary approach to “how the mind works” (i.e., evolutionary psychology) is needed for the subsequent evolutionary analysis of aggression as behavioral output governed by evolved neuro-cognitive programs. This session will center on the five principles of evolutionary psychology, as developed by the founders of the field (Leda Cosmides and John Tooby), and the evolved architecture of the human mind, understood as a “software” running on the brain (“hardware”).

Focus:

- The five principles
- Brain as computer
- Mind as software
- Information processing

Readings:

1. **compendium:** Cosmides, Tooby, and Barkow (1992) Introduction: Evolutionary psychology and conceptual integration. In Jerome H Barkow, Leda Cosmides, and John Tooby (eds.) *The adapted mind*. Oxford University Press: 3–14.
2. **online:** Cosmides and Tooby (2009) *Universal minds: Explaining the new science of evolutionary psychology*. Unpublished manuscript: 1–26. (Available [here](#)).
3. **compendium:** Pinker (2009) *How the mind works*. Norton: vii–58.
4. **coursebook:** Buss (2014): 378–420 (Chapter 13).

Total: 140 p.

PART TWO: EVOLUTIONARY ANALYSIS

5 Session: *Adaptationism and Reverse Engineering* (Tuesday, 25 October)

PART TWO turns to the “nuts and bolts” of evolutionary analysis. Many evolutionists, in particular evolutionary psychologists, approach their object of study from an adaptationist point of view, which holds that complex psychological traits of organisms (including neuro-cognitive programs regulating human aggression) are evolved adaptations (that may or may not be adaptive in organisms’ current environments). Reverse-engineering framework helps evolutionists dissect complex traits into their sub-components, thereby facilitating identification of the function of the complex trait. 5 Session will focus on developing your skills and competences to critically evaluate and apply the adaptationist approach and reverse-engineering framework.

Focus:

- Adaptations, by-products, and random effects
- Top-down strategy vs. bottom-up strategy
- Methods for testing evolutionary hypotheses
- Data for testing evolutionary hypotheses
- Reverse-engineering vs. forward engineering
- Task analysis

Readings:

1. **coursebook:** Buss (2015): 35–69 (Chapter 2).
2. **online:** Cosmides and Tooby (2009) *Universal minds: Explaining the new science of evolutionary psychology*. Unpublished manuscript: 27–60. (Available [here](#)).
3. **compendium:** Cosmides and Tooby (1992) Cognitive adaptations for social exchange. In Jerome H Barkow, Leda Cosmides, and John Tooby (eds.) *The adapted mind*. Oxford University Press: 163–225.

Total: 135 p.

6 Session: *Aggression as Adaptation* (Tuesday, 1 November)

6 Session focuses on the main subject of the course—human aggression—understood as evolved adaptation. During this session, we will put the knowledge acquired in previous sessions into practice. That is, we will apply evolutionary analysis to human coalitional aggression. We will start with a definition of aggression and identification of its main characteristics. We will then dissect it into its sub-components with an aim to identify its main evolutionary function(s).

Focus:

- Definition of aggression
- Aggression sub-components
- Types of aggression
- Function(s) of aggression

Readings:

1. [coursebook](#): Buss (2015): 285–314 (Chapter 10).
2. [coursebook](#): Pinker (2011): 580–688 (Chapter 8).

Total: 119 p.

PART THREE: COALITIONAL AGGRESSION

7 Session: *Modern War* (Tuesday, 8 November)

PART THREE shifts to contexts in which coalitional aggression occurs. This part of the course aims to help you reflect on the conditions under which aggression occurs, thereby stimulating original thinking on factors that affect modern forms of coalitional aggression. 7 Session focuses on contemporary forms of coalitional aggression. We will overview traditional political science research on armed conflict and then center on evolutionary analyses.

Focus:

- What do the readings contribute to our understanding of human coalitional aggression?
- What are the strengths and weaknesses of their theoretical models?
- Which elements of the theories sound unconvincing? Why?
- What are their methodological strengths and weaknesses?

Readings:

1. [online](#): Gleditsch, Melander, and Urdal (2016) Introduction—patterns of armed conflict since 1945. In T David Mason and Sara McLaughlin Mitchell (eds.) *What do we know about civil wars?* Rowman and Littlefield: 15–32. (Available [here](#)).
2. [online](#): Dixon (2009) What causes civil wars? Integrating quantitative research findings. *International Studies Review*, 11(4): 707–35.
3. [online](#): Kanazawa (2009) Evolutionary psychological foundations of civil wars. *The Journal of Politics*: 25–34.
4. [online](#): Gleditsch et al (2011) Polygyny or Misogyny? Reexamining the “first law of intergroup conflict”. *The Journal of Politics*, 73(1): 265–70.
5. [online](#): Letendre, Fincher, and Thornhill (2010) Does infectious disease cause global variation in the frequency of intrastate armed conflict and civil war? *Biological Reviews*, 85(3): 669–83.
6. [online](#): Hendrix and Gleditsch (2012) Civil war: Is it all about disease and xenophobia? A comment on Letendre, Fincher & Thornhill. *Biological Reviews*, 87(1): 163–7.

Total: 83 p.

8 Session: *Chimpanzee “War”* (Tuesday, 15 November)

8 Session focuses on coalitional aggression among chimpanzees, our closest living relatives (along with *Pan paniscus*, bonobos). We will focus on the characteristics of and conditions under which coalitional aggression among chimps occur—and how that corresponds to coalitional aggression among humans. To support your learning with visual information, at the end of the session we will watch a video documentary.

Focus:

- The chimpanzee violence hypothesis
- The imbalance of power hypothesis
- Conditions under which coalitional aggression occurs
- Coalitional aggression as adaptive strategy
- Intra-group vs. inter-group aggression
- Coalitional aggression as an outcome of human impact

Readings:

1. [online](#): Wrangham (1999) Evolution of coalitional killing. *American Journal of Physical Anthropology*, 110(S29): 1–30.
2. [online](#): Wilson et al (2014) Lethal aggression in pan is better explained by adaptive strategies than human impacts. *Nature*, 513(7518): 414–17.
3. [coursebook](#): Fry (2015): 361–88.
4. [online](#): Ferguson (2011) Born to live: Challenging killer myths. In Robert W Sussman and C Robert Cloninger (eds.) *Origins of altruism and cooperation*. Springer: 249–70. (Available [here](#)).

Total: 84 p.

Optional readings:

1. [online](#): Horgan (2014a) Chimp violence fails to support deep-roots theory of war. *Scientific American*, 17 September 2014. (Available [here](#)). .

2. [online](#): Horgan (2014b) Anthropologist Brian Ferguson challenges claim that chimp violence is adaptive. *Scientific American*, 18 September 2014. (Available [here](#)).
3. [online](#): Horgan (2014c) Chimp-violence researchers respond to criticism on cross-check. *Scientific American*, 1 October 2014. (Available [here](#)).

9 Session: *Ethnographic War* (Tuesday, 22 November; **joined with 10 Session, see below)**

9 Session focuses on coalitional aggression among ethnographic societies, part of which live (or lived) under conditions that in many ways resemble those under which humans lived as hunter-gatherers (or foragers) for most of their evolutionary history. As in the previous session, we will focus on the characteristics of and conditions under which coalitional aggression among ethnographic societies occurs—and how that corresponds to coalitional aggression among modern societies.

Focus

- Conditions under which coalitional aggression occurs
- Coalitional aggression as adaptive strategy
- Intra-group vs. inter-group aggression
- Sedentary vs. mobile foragers
- State impact on ethnographic societies

Readings:

1. [online](#): Chagnon (1988) Life histories, blood revenge, and warfare in a tribal population. *Science*, 239(4843): 985–92.
2. [online](#): Beckerman et al (2009) Life histories, blood revenge, and reproductive success among Waorani of Ecuador. *Proceedings of the National Academy of Sciences*, 106(20): 8134–39.
3. [online](#): Glowacki and Wrangham (2015) Warfare and reproductive success in a tribal population. *Proceedings of the National Academy of Sciences*, 112(2): 348–53.
4. [online](#): Fry and Soderberg (2013) Lethal aggression in mobile forager bands and implications for the origins of war. *Science*, 341(6143): 270–73 (**OPTIONAL**: supplement 1–82).
5. [coursebook](#): Fry (2015): 315–40.

Total: 45 p.

10 Session: Prehistoric War (joined with 9 Session)

As discussed in 8 and 9 Sessions, drawing parallels between chimps or ethnographic societies and Pleistocene foragers is problematic. Therefore, 10 Session takes a look at the archeological evidence on aggression among actual Pleistocene (and Holocene) foragers. The last part of 10 Session, will be devoted for a final recap of the previous sessions and preparations for the final exam.

Focus:

- Types of evidence of aggression
- Frequency and spread of aggression
- Evidence on aggression in Pleistocene
- Evidence on aggression in Holocene
- The impact of agriculture and sedentiarism

Readings:

1. [coursebook](#): Pinker (2011): 37–70 (Chapter 2).
2. [coursebook](#): Fry (2015): 112–31; 168–90.
3. [online](#): Nakao et al (2016) Violence in the prehistoric period of Japan: The spatio-temporal pattern of skeletal evidence for violence in the Jomon period. *Biology Letters*, 12(3): 1–4.
4. [online](#): Lahr et al (2016) Inter-group violence among early Holocene hunter-gatherers of West Turkana, Kenya. *Nature*, 529(7586): 394–98.
5. [online](#): Walker (1989) Cranial injuries as evidence of violence in pre-historic Southern California. *American Journal of Physical Anthropology*, 80(3): 313–23.

Total: 90 p.