Approches Cognitives de la Fiction
Cognitive Approaches to Fiction

Responsable du cours : Edgar Dubourg

Autre(s) enseignante(s) / enseignant(s) :

Intervenants extérieurs potentiels : **Ondine Simonot, Coltan Scrivner, Valentin Thouzeau**

Descriptif du cours :

The objective of this course is to develop a broad understanding of **how human cognition shapes cultural practices and artifacts**, such as stories, movies, TV series, artworks, and video games. We will put forward an integrative framework that allows to **carve such entertaining items at their cognitive joints**.

This course will be informed by insights coming from both the **natural sciences** (cognitive neuroscience, evolutionary biology, behavioral ecology) and the **cultural and human sciences** (anthropology, sociology, literary studies, cultural studies).

Objectifs pédagogiques et compétences développées :

- A broad understanding of **how human cognition works**
- An understanding of how cognition **impacts human symbolic culture**
- Practical skills for **scientific reading** and **evidence-based thinking**

Contenu détaillé du cours :

Homework:
- Read the mandatory scientific article planned for the next session
- Post at least 1 question on the Moodle before Saturday (midnight)
- Do the additional homework if specified

Organization of the class:
30 minutes of Journal Club (15 minutes of student presentation, 15 minutes of questions)
1h30 of class on the topic of the course

1. Introduction
Presentations.
Assignment of Journal Club.
Presentation of validation requirements.
Workshop session.

2. From cognitive mechanisms to cultural preferences for fiction and the arts
Summary:
This session will introduce the broad psychological framework that we will use the whole semester, and that allows us to map the human mind and associate key cognitive mechanisms and emotions (e.g., fear) to cultural content features (e.g., horror). All the sessions will follow this pattern: '*From* a cognitive mechanism *to* some cultural manifestation'.

Mandatory reading:
Nettle, D. (2005). The Wheel of Fire and the Mating Mind: Explaining the origins of tragedy and comedy. Journal of Cultural and Evolutionary Psychology. Here. [The 8 first pages]

In addition to the question about the paper, ask one more general question about the evolution of human cognition that this article made you think of.

Bonus (+1 in 'Participation'):
Detail some arguments in favor or against the use of cognitive sciences in creative industries.

Bonus references (optional):
Sperber, D., Hirschfield, L. (2004). The cognitive foundations of cultural stability and diversity. Trends in Cognitive sciences. Here.
Morin, O., Acerbi, A., Sobchuk, O. (2019). Why people die in novels: testing the ordeal simulation hypothesis. Palgrave Communication.
Dubourg, E., Baumard, N. (2022). How and Why did Fiction Fiction as Entertainment Technology. Frontiers in Psychology. Here.
Sugiyama, S. (2005). Reverse-Engineering Narrative. The Literary Animal. Editors: Jonathan Gottschall and David Sloan Wilson. Here.

Key concepts:
Cognitive algorithm
Fitness
Adaptation
Proper vs. actual domains
Smoke detector principle

3. From human personality to the diversity of cultural preferences
Summary:
Why are people so different in their cultural preferences? Why couldn't there be one perfect story that every human would like? The scientific field of personality psychology informs us about the variability in people's cognitive preferences.

Mandatory reading:
Michelson, D. (2014). Personality and the Varieties of Fictional Experience. The Journal of Aesthetic Education. Here.

Specific homework:
In addition to the question about the paper, derive one prediction from the essay on personality, in the form: 'People who score higher on the xxx Big Five trait should enjoy more xxx' (for instance a fictional genre) with some arguments based on your understanding of personality. We will check them in class.

Bonus (+2 in 'Participation'):
Develop briefly at least 2 ways you would test your prediction. Remember that your test should make your hypothesis falsifiable (that is, if the test is not valid, the hypothesis is proven false).

Bonus references (optional):
Dubourg E., Baumard, N. (2022). Why Imaginary Worlds? The psychological foundations and cultural evolution of fictions with imaginary worlds. Behavioral & Brain Sciences. Here.

Key concepts:
Phenotypic plasticity
Big Five Personality traits

4. From intuitive physics and biology to magical powers and fantastic creatures
Summary:
What explains the universality of magical powers in stories? Why are fantastic beasts more attention-grabbing than real-world animals? This session introduces intuitive cognitive mechanisms that do specific computations on objects or animals. These mechanisms explain the stability of some attractive content features, such as magical powers and fantastic creatures.

Mandatory reading:
McCoy, J., Ullman, T., Capraro, V. (2019). Judgments of effort for magical violations of intuitive physics. PLOS ONE. Here.
Specific homework:

In addition to the question about the paper, give one example of content features in fiction that can be explained by intuitive physics (other than magical powers).

Bonus (+1 in 'Participation'):
Use ChatGPT to ask one question about a behavioral or cognitive trait that is intriguing to you. You can use this prompt: "With an evolutionary biological approach, explain why…" and complete. It can be about anything. Copy-paste the answer in Moodle, and add a few sentences of your own to express your critical view about its answer (Is it consistent with what we saw in class? Do you think it is relevant?).

Bonus (+2 in 'Participation'):
Use GoogleScholar to find one scientific article that confirms or disconfirms ChatGPT's hypothesis (you don't have to read it entirely, just the abstract and the results). Just mention the title of the article in your homework.

Bonus references (optional):
Norenzayan, A., Scott, A., Faulkner, J., Schaller, M. (2006). Memory and Mystery: The Cultural Selection of Minimally Counterintuitive Narratives. Cognitive Science. Here.
Nyhof, M., Barrett, J. (2001). Spreading Non-natural Concepts: The Role of Intuitive Conceptual Structures in Memory and Transmission of Cultural Materials. Journal of Cognition and Culture. Here.

Key concepts:
Intuitive ontologies
Minimal counterintuitiveness

5. From cognitive agency to video games and interactive media
Summary:
What explains the amazing success of video games? Why are video games specific in the variety of fictional experience? In this session, we will introduce agency, the satisfying power to decide and do, that is, to use one's actions and behaviors to fulfill one's goals. This will lead to an understanding of the cognitive appeal for interactive games.

Mandatory reading:
Ewell, P., Hamilton, J., Guadagno, R. (2018). How do video game players identify their actions? Integrating Action Identification Theory and videogame play via the Behavior Identification Form - Gamer. Computers in Human Behavior. Here.

Specific homework:
In addition to the question about the paper, find one video game mechanic that improves the satisfaction derived from the cognitive mechanism of agency.

Bonus (+1 in 'Participation'):
Give a short list of video games that are very different and try to explain why they are so.

Bonus references (optional):
Przybylski, A., Rigby, S., Ryan., R. (2010). A Motivational Model of Video Game Engagement. Review of General Psychology. Here.
Tanenbaum, K., Tanenbaum, J. (2009). Commitment to Meaning: A Reframing of Agency in Games. Here.

Key concepts:
Agency
Reverse causality
Confounding variable

6. From threat detection mechanisms to monsters and slashers
Summary:
Why do people enjoy being scared watching movies or TV series? How can cognitive science solve the 'Paradox of Horror'? In this session, we will tackle the psychology of recreational horror, based on threat detection mechanisms and morbid curiosity.

Mandatory reading:
Clasen, M., Platts, D. (2019). Evolution and Slasher Films. In Evolution and Popular Narrative. Here.
Scrivner et al. (2021) Pandemic practice: Horror fans and morbidly curious individuals are more psychologically resilient during the COVID-19 pandemic

For this session, find 3 questions (not 1) about the paper.

Bonus (+2 in 'Participation'):
Use ChatGPT to learn more about the paradox of horror and try to explain how an evolutionary perspective can solve it.

Bonus references (optional):
Morin, O., Sobchuk, O. (2022). Why monsters are dangerous. Here.
Clasen, M. (2012). Monsters Evolve: A Biocultural Approach to Horror Stories, Review of General Psychology. Here.
Andersen, M., Schjoedt, U., Price, H., Rosas, F., Scrivner, C., Clasen, M. (2020). Playing With Fear: A Field Study in Recreational Horror. Psychological Science. Here.
Kjeldgaard-Christiansen, J., Fiskaali, A., Høgh-Olesen, H., Johnson, J., Smith, M., Clasen, M. (2021). Do dark personalities prefer dark characters? A personality psychological approach to positive engagement with fictional villainy. Poetics. Here.
Scrivner, C., Andersen, M., Schjødt, U., Clasen, M. (2021). The Psychological Benefits of Scary Play in Three Types of Horror Fans. Here.

Key concepts:
Morbid curiosity
Threat detection

7. From partner choice to sympathetic characters and superheroes
Summary:
Why are fictional characters all brave and sympathetic? How do the human mind perceive such fictional entities? In this session, we will take a closer look at fictional characters, through the study of the computations the human cognition does when it evaluates another human.

Mandatory reading (choose):
Kjeldgaard-Christiansen, J. (2017). The Bad Breaks of Walter White: An Evolutionary Approach to the Fictional Antihero. Evolutionary Studies in Imaginative Culture. Here.
Singh, M. (2021). The Sympathetic Plot, Its Psychological Origins, and Implications for the Evolution of Fiction. Emotion Review. Here.

Specific homework:
In addition to the question about the paper, try to find other aspects of fictions that this hypothesis could explain.

Bonus (+3 in 'Participation'):
Use your knowledge from previous sessions and all the tools at your disposal (ChatGPT, Google Scholar) to try to explain why we sometimes enjoy completely immoral characters, with at least 1 testable prediction.

Bonus references (optional):
Schmid, H., Klimmt, C. (2011). A magically nice guy: Parasocial relationships with Harry Potter across different cultures. International Communication Gazette. Here

Key concepts:
Partner choice
Competence evaluation
Warmth evaluation
Trustworthiness valuation

8. From pair-bonding and mating strategies to love stories
Summary:
Why are love stories so widespread across fictional genres? Why do humans seem to find romantic love stories beautiful? In this session, we will explain the origin and variability of our taste for love stories, with the evolutionary psychology of love.

Mandatory reading:
Salmon, C. (2012). The Pop Culture of Sex: An Evolutionary Window on the Worlds of Pornography and Romance. Review of General Psychology. Here.

Specific homework:
In addition to the question about the paper, try to summarize in 2 or 3 sentences why romantic love can be thought of as an evolutionary adaptation.

Bonus references (optional):
Baumard, N., Huillery, Hyafil, A., Safra, L. (2022). The cultural evolution of love in literary history. Nature & Human Behavior. Here.
Vanderbeke, D. (2019). On Love and Marriage in Popular Genres. In Evolution and Popular Narrative.
Salmon, C., Burch, R., Carroll, J., Clasen, M., Jonsson, E. (2020). I'm with You Till the End of the Line: The Romanticization of Male Bonds. Evolutionary Perspectives on Imaginative Culture. Here.

Key concepts:
Parental investment
Genetic relatedness
Kin selection

9-13. To be determined
- 1 Exam Session
- 1 Special Movie Session
- 3-5 sessions with invited speakers

Langue d'enseignement : Français / Anglais

Type de cours : Cours magistral / TD

Modalités d'évaluation :
Cours (If you choose the midterm on this course) :
Question to send before class and **specific homework** (20%)
Participation in class and on-line (bonus homework) (10%)
Presentation (30%)
Midterm exam (40%)

Questions and specific homework are mandatory. Bonus homework is optional.

For Participation you can have a good grade by participating online by doing the complementary homework and asking questions on the Moodle. But you should still try to participate in class. Ask as many questions as you can.

For Presentation, note that it should be done on the mandatory reading. However, if you see that you would prefer to present one of the optional readings, we can change and adapt the program. Don't hesitate to ask. Also don't forget that everybody will have read it. You should summarize the paper and the main findings (if relevant). But you should also go a little further and try to think of other evidence that goes in favor or against the main hypotheses, methodological limitations, and illustrate your presentation with as many concrete examples (movies, plays, manga) of what it explains according to you.

Don't hesitate to ask us broader questions that this course makes you think of, if you have some. We can still adapt the program to answer some of the questions you have on human artistic and fictional experiences.

Année : L2
Semestre : Semestre 1

Lectures obligatoires :
Aucune

Lectures recommandées :
Jonathan Gotschal et David Sloan Wilson (ed.), *The Literary Animal: Evolution and the Nature of Narrative*
Mathias Clasen, *A Very Nervous Person's Guide to Horror Fiction*
David Barash, *Madame Bovary's Ovaries: A Darwinian Look at Literature*