

NSCI/PSY 342 | History, Philosophy and (neuro)Science of Consciousness
FALL 2024

INSTRUCTOR: PANAGIOTA THEODONI

EMAIL: PANAGIOTA.THEODONI@CYATHENS.ORG

OFFICE HOURS: BY APPOINTMENT

Course Description

Consciousness has been considered one of the great mysteries in human existence. Historically, psychologists and neuroscientists have largely ignored the problem of conscious awareness because it was considered subjective, falling outside the realm of scientific inquiry. However, over the past several decades scientists have begun to try to tackle the problem using modern scientific tools. In this course, we will begin by trying to define the term and consider the so-called “hard” and “easy” problems of consciousness. A brief history of ancient civilizations’ views on mental experience will be discussed with particular attention to Greek thinkers from the classical period. We will then go over basic neuroscientific and philosophical concepts, as well as experimental and theoretical methods that are being used to study the neural correlates of consciousness. We will explore different states of consciousness and disruptions of consciousness in human patients. We will discuss prevailing scientific theories of consciousness and how they are currently put to test. Finally, we will see recent advances on computational neural network models for consciousness and whether and how quantum mechanics is relevant for consciousness. We will debate whether free will exists; if artificial intelligence can be conscious and what this would entail related to ethics. Previous knowledge of neuroscience and/or philosophy and/or physics is preferred but not required.

Learning Goals

This course will primarily teach students to:

- Identify the different definitions of consciousness and how they are related to different theories of consciousness.
- Identify how humans have tried to answer this question throughout history, in philosophy and science.
- Explain what consciousness is and how it is related to the brain, in both health subject and patients with disorders of consciousness.
- Use presentation skills to communicate philosophical and scientific research related to consciousness.
- Examine critically the different theories of consciousness.
- Evaluate experimental evidence of behavior and brain activity related to consciousness.
- Reflect on what needs to be done in the future in the science of consciousness field and how it impacts society.
- Recognize that the problem of consciousness is still an open question, there are debates among contrasting views and it is an ongoing research program.

Course Requirements and Assessment

CYA Attendance Policy

CYA regards attendance in class and on-site (in Athens or during field study trips) as essential, so attendance at all scheduled meetings is required. All absences are recorded and have consequences that may affect your grade.

- **Class Contribution 20%** – Class Contribution includes physical and mental presence in the classroom, arriving on time, preparation, participation in class discussions, leading the discussion of one (or more, given the size of the class) by presenting it in class, and posting comments and questions on the pdf annotations of the required readings on the Moodle forum. Reading assignments are to be completed before each class session. Class contribution is one of the most important factors for determining your grade for the semester. I expect all of you to come prepared, engage in our discussions, ask questions, and voice your opinions in class. If you never participate in class and do not send any thoughts by email, your contribution grade will be low.

- **Class Debate Participation 20%** – There will be two class debates, where students are divided into three groups: those who argue in favor of the given thesis, those who argue against it and the audience. You will be in the debating group in one of the class debates and in the other one you will be in the audience. When you are in the debating group you will need to present at least one argument in favor (or against) the given thesis. You do not necessarily need to agree with the thesis you are defending. When you are in the audience group you will need to contribute to the discussion with critical thinking on both views.
- **Midterm Exam 30%** – You will be asked to write the answer to questions related to the material of the course up to the midterm exam.
- **Final Exam 30%** – In groups of two or three students you will research and present one theory of consciousness. This should include definition, evidence in favor and against the theory of choice, as well as discussion. The theory of consciousness that you will present along with the evidence needs to be accompanied with the corresponding references.

Policy on Assignments and Make-up Work

Details about assignments and exams will be given in advance. I will accept no late assignments or make-up exams unless discussed with me in advance. Missing some assignments (pdf annotations) for a justified reason could be compensated with an additional leading the class discussion of one of readings. If you are unable to come to class, please let me know beforehand.

CYA Policies and Regulations

Academic Accommodations

Students are required to submit an official letter from the office at their school that handles academic accommodations (generally the Office of Disability Services), or to have that office send a letter. Students who have submitted such a letter to CYA should also talk to their professors individually to discuss how these accommodations will work in each specific course.

ePolicy on Original Work

Plagiarism is literary theft. As such, it is a serious offense which will not be tolerated either at your home institution or at CYA. Plagiarism on an examination or in a paper will result in an F for the course. You must cite the author of any and all ideas that you use that is neither common knowledge nor your own idea. If you are in doubt, it is safest to cite the source.

Your work should be original and reflect your own ideas and thoughts. If you are unsure about what counts as original work, please consult your professor and check the Student Handbook.

Use of Laptops

In-class use of laptops and other devices is permitted.

Upgrade to 400-level course

Courses can be upgraded to a 400-level. This constitutes usually 25% additional work on the part of the student. The option to upgrade opens the second week of classes. If you are interested in this option, please talk to your professor.

Required Readings

Dehaene 2014: Introduction and Chapters 1,2,4,5: "Consciousness and the brain: deciphering how the brain codes our thoughts" Stanislas Dehaene - New York: Penguin Books, 2014

Nagel 1974: "What is it like to be a bat?" Thomas Nagel - The Philosophical Review, 1974 Glasser et al. 2016: "A multi-modal parcellation of human cerebral cortex" Matthew F.

Glasser, Timothy S. Coalson, Emma C. Robinson, Carl D. Hacker, John Harwell, Essa Yacoub,

Kamil Ugurbil, Jesper Andersson, Christian F. Beckmann, Mark Jenkinson, Stephen M. Smith, David C. Van Essen - Nature, 2016

Dale and Halgren 2001: "Spatiotemporal mapping of brain activity by integration of multiple imaging modalities" Anders M. Dale, Eric Halgren - Current Opinion in Neurobiology, 2001

Wang et al. 2020: "Computational neuroscience: a frontier of the 21st century" Xiao-Jing Wang, Hailan Hu, Chengcheng Huang, Henry Kennedy, Chengyu Tony Li, Nikos Logothetis, Zhong-Lin Lu, Qingming Luo, Mu-ming

Poo, Doris Tsao, Si Wu, Zhaohui Wu, Xu Zhang, Douglas Zhou - National Science Review, 2020

Boly et al. 2017: "Are the neural correlates of consciousness in the front or in the back of the cerebral cortex? Clinical and neuroimaging evidence" Melanie Boly, Marcello Massimini,

Naotsugu Tsuchiya, Bradley R. Postle, Christof Koch, Giulio Tononi - Journal of Neuroscience, 2017

Laureys et al. 2004: "Brain function in coma, vegetative state, and related disorders" Steven Laureys, Adrian M. Owen, Nicholas D. Schiff - The Lancet, 2004

Schiff et al. 2007: "Behavioural improvements with thalamic stimulation after severe traumatic brain injury" N. D.

Schiff, J. T. Giacino, K. Kalmar, J. D. Victor, K. Baker, M. Gerber, B. Fritz, B. Eisenberg, J. O'Connor, E. J. Kobylarz, S.

Farris, A. Machado, C. McCagg, F. Plum, J. J. Fins, A. R. Rezaei - Nature, 2007

Turk et al. 2002: "Mike or me? Self-recognition in a split-brain patient" David J. Turk, Todd F. Heatherton, William M.

Kelley, Margaret G. Funnell, Michael S. Gazzaniga, C. Neil Macrae - Nature Neuroscience, 2002

Birch et al. 2020: "Dimensions of animal consciousness" Jonathan Birch, Alexandra K. Schnell, Nicola S. Clayton - Trends in Cognitive Sciences, 2020

Bouvier and Engel 2006: "Behavioral deficits and cortical damage loci in cerebral achromatopsia" Seth E.

Bouvier, Stephen A. Engel - Cerebral Cortex, 2006

Nunn et al. 2002: "Functional magnetic resonance imaging of synesthesia: activation of V4/V8 by spoken words" J. A.

Nunn, L. J. Gregory, M. Brammer, S. C. R. Williams, D. M. Parslow, M. J. Morgan, R. G. Morris, E. T. Bullmore, S.

Baron-Cohen, J. A. Gray - Nature Neuroscience, 2002

McCarthy and Warrington 1986: "Visual associative agnosia: a clinico-anatomical study of a single case" R. A. McCarthy, E. K. Warrington - Journal of Neurology, Neurosurgery, and Psychiatry, 1986

Bisiach and Luzzatti 1978: "Unilateral neglect of representational space" Edoardo Bisiach, Claudio Luzzatti - Cortex, 1978

Signorelli et al. 2021: "Consciousness science and its theories explanatory profiles of models of consciousness - towards a systematic classification" Camilo Miguel Signorelli, Joanna Szczotka, Robert Prentner - Neuroscience of Consciousness, 2021

Melloni et al. 2021: "Making the hard problem of consciousness easier: Championing open science, an adversarial collaboration aims to unravel the footprints of consciousness: Lucia Melloni, Liad Mudrik, Michael Pitts, Christof Koch - Science 2021

Theodoni et al. 2011: "Cortical microcircuit dynamics mediating binocular rivalry: the role of adaptation in inhibition"

Panagiota Theodoni, Theofanis I. Panagiotaropoulos, Vishal Kapoor, Nikos K. Logothetis, Gustavo Deco - Frontiers in Human Neuroscience, 2011

Koch and Hepp 2006: "Quantum mechanics and the brain" Christof Koch, Klaus Hepp - Nature, 2006

Fall 2024 Tentative Schedule

Day #	Date/Day	Topic / Readings / Assignments Due / Place (if applicable)
Sep 5-7		
Field Study Delphi and Ancient Olympia		
1	Sep 10	Introduction and history of consciousness Reading Dehaene 2014 - Introduction and Chapter 1: "Consciousness and the brain: deciphering how the brain codes our thoughts" Stanislas Dehaene - New York: Penguin Books, 2014
2	Sep 12	Philosophy of consciousness Reading Nagel 1974: "What is it like to be a bat?" Thomas Nagel - The Philosophical Review, 1974 Recommended van Gulick 2014 - Section 2: "Consciousness" Robert van Gulick - Stanford Encyclopedia of Philosophy, 2014
3	Sep 17	Cortical and subcortical organization Reading Glasser et al. 2016: "A multi-modal parcellation of human cerebral cortex" Matthew F. Glasser, Timothy S. Coalson, Emma C. Robinson, Carl D. Hacker, John Harwell, Essa Yacoub, Kamil Ugurbil, Jesper Andersson, Christian F. Beckmann, Mark Jenkinson, Stephen M. Smith, David C. Van Essen - Nature, 2016
Sep 18-21		
Field Study Crete		

4	Sep 24	<p>Neuroscience experimental methods</p> <p>Reading</p> <p>Dale and Halgren 2001: "Spatiotemporal mapping of brain activity by integration of multiple imaging modalities" Anders M. Dale, Eric Halgren - Current Opinion in Neurobiology, 2001</p>
5	Sep 26	<p>Theoretical and computational neuroscience</p> <p>Reading</p> <p>Wang et al. 2020: "Computational neuroscience: a frontier of the 21st century" Xiao-Jing Wang, Hailan Hu, Chengcheng Huang, Henry Kennedy, Chengyu Tony Li, Nikos Logothetis, Zhong-Lin Lu, Qingming Luo, Mu-ming Poo, Doris Tsao, Si Wu, Zhaohui Wu, Xu Zhang, Douglas Zhou - National Science Review, 2020</p>
6	Oct 1	<p>Unconscious processing and the function of consciousness</p> <p>Reading</p> <p>Dehaene 2014 - Chapters 2: "Consciousness and the brain: deciphering how the brain codes our thoughts" Stanislas Dehaene - New York: Penguin Books, 2014</p> <p>Recommended</p> <p>Dehaene 2014 – Chapter 3: "Consciousness and the brain: deciphering how the brain codes our thoughts" Stanislas Dehaene - New York: Penguin Books, 2014</p>
7	Oct 3	<p>Neural signatures of consciousness</p> <p>Reading</p> <p>Dehaene 2014 - Chapter 4: "Consciousness and the brain: deciphering how the brain codes our thoughts" Stanislas Dehaene - New York: Penguin Books, 2014</p>
8	Oct 8	<p>Where in the brain is consciousness?</p> <p>Reading</p> <p>Boly et al. 2017: "Are the neural correlates of consciousness in the front or in the back of the cerebral cortex? Clinical and neuroimaging evidence" Melanie Boly, Marcello Massimini, Naotsugu Tsuchiya, Bradley R. Postle, Christof Koch, Giulio Tononi - Journal of Neuroscience, 2017</p> <p>Recommended</p> <p>Odegaard et al. 2017: "Should a few null findings falsify prefrontal theories of conscious perception?" Brian Odegaard, Robert T. Knight, and Hakwan Lau – The Journal of Neuroscience 2017</p> <p>Michel 2022: "Conscious Perception and the Prefrontal Cortex A Review" Matthias Michel - Journal of Consciousness Studies, 2022</p>
9	Oct 10	<p>Wakefulness, sleep, dreaming, coma, vegetative state</p> <p>Reading</p> <p>Laureys et al. 2004: "Brain function in coma, vegetative state, and related disorders" Steven Laureys, Adrian M. Owen, Nicholar D. Schiff - The Lancet, 2004</p> <p>Recommended</p> <p>Windt 2013: "Reporting dream experience: Why (not) to be skeptical about dream reports" Jennifer Windt - Frontiers in Human Neuroscience, 2013</p>
10	Oct 15	<p>Anesthesia, drugs and enhancing consciousness</p> <p>Reading</p> <p>Schiff et al. 2007: "Behavioural improvements with thalamic stimulation after severe traumatic brain injury" N. D. Schiff, J. T. Giacino, K. Kalmar, J. D. Victor, K. Baker, M. Gerber, B. Fritz, B. Eisenberg, J. O'Connor, E. J. Kobylarz, S. Farris, A. Machado, C. McCagg, F. Plum, J. J. Fins, A. R. Rezai - Nature, 2007 Recommended</p> <p>Pollan 2018 - Chapter 5: "How to Change Your Mind" Michael Pollan - New York: Penguin Press, 2018</p>
11	Oct 17	<p>Split brain patients and many minds</p> <p>Reading</p> <p>Turk et al. 2002: "Mike or me? Self-recognition in a split-brain patient" David J. Turk, Todd F. Heatherton, William M. Kelley, Margaret G. Funnell, Michael S. Gazzaniga, C. Neil Macrae - Nature Neuroscience, 2002</p> <p>Recommended</p> <p>Roelofs 2016: "The unity of consciousness, within subjects and between subjects" Luke Roelofs - Philosophical Studies, 2016</p>

12	Oct 22	Class Debate 1: Does Free Will exist?
13	Oct 24	Midterm exam
Oct 25-Nov 3		
Fall Break		
14	Nov 5	<p>Animal consciousness</p> <p>Reading</p> <p>Birch et al. 2020: "Dimensions of animal consciousness" Jonathan Birch, Alexandra K. Schnell, Nicola S. Clayton - Trends in Cognitive Sciences, 2020</p> <p>Recommended</p> <p>Michel 2019: Fish and microchips: on fish pain and multiple realization" Matthias Michel - Philosophical Studies, 2019 Theodoni et al. 2022: "Structural Attributes and Principles of the Neocortical Connectome in the Marmoset Monkey" Panagiota Theodoni, Piotr Majka, David H. Reser, Daniel K. Wójcik, Marcello G. P. Rosa, Xiao-Jing Wang - Cerebral Cortex, 2022</p>
15	Nov 7	<p>Feature deficits: Achromatopsia & Akinetopsia</p> <p>Reading</p> <p>Bouvier and Engel 2006: "Behavioral deficits and cortical damage loci in cerebral achromatopsia" Seth E. Bouvier, Stephen A. Engel - Cerebral Cortex, 2006</p> <p>Recommended</p> <p>Zihl et al. 1983: "Selective disturbance of movement vision after bilateral brain damage" J. Zihl, D. von Cramon, N. Mai - Brain, 1983</p>
Nov 12-15		
Field Study Peloponnese		
16	Nov 19	<p>Merged sensation and lack of awareness: Synesthesia, Blindsightedness</p> <p>Reading</p> <p>Nunn et al. 2002: "Functional magnetic resonance imaging of synesthesia: activation of V4/V8 by spoken words" J. A. Nunn, L. J. Gregory, M. Brammer, S. C. R. Williams, D. M. Parslow, M. J. Morgan, R. G. Morris, E. T. Bullmore, S. Baron-Cohen, J. A. Gray - Nature Neuroscience, 2002</p> <p>Recommended</p> <p>Rafal et al. 1990: "Extrageniculate vision in hemianopic humans: Saccade inhibition by signals in the blind field" R. Rafal, J. Smith, J. Krantz, A. Cohen, C. Brennan - Science, 1990</p>
17	Nov 21	<p>Object recognition deficits, prosopagnosia and capgras delusion</p> <p>Reading</p> <p>McCarthy and Warrington 1986: "Visual associative agnosia: a clinico-anatomical study of a single case" R. A. McCarthy, E. K. Warrington - Journal of Neurology, Neurosurgery, and Psychiatry, 1986</p>
18	Nov 22	<p>Attentional deficits</p> <p>Reading</p> <p>Bisiach and Luzzatti 1978: "Unilateral neglect of representational space" Edoardo Bisiach, Claudio Luzzatti - Cortex, 1978 Recommended</p> <p>Webb et al. 2016: "Cortical networks involved in visual awareness independent of visual attention" Taylor W. Webba, Kajska M. Igelströma, Aaron Schurgerb, Michael S. A. Graziano - PNAS, 201</p>
19	Nov 26	<p>Scientific theories of consciousness I</p> <p>Reading</p> <p>Signorelli et al. 2021: "Consciousness science and its theories explanatory profiles of models of consciousness - towards a systematic classification" Camilo Miguel Signorelli, Joanna Szczotka, Robert Prentner - Neuroscience of Consciousness, 2021</p> <p>Recommended</p> <p>Seth and Bayne 2022: "Theories of consciousness" Anil K. Seth, Tim Bayne - Nature Reviews Neuroscience, 2022</p>
Nov 28-Dec		
Thanksgiving Break		

20	Dec 3	<p>Scientific theories of consciousness II</p> <p>Reading</p> <p>Dehaene 2014 - Chapter 5: “Consciousness and the brain: deciphering how the brain codes our thoughts” Stanislas Dehaene - New York: Penguin Books, 2014</p> <p>Recommended</p> <p>Block 2009: “Comparing the major theories of consciousness” Ned Block - in M. S. Gazzaniga et al. The cognitive neurosciences (p. 1111– 1122)</p> <p>Lau and Rosenthal (2011) “Empirical support for higher-order theories of conscious awareness” Hakwan Lau, David Rosenthal - Trends in Cognitive Sciences, 2011</p> <p>Panagiotaropoulos et al. 2020: “Prefrontal cortex and consciousness: beware of the signals” Theofanis I. Panagiotaropoulos, Abhilash Dwarakanath, Vishal Kapoor - Trends in Cognitive Sciences, 2020</p>
21	Dec 5	<p>Testing theories of consciousness</p> <p>Reading</p> <p>Melloni et al. 2021: “Making the hard problem of consciousness easier: Championing open science, an adversarial collaboration aims to unravel the footprints of consciousness: Lucia Melloni, Liad Mudrik, Michael Pitts, Christof Koch - Science 2021</p>
22	Dec 6	<p>Neural network models of consciousness</p> <p>Reading</p> <p>Theodoni et al. 2011: “Cortical microcircuit dynamics mediating binocular rivalry: the role of adaptation in inhibition” Panagiota Theodoni, Theofanis I. Panagiotaropoulos, Vishal Kapoor, Nikos K. Logothetis, Gustavo Deco - Frontiers in Human Neuroscience, 2011 Recommended</p> <p>Wang 2022: Theory of the Multiregional Neocortex: Large-Scale Neural Dynamics and Distributed Cognition” Xiao-Jing Wang - Annual Review of Neuroscience, 2022</p> <p>Klatzmann 2022: “A connectome-based model of conscious access in monkey cortex” Ulysse Klatzmann, Sean Froudust-Walsh, Daniel P. Bliss, Panagiota Theodoni, Jorge Mejías, Meiqi Niu, Lucija Rapan, Nicola Palomero-Gallagher, Claire Sergent, Stanislas Dehaene, Xiao-Jing Wang - bioRxiv 2022</p>
23	Dec 10	<p>Quantum mechanics and consciousness</p> <p>Reading</p> <p>Koch and Hepp 2006: “Quantum mechanics and the brain” Christof Koch, Klaus Hepp - Nature, 2006 Recommended</p> <p>Manousakis 2012: “Quantum formalism to describe binocular rivalry” Efstratios Manousakis - Biosystems 2012</p> <p>Chalmers and McQueen 2021: “Consciousness and the Collapse of the Wave Function” David J. Chalmers, Kelvin J. McQueen - arXiv 2022. In Shan Gao, Consciousness and Quantum Mechanics. Oxford University Press (forthcoming)</p>
24	Dec 12	Class Debate 2: Can AI be sentient and what would this entail?
	Dec 17	Final Exam Week

Schedule at a glance

Day #	Date	Session	Venue
	Sep 5-7	Field Study	Delphi and Ancient Olympia
1	Sep 10	Introduction and history of consciousness	Classroom
2	Sep 12	Philosophy of consciousness	Classroom
3	Sep 17	Cortical and subcortical organization	Classroom
	Sep 18-21	Field Study	Crete
4	Sep 24	Neuroscience experimental methods	Classroom
5	Sep 26	Theoretical and computational neuroscience	Classroom
6	Oct 1	Unconscious processing and the function of consciousness	Classroom
7	Oct 3	Neural signatures of consciousness	Classroom
8	Oct 8	Where in the brain is consciousness?	Classroom
9	Oct 10	Wakefulness, sleep, dreaming, coma, vegetative state	Classroom

10	Oct 15	Anesthesia, drugs and enhancing consciousness	Classroom
11	Oct 17	Split brain patients and many minds	Classroom
12	Oct 22	Class Debate 1: Does Free Will exist?	Classroom
13	Oct 24	Midterm exam	Classroom
	Oct 25-Nov 3	Fall Break	
14	Nov 5	Animal consciousness	Classroom
15	Nov 7	Feature deficits: Achromatopsia & Akinetopsia	Classroom
	Nov 12-15	Field Study	Peloponnese
16	Nov 19	Merged sensation and lack of awareness: Synesthesia, Blindsightedness	Classroom
17	Nov 21	Object recognition deficits, prosopagnosia and capgras delusion	Classroom
18	Nov 22	Attentional deficits	Classroom
19	Nov 26	Scientific theories of consciousness I	Classroom
	Nov 28-Dec1	Thanksgiving Break	
20	Dec 3	Scientific theories of consciousness II	Classroom
21	Dec 5	Testing theories of consciousness	Classroom
22	Dec 6	Neural network models of consciousness	Classroom
23	Dec 10	Quantum mechanics and consciousness	Classroom
24	Dec 12	Class Debate 2: Can AI be sentient and what would this entail?	Classroom
	Dec 17	Final Exam	Classroom

Course Bibliography

Stanislas Dehaene "Consciousness and the brain: deciphering how the brain codes our thoughts" - New York: Penguin Books, 2014

David Chalmers "The Conscious Mind: In Search of a Fundamental Theory" – Oxford University Press, 1998

Ned Block "The Border Between Seeing and Thinking" – Oxford University Press, 2023 Anil Seth "Being You: A New Science of Consciousness" – Dutton, 2021

Nagel 1974: "What is it like to be a bat?" Thomas Nagel - The Philosophical Review, 1974

Glasser et al. 2016: "A multi-modal parcellation of human cerebral cortex" Matthew F.

Glasser, Timothy S. Coalson, Emma C. Robinson, Carl D. Hacker, John Harwell, Essa Yacoub, Kamil Ugurbil, Jesper Andersson, Christian F. Beckmann, Mark Jenkinson, Stephen M. Smith, David C. Van Essen - Nature, 2016

Dale and Halgren 2001: "Spatiotemporal mapping of brain activity by integration of multiple imaging modalities" Anders M. Dale, Eric Halgren - Current Opinion in Neurobiology, 2001

Wang et al. 2020: "Computational neuroscience: a frontier of the 21st century" Xiao-Jing Wang, Hailan Hu, Chengcheng Huang, Henry Kennedy, Chengyu Tony Li, Nikos Logothetis,

Zhong-Lin Lu, Qingming Luo, Mu-ming Poo, Doris Tsao, Si Wu, Zhaohui Wu, Xu Zhang, Douglas Zhou - National Science Review, 2020

Boly et al. 2017: "Are the neural correlates of consciousness in the front or in the back of the cerebral cortex? Clinical and neuroimaging evidence" Melanie Boly, Marcello Massimini, Naotsugu Tsuchiya, Bradley R. Postle, Christof Koch, Giulio Tononi - Journal of Neuroscience, 2017

Laureys et al. 2004: "Brain function in coma, vegetative state, and related disorders" Steven Laureys, Adrian M. Owen, Nicholar D. Schiff - The Lancet, 2004

Schiff et al. 2007: "Behavioural improvements with thalamic stimulation after severe traumatic brain injury" N. D. Schiff, J. T. Giacino, K. Kalmar, J. D. Victor, K. Baker, M. Gerber, B. Fritz, B. Eisenberg, J. O'Connor, E. J. Kobylarz, S. Farris, A. Machado, C. McCagg, F. Plum, J. J. Fins, A. R. Rezai - Nature, 2007

Turk et al. 2002: "Mike or me? Self-recognition in a split-brain patient" David J. Turk, Todd F. Heatherton, William M. Kelley, Margaret G. Funnell, Michael S. Gazzaniga, C. Neil Macrae - Nature Neuroscience, 2002

Birch et al. 2020: "Dimensions of animal consciousness" Jonathan Birch, Alexandra K. Schnell, Nicola S. Clayton - Trends in Cognitive Sciences, 2020

Bouvier and Engel 2006: "Behavioral deficits and cortical damage loci in cerebral achromatopsia" Seth E.

Bouvier, Stephen A. Engel - Cerebral Cortex, 2006

Nunn et al. 2002: "Functional magnetic resonance imaging of synesthesia: activation of V4/V8 by spoken words" J. A.

- Nunn, L. J. Gregory, M. Brammer, S. C. R. Williams, D. M. Parslow, M. J. Morgan, R. G. Morris, E. T. Bullmore, S. Baron-Cohen, J. A. Gray - Nature Neuroscience, 2002
- McCarthy and Warrington 1986: "Visual associative agnosia: a clinico-anatomical study of a single case" R. A. McCarthy, E. K. Warrington - Journal of Neurology, Neurosurgery, and Psychiatry, 1986
- Bisiach and Luzzatti 1978: "Unilateral neglect of representational space" Edoardo Bisiach, Claudio Luzzatti - Cortex, 1978
- Signorelli et al. 2021: "Consciousness science and its theories explanatory profiles of models of consciousness - towards a systematic classification" Camilo Miguel Signorelli, Joanna Szczotka, Robert Prentner - Neuroscience of Consciousness, 2021
- Melloni et al. 2021: "Making the hard problem of consciousness easier: Championing open science, an adversarial collaboration aims to unravel the footprints of consciousness: Lucia Melloni, Liad Mudrik, Michael Pitts, Christof Koch - Science 2021
- Theodoni et al. 2011: "Cortical microcircuit dynamics mediating binocular rivalry: the role of adaptation in inhibition" Panagiota Theodoni, Theofanis I. Panagiotaropoulos, Vishal Kapoor, Nikos K. Logothetis, Gustavo Deco - Frontiers in Human Neuroscience, 2011
- Koch and Hepp 2006: "Quantum mechanics and the brain" Christof Koch, Klaus Hepp - Nature, 2006
- van Gulick 2014 - Section 2: "Consciousness" Robert van Gulick - Stanford Encyclopedia of Philosophy, 2014
- Odegaard et al. 2017: "Should a few null findings falsify prefrontal theories of conscious perception?" Brian Odegaard, Robert T. Knight, and Hakwan Lau – The Journal of Neuroscience 2017
- Michel 2022: "Conscious Perception and the Prefrontal Cortex A Review" Matthias Michel - Journal of Consciousness Studies, 2022
- Windt 2013: "Reporting dream experience: Why (not) to be skeptical about dream reports" Jennifer Windt - Frontiers in Human Neuroscience, 2013
- Pollan 2018 - Chapter 5: "How to Change Your Mind" Michael Pollan - New York: Penguin Press, 2018
- Roelofs 2016: "The unity of consciousness, within subjects and between subjects" Luke Roelofs - Philosophical Studies, 2016
- Zihl et al. 1983: "Selective disturbance of movement vision after bilateral brain damage" J. Zihl, D. von Cramon, N. Mai - Brain, 1983
- Webb et al. 2016: "Cortical networks involved in visual awareness independent of visual attention" Taylor W. Webb, Kajsa M. Igelströma, Aaron Schurgerb, Michael S. A. Graziano - PNAS, 2016
- Seth and Bayne 2022: "Theories of consciousness" Anil K. Seth, Tim Bayne - Nature Reviews Neuroscience, 2022
- Block 2009: "Comparing the major theories of consciousness" Ned Block - in M. S. Gazzaniga et al. The cognitive neurosciences (p. 1111–1122)
- Lau and Rosenthal (2011) "Empirical support for higher-order theories of conscious awareness" Hakwan Lau, David Rosenthal - Trends in Cognitive Sciences, 2011
- Panagiotaropoulos et al. 2020: "Prefrontal cortex and consciousness: beware of the signals" Theofanis I. Panagiotaropoulos, Abhilash Dwarakanath, Vishal Kapoor - Trends in Cognitive Sciences, 2020
- Wang 2022: Theory of the Multiregional Neocortex: Large-Scale Neural Dynamics and Distributed Cognition" Xiao-Jing Wang - Annual Review of Neuroscience, 2022
- Klatzmann 2022: "A connectome-based model of conscious access in monkey cortex" Ulysse Klatzmann, Sean Froudish-Walsh, Daniel P. Bliss, Panagiota Theodoni, Jorge Mejías, Meiqi Niu, Lucija Rapan, Nicola Palomero-Gallagher, Claire Sergent, Stanislas Dehaene, Xiao-Jing Wang - bioRxiv 2022
- Manousakis 2012: "Quantum formalism to describe binocular rivalry" Efstratios Manousakis - Biosystems 2012
- Chalmers and McQueen 2021: "Consciousness and the Collapse of the Wave Function" David J. Chalmers, Kelvin J. McQueen - arXiv 2022. In Shan Gao, Consciousness and Quantum Mechanics. Oxford University Press (forthcoming)