

Aesthetics and Cognitive Science

One Page Course Description

Yale Residential College Seminar Program Repeat Proposal for Fall 2011

William P. Seeley

Aesthetics and Cognitive Science is an examination of philosophical issues associated with interdisciplinary research in aesthetics and cognitive science. The aim of the course is to introduce students to the interdisciplinary field of cognitive science and to investigate the role psychology and cognitive neuroscience can play in explanations of art and aesthetic experience. The first part of the course introduces central concepts in philosophy of art and aesthetics, the general methodology underlying research in aesthetics and cognitive science, and philosophical issues surrounding any attempt to explain aesthetics in terms of the natural psychological processes involved in perception and cognition (e.g., what is an aesthetic experience; how do aesthetic judgments differ from ordinary perceptual judgments; what is the role of an artwork in an aesthetic experience; how does the choice of a theory of art shape a theory of aesthetic experience?). The second part of the course critically evaluates whether an understanding of the perceptual relationship between viewers and works of visual art can play a role in explanations of art and aesthetic experience.

The general goals of the course are threefold. First, the course is designed to provide students with an understanding of the objectives and interdisciplinary methods of the study of aesthetics and cognitive science with a focus on neuroscience of art. Second, the course is designed to provide students with a background in philosophical aesthetics sufficient to enable them to evaluate research at the junction of the philosophy, psychology, and cognitive neuroscience of art. Third, the course is designed to provide students from within the humanities with an introduction to some key issues in contemporary theories of vision.

The seminar is designed around what I call *the problem of interpretation*. Aesthetic theories of art locate the defining features of art in the phenomenal character of aesthetic experiences (e.g., perceptual and affective responses to artworks). A standard objection to these sorts of theories is that they do not adequately account for the role that meaning and interpretation play in our understanding and engagement with artworks. Theorists who push this objection locate the defining features of art in the art historical and socio-cultural relevance of particular artworks. The question at the core of this debate is whether, and if so how, our understanding of the meaning of a work is related to our aesthetic response to it. Current research on the role of memory and attention in perception demonstrates that background knowledge shapes the way we perceive our environment. This entails that the perception and interpretation of an artwork are not necessarily distinct events. In the context of this debate the course pursues four core questions. First, what is an aesthetic theory of art and how does it differ from other theories of art. Second, what is the relationship between the cognitive and sensory inputs to perception? Third, what is an interpretation? When two people interpret a work of art in different, artistically salient ways: do they perceive it differently?; do they merely conceive it differently?; is this a coherent distinction? Lastly, if aesthetic experience is explained by appeal to the cognitive and sensory processes operative in ordinary perception, what, if anything, differentiates artworks from ordinary artifacts or aesthetic from ordinary perceptual experiences?

Aesthetics and Cognitive Science

Yale Residential College Seminar Program Repeat Proposal for Fall 2011

Syllabus

William P. Seeley

Course Description:

An examination of philosophical issues associated with interdisciplinary research in aesthetics and cognitive science. The aim of the course is to introduce students to the interdisciplinary field of cognitive science and to investigate the role psychology and cognitive neuroscience can play in explanations of art and aesthetic experience. The first part of the course introduces central concepts in aesthetics and the philosophy of art and the general methodology underlying research in aesthetics and cognitive science. The second part of the course examines whether an understanding of the perceptual relationship between viewers and works of visual art can play a role in explanations of art and aesthetic experience.

see <http://abacus.bates.edu/~wseeley/AeCS.html> for syllabi for this course from previous years.

Course Goals:

1. Provide a general understanding of the objectives and interdisciplinary methods of cognitive science via their application in explanations of art and aesthetic experience.
2. Provide students with a background in philosophical aesthetics sufficient to enable them to evaluate research at the junction of the philosophy, psychology, & cognitive neuroscience of art.
3. Provide students from within the humanities with an introduction to some key issues in contemporary vision science.

Requirements:

Class participation is a requirement and will be worth 10% of your final grade. Students will be required to write three papers: a 6-page paper due sometime before the midterm on an assigned topic (25%); a 6-page paper due sometime after the midterm on an assigned topic (25%); and a 10-12 page final paper on a topic of their choosing (40%). Students must see me to discuss the topic of their term papers by the end of week 10. The goal of these assignments is to encourage students to think through the problems of aesthetics and the philosophy of art on their own.

Texts:

- *Course Packet* available through YaleRIS
- Michael F. Land and Benjamin W. Tatler (2009). *Looking and Acting: Vision and Eye Movements in Natural Behavior*. New York: Oxford University Press.
- Supplementary readings on reserve in Bass Library

* This course does not presuppose any specialized knowledge of cognitive science or philosophy. The majority of the readings are drawn from philosophical aesthetics and scientific review articles. Students will not be expected to be able to evaluate the experiments or data presented in these papers. We will discuss how to interpret the salient results in class. Our interest is in the value of the arguments provided in the texts for each of the theories under consideration.

Requirements: Students will be required to write 3 papers and participate in a discussion thread on the CLASSES server. All assignments should be handed in electronically via the CLASSES sever by 5pm Friday of the week that they are due.

- A 6-page paper on one of two assigned topic due week 5. (25%)
- A 6-page paper on one of two assigned topic due week 11. (25%)
- A term paper (10-12 pages) on a topic of your own choice due at the end of the semester. You must meet with me to discuss your topic by the end of week 10. (40%)
- This course is a seminar. The pace and content of our discussions should, ideally, be student driven. Students are expected to come prepared to participate in discussion each day. In order to facilitate discussion each student will be required to post comments related to assigned questions to a discussion thread on the CLASSES server. Class and discussion thread participation will factor into your grade (10%)

Some Miscellaneous Notes and Guidelines: Moral behavior is the grounds for, and the framework of, a healthy society. In this regard it is each of our responsibility as individuals within the community of our classroom to act responsibly. This includes following the rules and guidelines set out by Yale University for academic behavior. Plagiarism is a serious matter. It goes without saying that each of you is expected to do his or her own work and to cite EVERY text that is used to prepare a paper for this class. In general philosophy papers are NOT research papers. Your preparations for papers and presentations should focus on material from the syllabus, assigned supplemental readings, and class discussion.

The written assignments are designed to give you a chance to stretch your legs a bit while you learn about aesthetics & cognitive science (and to give me a chance to assess your understanding of the material). Your job for each of the writing assignments is to offer a *philosophical defense* of your take on the issue at hand. However, this does not mean that the papers are a free forum for opinions. Make sure that your discussions remain focused on the philosophical problems that surround the assigned question or topic.

There is some flexibility built in to the reading schedule so that we can spend more time on issues that are of particular interest to you. I will occasionally suggest supplementary materials for students who want to pursue particular issues beyond class discussion. I also reserve the right to modify the syllabus as needed to accommodate our interests as a group.

Finally, please come see me at the beginning of the semester to discuss athletic schedules or any accommodations you might need for the class work.

Assignments: All assignments are to be handed in electronically to a dropbox on the CLASSES server by 5pm Friday the week they are due.

Project 1: First Paper - Please write a 6 page paper (1800 word) paper on one of the following topics. Your paper should be double-spaced in 12 point font with 1" margins. The purpose of this assignment is to critically evaluate a central argument from our discussions of the general methodology of aesthetics and cognitive science.

Due Date: week 5, Friday @ 5pm on the CLASSES server.

Paper Topic (1a):

Evaluate Gombrich's critique of the writings of John Ruskin and Roger Fry in his paper "The Analysis of Vision in Art." What does Gombrich's argument teach us about artists methods? How does his notion of "making and matching" inform our understanding of the relationship between perception, art, and aesthetic experience?

Paper Topic (1b):

Zeki's thesis concerning the relationship between vision and art can be construed as both a perceptual and an aesthetic hypothesis. Does his discussion of Calder's kinetic art suffice as a case study to establish neuroaesthetics as an aesthetic hypothesis?

Project 2: Midterm Paper - Write a 6 page paper (1800 word) on one of two topics to be announced on the distribution date for the midterm. Your paper should be double-spaced in 12 point font with 1" margins. The purpose of this paper is to demonstrate that you can synthesize a range material from the syllabus and class discussions into a coherent position.

Due Date: week 10

Topics Distributed: week 7

Project 6: Final Paper Write a 12 page (3600 word) paper on a topic of your choosing. Your paper should focus on the solution to a problem (or the evaluation of a debate) that we encountered over the course of the semester. All students need to see me to discuss paper topics by the end of 10.

Topic Meeting: You must meet with me to discuss your topic by the end of week 11

Due Date: end of the reading period

COURSE OUTLINE AND READINGS:

A. Aesthetics and Cognitive Science :

Session 1. Introductory Lecture:

The goal of this session is to introduce students to key concepts and the basic model for interdisciplinary research in aesthetics and cognitive science:

- a) a philosophical definition of **aesthetics** as the study of sensory cognition and the phenomenal character of experiences associated with artworks.
- b) a discussion of the basic distinction between **theories of aesthetics** and **theories of art**.
- c) a definition of **interpretation** as the use of background art historical and cultural knowledge to determine the **meaning**, of a work of art.
- d) **a basic philosophical conflict** between aesthetic theories of art and the role of meaning and interpretation in our engagement with artworks: it has been argued that what differentiates artworks from ordinary artifacts is not the phenomenal content of aesthetic experience, but rather the way viewers interpret their meanings.
- e) a general model for the contributions of **memory and attention** to perception:
 - general knowledge of the structure and function of objects, the nature of events, and the perceptual demands of particular tasks shapes the way we see our environment.
 - therefore the contributions of background art historical and cultural knowledge cannot be so easily separated from the phenomenal content of aesthetic experiences.
- f) a definition within aesthetics and cognitive science of artworks as **perceptual strategies** intentionally designed to direct attention to features responsible for the aesthetic effects and semantic associations that are constitutive of their status as a work of art.
- g) a question: does the definition of artworks as perceptual strategies provide a means to resolve the objection to aesthetic theories of art raised in (d).

READINGS:

- Arthur Danto (2000). Art and Meaning. In ed. Noël Carroll, *Theories of Art Today*. Madison, WI: University of Wisconsin, Press, 130-140. (philosophy)

Recommended Readings:

- Ellen Winner (1982). The Puzzle of Art. *Invented Worlds*. Cambridge, MA: Harvard University Press, 1-12. (psychology of art)
- Noël Carroll (1999). Introduction. *The Philosophy of Art*. New York: Routledge, 1-17. (philosophy)

Session 2. The Analysis of Vision in Art:

The goal of this session is to introduce the following claims about painting: a) visual artists derive the content of their works from a careful examination of the underlying structure of natural appearances; b) viewers reconstruct the representational content of these works from visual cues derived from this examination; however c) there is no preferred set of image cues for producing even a realistic landscape painting, rather artists choose their formal vocabularies and compositional strategies relative to the aesthetic effects they intend their works to produce; as result, d) an understanding of how artworks work as perceptual stimuli should also explain how they work to produce aesthetic experiences.

READINGS:

- E. H. Gombrich (1960). The Analysis of Vision in Art. *Art and Illusion*. Princeton, New Jersey: Princeton University Press, 291-314. (psychology and art criticism)
- John Ruskin (1857/2001). footnote, 27. *The Elements of Drawing*. Mineola, New York: Dover Publishers Inc., 27-28. (art criticism)
- Roger Fry (1919/1981). The Artist's Vision. *Vision and Design*, Mineola, New York: Dover Publishers Inc., 33-38. (art criticism)

Recommended Readings:

- Clive Bell (1913/1981). The Aesthetic Hypothesis. New York: Perigree Books, 15-34. (philosophy; art criticism)
- Arthur Danto (2001). The Work of Art and the Historical Future. *The Madonna of the Future*, Berkeley: University of California Press, 416-431. (philosophy)

Session 3. Some Background in Vision Science:

The goal of this session is to use a discussion of picture perception to introduce students to a) some basic issues in vision science and b) a general model for a computational theory of vision that supports Gombrich's discussion of painting.

READINGS:

- Stephen E. Palmer (1999). Theoretical Approaches to Vision. *Vision Science: Photons to Phenomenology*, Cambridge, MA: MIT Press, 45-92. (psychology text book)
- Ellen Winner (1982). What's in a Picture? *Invented Worlds*. Cambridge, MA: Harvard University Press, 81-104. (psychology of art)

Session 4. Neuroaesthetics:

Semir Zeki claims that: the function of art is analogous to the function of vision; artists are intuitive neurophysiologists whose works and formal vocabularies reveal an understanding of the mechanisms and processes of early vision; and an investigation of correlations between the formal structure of artworks and the operation of the early visual cortex can serve as the foundation for a biologically based theory of art. The goal of this session is to a) introduce Zeki's theory as an extension of Gombrich's discussion of painting, b) evaluate Zeki's claims relative to his case study of kinetic, art and c) to use this discussion to provide a general introduction to the neurophysiology of early vision.

READINGS:

- Semir Zeki & Moutoussis Lamb (1994). The Neurology of Kinetic Art. *Brain*, 117, 607-636. (neuroscience – perspectives article)
- E. R. Kandel, J. H. Schwartz, & T. M. Jessell (1999). Perception of Motion, Depth, and Form. *Principles of Neural Science*, 4th Edition. New York: McGraw-Hill, 548-571. (neuroscience textbook)

Session 5. More Neuroaesthetics

In this session we will explore two further case studies in neuroaesthetics. The goal of the session is to a) continue the general introduction to the neurophysiology of vision and b) motivate a plausible model for the neuroscience of art.

READINGS:

- Richard Lattó (1995). Beauty and the Eye of the Beholder (excerpt). In (eds.) R. Gregory, J. Harris, P. Heard, & D. Rose, *The Artful Eye*. New York: Oxford University Press, 66-74. (cognitive neuroscience of art)
- Margaret Livingstone (2002). *Vision and Art: The Biology of Seeing* (excerpt). New York: Harry N. Abrams, 68-73. (cognitive neuroscience of art)
- E. H. Gombrich (1995). *The Story of Art* (excerpt). New York: Phaidon, Press, 300-303. (art criticism)

Session 6. Discussion: Art, Aesthetics, and Neuroscience

The goal of this session is to evaluate the general model for neuroscience of art introduced in the first half of the semester, further explore relevant material from the neurophysiology of vision, and wrap up loose ends in our discussion of neuroaesthetics. The class will focus on questions and issues raised by students in the discussion thread during the first half of the semester.

B. Art, Meaning, & Perception

Session 7. Aesthetics & the Philosophy of Art

The goal of this session is to a) revisit objections to aesthetic theories of art introduced in *Session 1*, b) explore the relationship between the formal and compositional structure of an artwork and its meaning, and c) introduce the idea that the purpose of the formal and compositional structure of an artwork is to direct attention to features responsible for its artistically salient effects (e.g., aesthetic effects or semantic associations that determine its meaning).

READINGS:

- Noël Carroll (1991). Beauty & the Genealogy of Art Theory. *Philosophical Forum*, 22(4), 307-334. (philosophy)
- Noël Carroll (1999). What is Artistic Form? *The Philosophy of Art*. New York: Routledge, 137-148. (philosophy).
- Moses Mendelssohn (1757/1997). On the Main Principles of Science and Art. In ed. D. O. Dahlstrom, *Philosophical Writings*. New York: Cambridge University Press, 169-179. (philosophy)

Recommended Readings

- Paul Guyer (1996). *Kant and the Experience of Freedom* (excerpts). New York: Cambridge University Press. (philosophy)
 - Chapter 2: The Dialectic of Disinterestedness, 50-74; 81-93
 - Chapter 4: The Perfections of Art, 131-141; 148-160.

Session 8. Memory, Attention, and Perception

The goal of this session is to a) introduce students to a *biased competition model* for visual attention, b) discuss the ways that goals, expectations, background knowledge, and affective responses shape how we see objects and events in our environment, and c) motivate a view of artworks as attentional strategies, or stimuli intentionally designed to direct attention to their semantically salient features (features that enable viewers to recover their meanings).

READINGS:

- David Marr and H. K. Nishihara (1978). Visual Information Processing and the Sensorium of Sight. *Technology Review*, 81, 2-23. (computer science)
- William Thompson and Steven Kosslyn (2000) "Neural Systems Activated during Visual Mental Imagery," in eds. Arthur W. Toga and John C. Mazziotta, *Brain Mapping: The Systems*. New York: Academic Press, 535-540. (neuroscience-review article)
- Luiz Pessoa, Sabine Kastner, and Leslie G. Ungerleider (2002). Attentional control of neutral and emotional stimuli. *Cognitive Brain Research* 15, 31-45.

Session 9. More Memory, Attention, and Perception

The goal of this session is to explore the ideas introduced in *Session 8* in greater detail with an eye to the way memory and attention shape seeing.

READINGS:

- Marvin Chun & Renée Marois (2002). The Dark Side of Visual Attention. *Current Opinion in Neurobiology*, 12(22), 1-6. (neuroscience-review article)
- Mika Koivisto & Antti Revonsuo (2007). How Meaning Shapes Seeing. *Psychological Science*, 18(10), 845-849. (psychology-research report)

Session 10. Eye Movements, Attention, and Perception

The goal of this session is to a) explore the ideas introduced in *Sessions 7 and 8* in greater detail and b) to explore what the study of eye movements teaches us about seeing.

READINGS:

- Michael F. Land and Benjamin W. Tatler (2009). *Looking and Acting: Vision and Eye Movements in Natural Behavior*. New York: Oxford University Press:
 - How Our Eyes Question the World, 33-55.
 - Drawing and Sketching, 75-82
 - Domestic Tasks, 83-100.
 - Hitting a Moving Ball, 151-162.
 - Representations of the Visual World, 183-204.
 - Neuroscience of Gaze and Action, 205-220.

Session 11. Artworks, Attentional Strategies, & Artists' Intentions

The goal of this session is to a) further explore the idea that the purpose of the formal and compositional structure of an artwork is to direct attention to features responsible for its artistically salient effects in greater detail, b) discuss the role artists' intentions play in our interaction with artworks, and c) introduce a related debate within the philosophy of art about the regulative role artists' intentions play in interpretation .

READINGS:

- Mark Rollins. (2004). What Monet Meant: Intention and Attention in Understanding Art (excerpt). *Journal of Aesthetics and Art Criticism*, 62(2), pp. 175-188. (philosophy)

Recommended Reading

- Jerry A. Fodor (1993). Déjà vu all over again: How Danto's Aesthetics Recapitulates the Philosophy of Mind. In ed. Mark Rollins, *Danto and His Critics*. Malden, MA: Blackwell Publishers, pp. 41-54. (philosophy)
- Noël Carroll (2001). Actual and Hypothetical Intentionalism. Reprinted in *Beyond Aesthetics*. New York: Cambridge University Press, pp. 306-317. (philosophy)

Session 12. Memory, Attention, & Imagination:

The goal of this session is to a) explore the role that imagination plays in our engagement with artworks, b) discuss evidence that we adopt, or simulate the perspective of characters when we engage with visual narratives, and c) discuss evidence that the influence of imagination and simulation in narrative contexts is realized by the same sets of attentional processes discussed in *Sessions 8-11*.

READINGS:

- Matthew Kieran (2003). In Search of a Narrative. In eds. Kieran, M, and Lopes, D. M. *Imagination, Philosophy, and the Arts*. New York: Routledge, 69-87. (philosophy)
- Alvin I. Goldman (2006). Imagination & Simulation in Audience Responses to Fiction. In ed. Shaun Nichols, *The Architecture of Imagination*. New York: Oxford University Press, 41-56. (philosophy)
- Nicole K. Speer, Jeremy R. Reynolds, Khena M. Swallow, Jeffrey M. Zacks (2009). Reading Stories Activates Neural Representations of Visual and Motor Experiences. *Psychological Science*, 20(8), 989-999. (neuroscience - research report)

Recommended Readings

- Gregory Currie (1995). *Image and Mind*. New York: Cambridge University Press. (philosophy)
- Alvin I. Goldman (2006). *Simulating Minds: The Philosophy, Psychology, and Neuroscience of Mindreading*. New York: Oxford University Press. (philosophy)
- Noël Carroll, N. (1997/2001). Simulation, Emotions, and Morality. reprinted in *Beyond Aesthetics*. New York: Cambridge University Press, 306-317. (philosophy)
- Jean Decety and Julie Grèzes (2006). The Power of Simulation: Imagining One's Own and Other's Behavior. *Brain Research*, 1079, 4-14. (neuroscience - review article)

Session 13. Discussion: Simulation, Imagination, & Picture Perception

The goal of this session is to a) introduce and explore a range of studies which suggest that motor simulation plays a role in the perception and understanding of static images that depict dynamic events and b) evaluate what impact, if any, this evidence has on the philosophical debate about the role of simulation and imagination in narrative understanding.

READINGS:

- Zoe Kourtzi and Nancy Kanwisher (2000). Activation in Human MT/MST for Static Images with Implied Motion. *Journal of Cognitive Neuroscience* 12, 48-55 (neuroscience-research report)
- Maggie Shiffrar & Jeannine Pinto (2002). The Visual Analysis of Bodily Motion. In (eds.) Wolfgang Prinz and Bernard Hommel, *Common Mechanisms in Perception and Action*. New York: Oxford University Press, 381-399. (psychology - review article)

Recommended Readings

- Jennifer Freyd (1983). The Mental Representation of Movement When Static Stimuli Are Used. *Perception & Psychophysics*, 33(6), 575-581. (psychology - research report)
- Zoe Kourtzi (2004). But still, it Moves. *Trends in Cognitive Sciences*, 8(2), 47-49. (neuroscience-review article)
- Jonathan Winawer, Alexander C. Huk, and Lera Boroditsky (2007). A Motion Aftereffect From Still Photographs Depicting Motion. *Psychological Science*, 19(3), 276-283. (psychology - research report)