

About Perception

Have you ever speculated about the people who feel like they are always late, while others (like us) feel like we have all the time in the world? Or, have you tried to guess what Fido notices about the way you play guitar, or what he understands about you when you dance? Or, whether blue-eyed people see the same colors that brown-eyed people do? Or, how the migrating sea turtles find their way back to Florida, or Panama, or Brazil year after year (and you can just about find your way to Rivington and Ludlow)?

This may come as a surprise, but these musings are about perception. It may also surprise you to learn that there is a long tradition of pondering these questions—not these exact questions, actually, but questions that have the same theme. There is a briefer scientific tradition that concerns us immediately, of direct experimental investigation of the psychology of perception. These studies traverse plenty of disciplines, among them optics and acoustics, chemistry, sensory physiology, neuropsychology, linguistics and philosophy, artificial intelligence, ecology and evolution, ethology, cognitive psychology, and gastronomy. This variety of scientific knowledge has been fundamental to perceptual psychologists precisely because the goal of such studies is to explain the causal processes, beginning with real objects and events, through the senses and the nervous system, which culminate in *the apprehension of the world by the mind*: Perception.

About Psychology 1108x, 1110x

The text required for the course is available at Book Culture (536 West 112th Street):

Schiffman, H. R. (2001). *Sensation and Perception: An Integrated Approach, Fifth Edition*. New York: John Wiley & Sons.

There are numerous required articles in addition to the text which can be found on-line as pdf files at the Courseworks page for *Perception*.

Alper, *Antinoise creates sounds of silence*.

Arlettaz et al., *Effects of acoustic clutter on prey detection by bats*.

Beck, *Perception of surface color*.

Békésy, *The ear*.

Cowell, *The perfect bacon sandwich decoded*.

DeCampi, *The limits of manned space flight*.

Doty, *Communication of gender from human breath odors*.

Ehrsson et al., *That's my hand! Activity in premotor cortex reflects feeling of ownership...*

Gauger & Sapiejewski, *Voyager pilots avoid hearing loss on historic flight*.

Gibson, *Observations on active touch*.

Johansson, *Visual motion perception*.

Kaitz, *Recognition of familiar individuals by touch*.

Kendrick, & Baldwin, *Cells in the temporal cortex of conscious sheep....*

Konkle et al., *Motion aftereffects transfer between touch and vision*.

Kourtzi & Kanwisher, *Representation of perceived object shape...*

Labows, *What the nose knows*.

Lipkin, *Tracking an undersea scent: A robot mimics the lobster's keen sense of smell*.

Miller, *Brain scans of pain raise questions for the law*.

Ohmes et al., *Sensory and physical properties of ice creams...*

Pons, et al., *Massive cortical reorganization after sensory deafferentation...*

Quiroga et al., *Invariant visual representation by single neurons in the human brain*.

Roueché, *All I could do was stand in the woods*.

Roueché, *Impression: Essentially normal*.

Russell, *Human olfactory communication*.

Saldanha & Corso, *Timbre cues and the identification of musical instruments*.

Wurtz, Goldberg & Robinson, *Brain mechanisms of visual attention*.

Agenda

At each class meeting, we will discuss a particular topic in the psychology of perception. An agenda of lectures and reading assignments is listed on an accompanying page.

Exams

There will be three exams during the semester, covering material from the lectures and the readings. Exams will be composed of questions of varied formats (several kinds of short answer). Lecture and reading will receive equal emphasis.

The dates of the first and second exams are already designated (see the agenda). Please review your plans for the Fall Term to determine whether you can be present in class when the exams are scheduled to occur. If you cannot be present in class at the appointed exam times, you may not enroll in this course.

THERE WILL BE NO MAKE-UP EXAMS UNDER ANY CIRCUMSTANCES.

Research Project (Psychology 1110x only)

You are required to investigate a topic of your own choice and to submit a brief report of your discoveries. These reports are due on November 25. Full instructions for the assignment will be distributed at the class meeting of September 21.

Grades

Psychology 1108x: The course grade is a summary of your performance on exams and in laboratory. The lab grade constitutes 25% of the course grade.

Psychology 1110x: The course grade is a summary of your performance on exams and on your execution of the research project.

No student will be given a grade of "Incomplete" without a legitimate medical excuse.

How to Get Into This Course

A provisional class list for Psychology 1108x was created in the Department Permission Procedure held last Spring. A student whose name appears on this list *must* be present at the first class meeting on September 9 to claim a place in class. A student who is absent from class or late in arriving will not be permitted to register for Psychology 1108x. Any places which prove to be available due to absence, lateness or a change in plans will be assigned at this meeting, first to students on the waiting list, thereafter to students who are present and who wish to enroll. No one will be admitted to class after September 9.

The class list for Psychology 1110x will be set at the first class meeting on September 9. A student must be present at that time to be admitted to class. No one will be admitted to class after September 9.

The first meetings of *Perception Laboratory* are at 1:00 p.m. on Monday September 14 and Tuesday, September 15 in 410 Milbank. No student will be permitted to remain in Psychology 1108x if she does not attend the first lab meeting.

PLEASE NOTE: You may take notes in class on a laptop computer in mute mode. However, the use of a flash camera, cell phone, pager, personal digital assistant or other beeping, buzzing, vibrating, clicking and blinking technology is **not** permitted during class meetings of *Perception* unless it is verifiably required to preserve your life. A student whose technological accessories disrupt class will be dismissed from class and a grade of **W** will be assigned for the semester.

PLEASE NOTE: A student who requires accommodation for a specific disability must notify the Office for Disability Services and the instructor at the close of the first class meeting.

Agenda

Date	Lecture Topic	Reading Assignment
9/9	Greetings and Introduction	
9/14	Knowledge & belief	Schiffman: 1
9/16	Beginning to see the light	Schiffman: 2
9/21	Elementary sensations	Schiffman: 3
9/23	Color and contrast	Schiffman: 4, 5; Beck
9/28	Organization!	Schiffman: 6; Johansson
9/30	Landscapes	Schiffman: 7; Kendrick & Baldwin
10/5	The mobile eye, the changing scene	Schiffman: 8; Wurtz et al.
10/7	☞ FIRST EXAMINATION ☞	
10/12	Within arm's length, and beyond	Schiffman: 9; Quiroga
10/14	A general account	Schiffman: 10; Kourtzi & Kanwisher
10/19	Riding the wave	Schiffman: 12; Alper; Gauger
10/21	Place and volley	Schiffman: 13;
10/26	Auditory analysis: Timbre!	Békésy; Saldanha & Corso
10/28	Feast of the bats	Schiffman: 14 (pp. 365-376); Arlettaz
11/2	ACADEMIC HOLIDAY	
11/4	Where's the melody?	Schiffman: 14 (pp. 376-381)
11/9	Wadja say?	Schiffman: 14 (pp. 381-391)
11/11	Which end is up?	Schiffman: 15; DeCampli; Roueché (1958): <i>Impression: Essentially normal</i>
11/16	☞ SECOND EXAMINATION ☞	
11/18	Touched	Schiffman: 16; Konkle et al.
11/23	Pain	Schiffman: 16 (pp. 437-445); Miller
11/25	Get the feel of it ☞ (and, don't forget) ☞	Gibson; Pons et al., Kaitz Research Report Due ☞
11/30	Good taste	Schiffman: 17; Roueché (1977): <i>All I could do...</i>
12/2	Flavor	Cowell; Ohmes et al.
12/7	That haunting fragrance	Schiffman: 18; Labows
12/9	Bad smells	Doty; Russell
12/14	What we still need to know...	Lipkin; Ehrsson
12/15	REQUIRED READING DAY	
	☞ THIRD EXAMINATION OCCURS DURING EXAM PERIOD ☞ (December 16-23, 2009)	

RESERVE READINGS ARE AVAILABLE THROUGH COURSEWORKS

- Alper, J. (1991). Antinoise creates sounds of silence. *Science*, 252, 508-509.
- Arlettaz, R., Jones, G., & Racey, P. A. (2001). Effects of acoustic clutter on prey detection by bats. *Nature*, 414, 742-745.
- Beck, J. (1975). The perception of surface color. *Scientific American*, 233 (2), 62-75.
- Békésy, G., von (1957). The ear. *Scientific American*, 197 (2), 66-78.
- Cowell, A. (2007). London Journal: The perfect bacon sandwich. *The New York Times*, April 11, 2007.
- DeCampi, W. M. (1986). The limits of manned space flight. *The Sciences*, 26 (5), 47-52.
- Doty, R. L., Green, P. A., Ram, C., & Yankell, S. L. (1982). Communication of gender from human breath odors: Relationship to perceived intensity and pleasantness. *Hormones and Human Behavior*, 16, 13-22.
- Ehrsson, H. H., Spence, C., & Passingham, R. E. (2004). That's my hand! Activity in premotor cortex reflects feeling of ownership of a limb. *Science*, 305, 875-877.
- Gauger, D., & Sapiejewski, R. (1987). Voyager pilots avoid hearing loss on historic flight. *Sound and Vibration*, X, 10-12.
- Gibson, J. J. (1962). Observations on active touch. *Psychological Review*, 69, 477-491.
- Johansson, G. (1975). Visual motion perception. *Scientific American*, 232 (6), 76-88.
- Kaitz, M. (1992). Recognition of familiar individuals by touch. *Physiology & Behavior*, 52, 565-567.
- Kendrick, K. M., & Baldwin, B. A. (1987). Cells in the temporal cortex of conscious sheep can respond preferentially to the sight of faces. *Science*, 236, 448-450.
- Konkle, T., Wang, Q., Hayward, V., & Moore, C. I. (2009). Motion aftereffects transfer between touch and vision. *Current Biology*, 19, 1-6.
- Kourtzi, Z., & Kanwisher, N. (2001). Representation of perceived object shape by the human lateral occipital complex. *Science*, 293, 1506-1509.
- Labows, J. N., Jr. (1980). What the nose knows. *The Sciences*, 20, 11-13.
- Lipkin, R. (1995). Tracking an undersea scent: A robot mimics the lobster's keen sense of smell. *Science News*, 147, 78-79.
- McGinnies, E. (1949). Emotionality and perceptual defense. *Psychological Review*, 56, 244-251.
- Miller, G. (2009). Brain scans of pain raise questions for the law. *Science*, 323, 195.
- Ohmes, R. L., Marshall, R. T., & Heymann, H. (1999). Sensory and physical properties of ice creams containing milk fat or fat replacers. *Journal of Dairy Science*, 81, 1222-1228.
- Pons, T. M., Garraghty, P. E., Ommaya, A. K., Kaas, J. M., Taub, E., & Mishkin, M. (1991). Massive cortical reorganization after sensory deafferentation in adult macaques. *Science*, 252, 1857-1860.
- Quiroga, R. Q., Reddy, L., Kreiman, G., Koch, C., & Fried, I. (2005). Invariant visual representation by single neurons in the human brain. *Nature*, 435, 1102-1107.
- Roueché, B. (1958). Impression: Essentially normal. *The New Yorker*, 34(7), 71-90.
- Roueché, B. (1977). All I could do was stand in the woods. *The New Yorker*, 53(30) 97-117.
- Russell, M. J. (1976). Human olfactory communication. *Nature*, 260, 520-522.
- Saldanha, E. L., & Corso, J. F. (1964). Timbre cues and the identification of musical instruments. *Journal of the Acoustic Society of America*, 36, 2021-2026.
- Wurtz, R. H., Goldberg, M. E., & Robinson, D. L. (1982). Brain mechanisms of visual attention. *Scientific American*, 246 (6), 124-135.