

Proposed Course:

The Invention of New Languages

This inter-disciplinary seminar in science and humanities will ask the question:

“Is it possible to create new languages to aid self-expression, communication, and improve understanding of the physical or social world; or to expand the range of artistic accomplishment and communicate or evoke powerful esthetic experience?”

Several additional versions of the question are: Is the English language too restricted for what we want to accomplish? Or the current languages in music, dance, the visual arts? Can the use of computers or other new technologies expand human capabilities for understanding, creativity, self-expression, and communications?

There are no textbooks for the seminar, but we will read Umberto Eco's *The Search for the Perfect Language* and most of John McWhorter's *The Power of Babel: A Natural History of Language*; both are available for purchase in paperback. Other required readings are available on reserve.

Supplemental readings are listed for browsing re topics that may interest you. They are an additional source of ideas for research papers if you select this option (discussed in the following section.)

Examinations

There will be two examinations, a mid-term and a final, weighted equally. Both examinations will be take-home: open book, open note, and unlimited time (distributed a week before they are due) but with page limitations. At your option, a 15-18 page research paper (on a subject of your choice, that is discussed and approved by the instructor) may be presented to the seminar during the final three weeks of the semester, revised, and substitute for the final exam.

I. Introduction

A. Types of Current Written and Spoken Languages (3 Weeks)

Assigned Reading (Weeks 1 and 2)

John H. McWhorter, *The Power of Babel: A Natural History of Language*. New York: Henry Holt and Co., 2001, pp. 1 -129, 177 - 216. The distance that we have traveled, from (perhaps) one to today.

“Classification of Languages” (chapter one) in Anatole V. Lyovin. *An Introduction to the Languages of the World*. New York: Oxford University Press, 1997, pp. 1- 44. Skim.

Umberto Eco, “The Perfect Language of Images” in his *The Search for the Perfect Language*. Translated by James Fentress. 1997 ed. *The Making of Modern Europe*, ed. Jacques Le Goff. Malden, MA: Blackwell Publishers Inc., 1995, pp. 144 - 176.

Supplemental

David Crystal (ed.). *The Cambridge Encyclopedia of Language*. New York: Cambridge University Press, 1987. Brief overview of a wide range of topics: Sign languages; drum and whistle languages; tactile languages; measures of language change; inferring pronunciation of ancient languages, etc.

Mark C. Baker, “Toward a Periodic Table of Languages” in his *The Atoms of Language: The Mind's Hidden Rules of Grammar*. New York: Basic Books, 2001, pp. 157 - 197. Note that classification by rules of grammar is a new approach.

Richard Parkinson, *Cracking Codes: The Rosetta Stone and Decipherment*. Berkeley, CA; University of CA Press, 1999.

Andrew Robinson, *Lost Languages: The Enigma of the World's Undeciphered Scripts*. New York: McGraw Hill, 2002.

See also www.rosettaproject.org re online resources for 1,000+ languages, esp. vanishing languages.

B. Languages and the Human Mind: Causes and Effects (Week 3)

"Although in English I no longer felt the walls of my cell, I did wonder what it might be like to be released into a yet more expansive language, in which my self-expression might be even more fluent and unshackled."

- Douglas R. Hofstadter. *Le Ton Beau De Marot: In Praise of the Music of Language*. New York: Basic Books, 1997, p. 50.

Assigned Reading

Marc D. Hauser, "Language Evolution: Linguists Take a Look," "Language Evolution: Biologists Take a Look," and "Synthesis" in his *The Evolution of Communication*. Cambridge, MA: MIT Press, 1998, pp. 30-70.

John Arthur Lacy, *Language Diversity and Thought: A Reformulation of the Linguistic Relativity Hypothesis* (New York: Cambridge University Press, 1992). [Selections & handouts concerning the Sapir-Whorf hypothesis and recent research, to be determined]

Discussion questions: Concerning versions of the Sapir-Whorf hypothesis, select one of the two following research questions and be prepared to present your thinking at the next meeting of the seminar:

1.) If you could talk to another undergraduate who is a native speaker, or fluent, in a language that assigns gender properties to nouns (or from a culture that speaks about *yin* and *yang* energies in the world) how could you determine if he or she thereby perceives the world differently - *or with greater, the same, or less realism* - than a human being whose only language is English?

2.) Skim Howard Rheingold, *They Have a Word for It: A Lighthearted Lexicon of Untranslatable Words and Phrases*: Sarabande Books,

2000 (on reserve). For class, invent & define two new words that might help us to think with greater *clarity* and *realism* (or properties, of your choice).

Supplemental Reading

Terrence W. Deacon, "Why Don't Mammals Sing Like Birds?," in his *The Symbolic Species: The Co-Evolution of Language and the Brain*. New York: W. W. Norton, 1998, pp. 236 - 247. Et passim.

Noam Chomsky, *New Horizons in the Study of Language and Mind*. NY: Cambridge University Press, 1990.

Eric A. Havelock, *The Muse Learns to Write. Reflections on Orality and Literacy from Antiquity to the Present*. New Haven: Yale University Press, 1986. For example (p. 98): "A special theory of Greek literacy involves the proposition that the way we use our senses and the way we think are connected, and that in the transition from Greek orality to Greek literacy the terms of this connection were altered, with the result that thought patterns were altered also, and have remained altered, as compared with the mentality of oralism, ever since." Parallel questions arise about the effects of new technologies and media in today's world.

Carl G. Jung. *Selected Writings*. NY: Book of the Month Club, 1997, pp. 247-284. Re a possible universal language of archetypes.

II. Thinking More Broadly (3 weeks)

"We human beings, in order to be who we are, remain within the essence of language to which we have been granted entry. We can therefore never step outside it in order to look it over circumspectly from some alternative position. Because of this, we catch a glimpse of the essence of language only to the extent that we ourselves are envisaged by it. . . In order to think back to the essence of language . . . we need a transformation of language."

- Martin Heidegger, "The Way to Language" in his *Basic Writings*. Translated

by David Farrell Krell. Revised and expanded edition, ed. David Farrell Krell, 1993, p. 423 - 424.

A. Animal Communications

Assigned Reading

Thomas Nagel, "What is It Like to Be a Bat?" Philosophical Review, 83:4 (October, 1974), pp. 435-450.

Howard C. Hughes. *Sensory Exotica: A World Beyond Human Experience*. Cambridge, MA: MIT Press, 1999. Sections on communications via pheromones in mammals, pp. 260 - 302; animal abilities to sense variations of magnetic fields, pp. 153-170; sonar and dolphin communication, pp. 85-107; epilogue, pp. 306-316.

Marc D. Hauser, "Social Signals: Nonhuman and Human Primates" in his *The Evolution of Communications*. Cambridge, MA; MIT Press, 1998, pp. 175 - 266. Skim. Note the use of new digital algorithms and other scientific methods to analyze and decode nonhuman auditory communications.

B. Designs for the Perfect Human Language (2 weeks).

"The story of the search for the perfect language is the story of a dream and of a series of failures. Yet that is not to say that a story of failures must itself be a failure."

- Umberto Eco

Assigned Reading

Umberto Eco, read "From Adam to Confusio Linguarum," pp. 8 - 24; "Philosophical Languages," pp. 209-316; and skim "Esperanto and International Auxiliary Languages," pp. 317-336 in his *The Search for the Perfect Language*, op. cit.

Supplemental Reading

David Kahn, *The Codebreakers: A History of Secret Writing*. New York: Scribner, 1996. The search for the perfect code.

C. Alien & Alien/Human Communications

Assigned Reading

Umberto Eco, *ibid.*, "Images for Aliens," pp. 176 - 177 re NASA's project.

- Several classic science fiction writers make serious efforts to imagine alien communication systems (e.g., Samuel Delaney's *Babel 17*. New York: Vintage Books, 2002. Reprint edition), and there are thoughtful discussions in some stories of a first contact between humans and aliens. A recent example is Ted Chiang, "Story of Your Life." In *Nebula Awards Showcase 2001: The Year's Best Sf and Fantasy Chosen by the Science Fiction and Fantasy Writers of America*, ed. Robert Silverberg. New York: Harcourt, 2001, pp. 2-48. If you have read any of these stories, you might want to refresh your memory and think of any points that might inform class discussion of new & better alternatives for the human race. Yes, Star Trek episodes and other television programs or films are acceptable - *if* there has been a serious (and at least moderately detailed) effort by a writer to envision an alternative system.)

Supplemental Reading

"Paranormal Phenomena" in Daniel Druckman and John A. Swets, eds. *Enhancing Human Performance: Issues, Theories, and Techniques*. Washington, DC: National Academy Press, 1988, pp. 169-208.

See also David Kahn (cited above) on decoding techniques and the search for communications from other planets.

MID-TERM EXAMINATION

III. Languages for Art: Self-Expression & Esthetic Experience (3 weeks).

A. Introduction: Art as Language & the Question of What Gets Through

"What is spoken is never, in any language, what is said."

- Martin Heidegger. "The Way to Language" in Martin Heidegger. *Basic Writings*. Translated by David Farrell Krell. Revised and expanded edition, ed. David Farrell Krell, 1993, p. 393.

"Not a tenth of the power of poetry is released for the general benefit, indeed, not a thousandth part. It fails not through its own fault, but through our ineptitude as readers. Is there no means to give the 'educated' individual a better receptive command. . . ?"

- I. A. Richards, Practical Criticism, cited below, p. 302.

One of the first steps, to improve languages for the creative and performing arts, is to understand what - in reality - already is being said or communicated to an audience, and how?

One of the related challenges is the education of audiences or users who can understand new languages.

Assigned Reading

Joseph Margolis, "Art as Language," pp. 376-389 in *What Is Dance? Readings in Theory and Criticism*, ed. Roger Copeland and Marshall Cohen. New York: Oxford University Press.

Bruce F. Kavin, "Film as a Language," in his *How Movies Work*. Berkeley, CA: University of California Press, 1992, pp. 54-58 and "Organizing the Filmed World," ibid., pp. 97-102.

Richard Wagner, "Outlines of the Artwork of the Future" (1849). In *Multimedia: from Wagner to Virtual Reality*, ed. Randall Packer and Ken Jordan, New York: Norton, 2001, pp. 3-9.

I. A. Richards, "Summary," pp. 291 - 302 in his *Practical Criticism: A Study of Literary Judgment*. Reissue ed. New York: Harvest Books, 1956. Skim. What was discovered when Harvard undergraduates were invited to comment freely upon examples of poetry, without knowing the authorship.

Assignment: *What do artists really communicate?* For class, pick a current song that you and/or your friends listen to on the radio or via the Internet. What is it saying to you - or producing, or communicating, as an esthetic experience? Ask another person this same question. Be prepared to discuss the result of your investigation in class.

(Another way to think about this assignment is the following analogy: If you visit a foreign country, it will be easy to recognize that you cannot understand the language. But if you listen to a piece of music and cannot relate to it, or are uninterested, bored, confused, or do not like it, how do we know if we understand it? Or if the problem is the artist's?)

Supplemental Reading

Harold Bloom, *The Western Canon: The Books and School of the Ages*: Riverhead Books, 1995. Is there a core list of the best esthetic experiences, that establish an upper bound of what has been achieved and a baseline against which to measure progress created by new languages?

Paul Williams. *The Twentieth Century's Greatest Hits: A 'Top 40' List*: Forge, 2000. Esthetic experiences in popular culture.

Sight and Sound, "The Greatest Films of All Time," expert polls regularly compiled by this British film magazine since the 1950s, reprinted in Roger Ebert, *Robert Ebert's Book of Film: From Tolstoy to Tarantino, the Finest Writing from a Century of Film*. New York: Norton, 1997, pp. 779 - 781. The film *Citizen Kane* has been at the top of these lists for many years: for a discussion of why it is so admired in the evolving language of film, see Kawin's "Citizen Kane," pp. 102-110 in his *How Movies Work*, cited above.

Diana Deutsch (ed.), *The Psychology of Music*, 2nd edition. New York: Academic Press, 1998. New lines of research, including the scientific design of concert halls and the musical experience.

B. Art and Communication in Societal Settings (1 week)

“Music is not merely a rhythmic arrangement of notes, but derives its life from the matrix of silence out of which it arises and into which it inevitably flows. And it is the silence between the notes that gives them meaning and grace. . . . When chant music stops . . . an audible silence reverberates throughout the room . . . This silence is not merely sound’s absence, but a mysterious presence. . . our origin and our home.”

- David Steindl-Rast and Sharon Lebell.
Music of Silence: A Sacred Journey through the Hours of the Day, cited below, p. 115.

Assigned Reading

E. M. W. Tillyard, excerpt from "The Elizabethan World Picture (1943)." In *What Is Dance? Readings in Theory and Criticism*, ed. Roger Copeland and Marshall Cohen. New York: Oxford University Press, pp. 497-502.

William Benzon, chapters on “Musicking the World,” and “Music and Civilization” in his *Beethoven’s Anvil: Music in Mind and Culture*. New York: Basic Books, pp. 199 - 249

David Steindl-Rast and Sharon Lebell. *Music of Silence: A Sacred Journey through the Hours of the Day*. Paperback ed. Berkeley, CA. Ulysses Press, 2002. pp. 115-116, xxvii-xxviii, 1-17. [Music, meaning, and experience in monastic life.] Skim.

Supplemental Reading

Charles Murray, *Human Accomplishment: The Pursuit of Excellence in the Arts and Sciences*. New York: Harper Collins, 2003. [A useful introduction to scientific methods to identify historic achievements and to research cultural, political, economic, and social determinants of creative and other accomplishment.]

Charles A. Braitwaite, “Cultural Uses and Interpretations of Silence” in Laura K. Guerrero, Joseph A. DeVito, and Michael L. Hecht (Eds.) *The Nonverbal Communication Reader: Classic and Contemporary*

Readings. Prospect Heights, IL: Waveland Press, 1999. Second edition, pp. 163 - 172

Umberto Eco. *Semiotics and the Philosophy of Language*. Bloomington, IN: Indiana University Press, 1986. Reprint edition. [The recognition and interpretation of meanings in social settings.] See also Erving Goffman, *The Presentation of Self in Everyday Life*. New York: Anchor, 1959.

Bruce Corley and Steve Lemke (eds.) *Biblical Hermeneutics*. Broadman & Homan, 1996. Understanding what the Bible (or any text) really means. A cumulative discussion for many of the West's brightest people, for many centuries.

Robert E. Pittinger et al., *The First Five Minutes: A Sample of Microscopic Interview Analysis*. Ithaca NY: P. Martineau, 1960.

Assignment: Note that languages-in-use can create meanings that are different than their dictionary definitions. For homework, create three ways to say the words "No" or "Dude" with meanings (that could be understood by people in the seminar) that are not included in the unabridged dictionary.

C. Criteria: What are Artists (and Audiences) Trying to Achieve? (1 week)

"Whereof one cannot speak, thereof one must be silent."

- Ludwig Wittgenstein, *Tractatus Logico-Philosophicus*

Steindl-Rast & Lebell (above) and the writers (assigned) below discuss a range of goals and criteria for artistic communications: entertainment; self-expression; being in the presence of beauty and being inspired or uplifted by it; creating the experience of truth in the mind of the reader; money-making; cultural or ideological validation; political change; evocations and liberations or personal growth in the listener; happiness, therapy, and spiritual healing; knowing more people (and more fully) than is possible in normal life; remarkable (usually temporary) transformations of the experience of time & reality. Etc. For class, make a list of these

purposes that could be better served by better languages, based on these readings and your own thinking.

Assigned Reading

Harold Bloom, "Why Read?" in his *How to Read and Why*. New York: Simon and Schuster, 2001, pp. 21-29.

Leonard Bernstein. *The Unanswered Question: Six Talks at Harvard*. Cambridge, MA: Harvard University Press, 1981. DVD version. Select one of the talks and be prepared to summarize and discuss it for the other members of the seminar.

Sting, "Graduation Address to the Berklee College of Music, May 15, 1994." In *Graduation Day*, ed. Andrew Albanese and Brandon Trissler, New York: Morrow, 1998, pp. 26-29. Notice Sting's question about the design of silences, and what becomes present in the silences.

Supplemental Reading

Francis-Noël Thomas and Mark Turner, *Clear and Simple as the Truth*. Princeton, NJ: Princeton University Press, 1996. Reprint edition.

Friedrich Nietzsche. "Nietzsche Contra Wagner." In *The Portable Nietzsche*, ed. Walter Kaufman, 661-683. New York: Penguin, 1982, pp. 664-667.

Douglas R. Hofstadter. *Le Ton Beau De Marot: In Praise of the Music of Language*. New York: Basic Books, 1997. Re-achieving the best translation, by a computer scientist.

[The following weeks will begin research reports from seminar members and discussions. 🗣️ At least one question from the research presentations will be included on the final exam.]

E. Inventing Technologies for Thought and Communication:

Cyberspace, New Languages, Virtual Reality, and Beyond (2 weeks)

“The hope is that, in not too many years, human brains and computing machines will be coupled together very tightly, and that the resulting partnership will think as no human brain has ever thought and process data in a way not approached by the information-handling machines we know today.”

- Roy Licklider, from “Man-Computer Symbiosis,” cited below.

Are the available technologies for artistic creation too limited and primitive for what artists or audiences want to accomplish? Would technologies for virtual reality be the better artistic tool?

We will visit a Virtual Reality lab, with a guest lecture, to explore emerging options at first hand.

Assigned Readings - Inventing New Technologies (1 Week)

J. C. R. Licklider, "Man-Computer Symbiosis (1960)." In *Multimedia: from Wagner to Virtual Reality*, ed. Randall Packer and Ken Jordan. New York: Norton, 2001, pp. 55-63.

Mark C. Baker, “Baking a Polysynthetic Language” in his *The Atoms of Language: The Mind's Hidden Rules of Grammar*. New York: Basic Books, 2001, pp. 85 - 121.

Marc D. Hauser, “How to Build Communicating Organisms: Thinking Like an Evolutionary Engineer,” in his *The Evolution of Communication*. Cambridge, MA: MIT Press, 1998, pp. 638 - 653. Possibly a good approach to the design of new computer languages that help human beings to be more effective.

Assigned Reading - Current Experiments (1 Week)

Janet Horowitz Murray, “Introduction: A Book Lover Longs for Cyberdrama,” “Part I: A New Medium for Storytelling,” and “Part II: The Aesthetics of the Medium” in her *Hamlet on the Holodeck: The*

Future of Narrative in Cyberspace. Cambridge, MA: MIT Press, 1998, pp. 1-184. Skim.

Supplemental Readings

Edward Tufte. *The Visual Display of Quantitative Information*. Graphics Press, 1992. See also his related books, e.g., *Envisioning Information* (1990), *Visual Explanations* (1997), *The Cognitive Style of PowerPoint* (2003) from the same publisher. How new technology and new visual display systems may improve thinking and communications.

Randall Packer and Ken Jordan, eds., *Multimedia: From Wagner to Virtual Reality*. Expanded edition. New York: Norton, 2002. See also their Website, www.artmuseum.net.

Jef Raskin, *The Humane Interface: New Directions for Designing Interactive Systems*. New York: Addison-Wesley/Pearson, 2000.

Grigore C. Burdea and Philippe Coiffet, *Virtual Reality Technology*. Second edition (with CD-ROM). New York Wiley & Sons, 2003. A comprehensive technical book.