

References Vision



•) Wine tasting experiment

Gottfried J & Dolan R (2003) The nose smells what the eye sees: crossmodal visual facilitation of human olfactory perception Neuron 39: 375 - 386

Morrot, G et al (2001) The color of odors Brain & Lang 79: 309 - 320

• Information about the visual system can be found in a variety of textbooks. Three I used a lot:

Carlson, NR (2007)
Physiology of Behavior (Ninth Edition)
Pearson (NY)
pp. 168 - 209

Wolfe, JM et al (2006 Sensation and Perception Sinauer Assoc, Inc (Baltimore, Md) pp. 76 - 154

Principles of Neural Science, 4th edition

•) "Movies" and the retina

Roska, B *et al* (2006) Parallel processing in retinal ganglion cells: how integraiotn of space-time patterns of excitiation and inhibition form the spiking output

J. Neurophys 95: 3810 - 3822

Fried, SI *et al* (2005) Directional selectivity is formed at multiple levels by laterally offset inhibition in the rabbit retina *Neuron* 46: 117 - 127

•) Motion blindness story

Ramachandran, VS & Blakeslee, S (1998)

Phantoms in the Brain

HarperCollins (NY)

p. 72

•) Blind spot description

Komatsu, H. (2006) The neural mechanisms of perceptual filling-in Nature Reviews Neuroscience 7: 220 - 231

•) Charles Bonet syndrome

Ramachandran, VS & Blakeslee, S (1998)

Phantoms in the Brain

HarperCollins (NY)

p. 72

Plummer, C (2007) Of Roman Chariots and goats in overcoats: the syndrome of Charles Bonnet J. Clin Neurosci Apr 9 (in press at time of writing)

Menkhaus, S et al (2003) Charles-Bonnet Syndrome Ophthalmologe 100: 736 - 739

•) Interpolating binocular images

Poggio GF & Poggio T (1984) The analysis of stereopsis Ann Reve of Neurosci 7: 379 - 412

Devlin, K. (2005) The Math Instinct Thunder's Mouth Press (NY) pp. 128 - 132

•) Interpolating binocular images

Poggio GF & Poggio T (1984) The analysis of stereopsis Ann Reve of Neurosci 7: 379 - 412

•) We can hold about 4 objects in visual working memory, though object complexity is a confounder.

Narain, C (2006) Total Recall Nat Neurosci 9: 302

Xu, Y & Chun, MM C (2006) Dissociable neural mechanisms supporting visual short-term memory for objects Nature 440: 91 - 95

•) Recognition for 2,500 pictures

Standing, L et al (1970)
Perception and memory for pictures - single-trial learning of 2,500 visual stimuli
Psychon. Sci 19: 73 - 74

- •) 63% accuracy a year later Nickerson, RS (1968) A note on long-term recognition memory for pictorial material Psychon. Sci 11(2): 58
- •) Still recognizable 3 decades later

Read JD & Barnsley RH (1977) Remember Dick & Jane? Memory for elementary school readers Canadian Journal of Behavioral Science 9(4): 361 - 370 •) Pictures better than words

Stenberg, G (2006) Conceptual and pereptual factors in the picture superiority effect Eur J. of Cog Psych 18(6): 813 - 847

Endestad, T et al (2003) Memory for pictures and words following literal and metaphorical decisions *Imagination, Cognition and Personality* 23 (2,3): 209 - 216

McBride, DM & Dosher, AB (2002) A comparison of conscious and automatic memory processes for picture and word stimuli: a process dissociation analysis *Cons Cogn* 11(3): 423 -460

•) Identifying letters as opposed to individual words

Pelli, DG et al (2003) The remarkable inefficiency of word recognition Nature 423: 752 - 756

•) All references to infant information processing

Gopnik, A.et al (2000) The Scientist in the Crib William Morrow

•) Olfactory genes and color vision

Holden, C (quoting N Dominy) (2004) An Eye for a Nose Science 303: 621

Gilad, Y. et al (2004) Loss of olfactory receptor genes coincides with the acquisition of full trichromatic vision in primates PloS Biol 2: E5

•) Olfactory genes and four-fold rate over any other creature

Gilad, Y et al (2003) Human specific loss of olfactory receptor genes Proc Natl Acad Sci USA 100: 3324 -3327

•) Animation and graphics references

Najjar, LJ Principles from the Behavioral and Cognitive Sciences Educational Technology Publications, Englewood, Cliffs (NJ), pp. 55 - 126

Najjar, LJ (1998) Principles of educational multimedia user interface design Human Factors 40(2): 311 - 323

•) The characteristics of the learning materials can significantly affect how people learn things

Bransford, JD (1978) Contextual prerequisites for understanding: some investigation of comprehension and recalls J Verb Learn & Verb Behav 11: 717 – 726

•) Limited evidence suggests that some media are better at communicating some types of information than others

Nugent, GC (1982) Pictures, audio and print: symbolic representation and effect on learning Educ Com & Tech J.30: 163 – 167

- PSE gets wiped out if the pictures are too conceptually similar Nelson, DL (1979)
 Pictorial superiority effect. *J of Exp Psych: Hum Learning* & Memory 2: 523 528
- •) Pictures seem to work best for

people who do not have a lot of background (are naïve learners) or are of low aptitude. This seems to be true of all ages and a broad variety of students.

- automobile mechanics (college age) Mayer, RE & Gallini, JK (When is a picture worth a thousand words? J. of Educ Psych 82: 715 – 726
- natural science (fifth graders) Kraft ME (1961) A study of information and vocabulary achievement from teaching of natural science by television in the fifth grade Unpublished dissertation, Boston University
- basic training information to army recruits (high school)
 Kanner JM & Rosenstein, AJ (1990)
 Television in army training: color vs. black and white
 AV Comm Rev 8: 243 252
- •) Pictures seem to work better for older audiences than younger audiences. Seven year olds did better than three year olds. Adults did better than seven year olds.
- Shown with TV commercials Stoneman, Z & Brodyg GH (1983) Immediate and long-term recognition and generalization of advertised products as a function of age and presentation mode Dev Psych 19: 56 - 61
- Shown with picture recognition Hoffman CD & Dick SA (1976) A developmental investigation of recognition memory Child Dev 47: 794 - 799
- •) Print media research

Pieters, R & Wedel, M. (2004)

Attention capture and transfer in advertising: brand, pictorial, and text-size effects
J. of Marketing 68(2): 36 -50

•) Tufte references

Shermer, M (2005) The Feynman-Tufte Principle Scientific American, April, 2005 p. 38

Tufte, E (2003) PowerPoint is Evil Wired 11(9): September, 2003

•) PowerPoint history and facts

Park, I (2001) Absolute PowerPoint New Yorker, May 28, 2001 p. 76