The channel for reading

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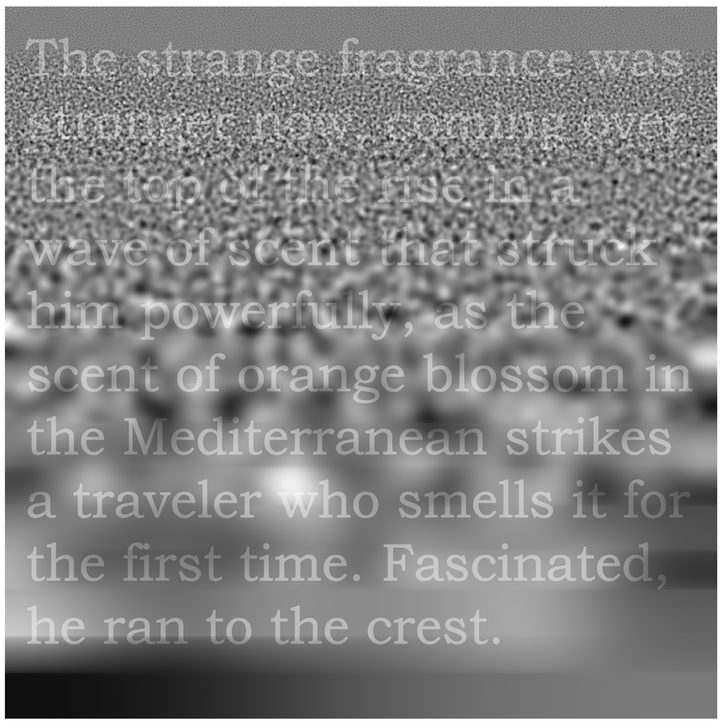
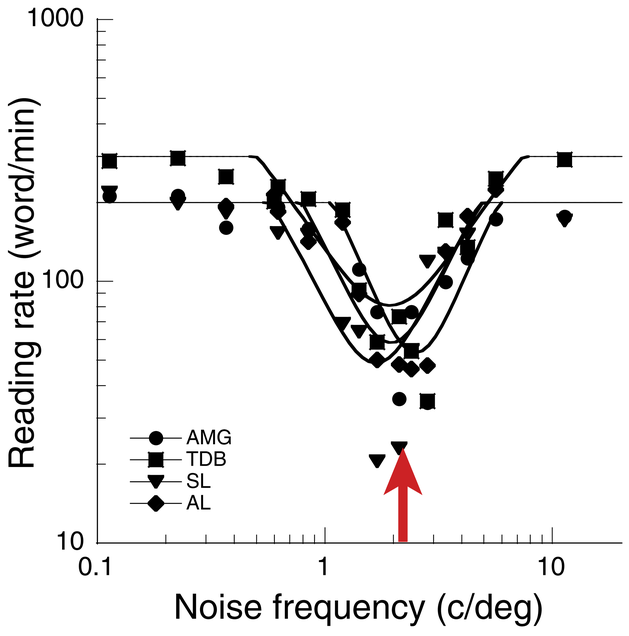
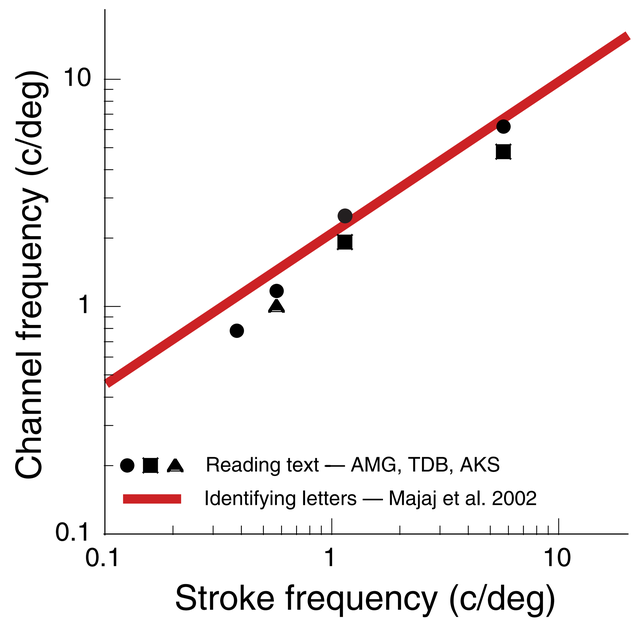
Letter identification is mediated by just one spatial frequency channel (Solomon and Pelli, 1994). But what about reading? We wondered whether larger features, e.g. words, at lower spatial frequencies are used when reading text. The demo shows text on a background of narrowband noise varying in spatial frequency from top to bottom. Try reading it. You read quickly at the top, slow down in the middle, and speed up again at the bottom. The middle frequencies impair reading most, just as found with letter identification (Majaj et al. 2002). No channel tuned to words was revealed.

Solomon, J. A., & Pelli, D. G. (1994). The visual filter mediating letter identification. *Nature, 369,* 395-397.
Majaj, N. J., Pelli, D. G., Kurshan, P., & Palomares, M. (2002). The role of spatial frequency channels in letter identification. *Vision Research, 42,* 1165-1184.

The channel for reading is at the same spatial frequency as the channel for letter identification, ... even when we vary size.







http://psych.nyu.edu/pelli/docs/majaj2003vss.pdf