

Week 14 Presentation: Stereograms & Size Constancy

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Introduction:

This presentation examines Bela Julesz's pioneering work on cyclopean perception using random-dot stereograms and the classic psychophysics of size constancy.

Brainstorming Questions:

1. **The Coughing Radio:** Have someone cough loudly while you are saying a sentence. Did the listener hear the missing word anyway? Explain, as if you were talking to, your grandma that her brain is a “polite editor” (Phonemic Restoration) that fills in missing sounds so smoothly she doesn’t even notice the gaps, just like autocorrect for her ears.
2. **The Soldier vs. The Crowd:** Listen to a random clatter vs. a drum beat. Why is one noise and the other music? Explain, as if you were talking to, a child that music is “organized sound” that our brain likes to predict. Use an analogy of marching soldiers (music) coming down the street vs. a disorganized crowd of people (noise) bumping into each other.
3. **The Party Challenge:** Put on earmuffs and try to listen to one person talking at a loud party. Exhausting, right? Explain, as if you were talking to, your grandfather why hearing loss makes him so tired. Tell him his brain has to work out like a bodybuilder just to separate the “voice” from the “noise” without the clear signal, which consumes all his energy.

Recommended Readings:

- Julesz, B. (1971). *Foundations of cyclopean perception*. University of Chicago Press.
- Holway, A. H., & Boring, E. G. (1941). Determinants of apparent visual size with distance variant. *The American Journal of Psychology*, 54(1), 21-37.