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1/21/2013

Week 1

**Reading 1: KSJ Chapters 21, 26, and 27; Palmer Ch 1,2 and 4 sec 1**

I must preface this by saying that I haven't purchased the Palmer book yet, so this journal only pertains to the readings from KSJ. I apologize for that, and will find a place to buy it as soon as possible.

I took the advice of this week's syllabus and started with Chapter 21 of KSJ, and it turned out to be a very fun read. It proved very useful as well in its discussion of the schools of thought being applied to sensation. These schools of thought helped me understand vision (and other senses) in a computational way by breaking down the organizational patterns and structures of cognition. The chapter also introduced me to the fundamentals of psychophysics, and this allowed me to better interpret the complexities of sensation. All of this has culminated in a deeper understanding of our ability as humans to deal with data, and as I get further into Computational Neuroscience I see that as a must.

After the initial introduction I started Chapter 26, whose purpose is to begin the story of how light from our environment transforms into something meaningful. Through diagrams and description it detailed how light enters our eyes through the lens of the cornea, and are then projected onto a retinal sheet of sensory neurons before being sent further on. The chapter also explained the purpose of rods and cones, and how changes in their membrane potential signal a response in the ganglion cells. An important fact from this chapter was the ganglion cells' ability to respond to differences within their sensory field, an ability which aids in motion and edge detection. The chapter starts to delve into the biological structuring of our vision processing system, but the meat of this is handled in Chapter 27.

This chapter went much further into the biological structures and formations that aid the higher centers of our brain in handling data from the eyes. The mention of columns and hypercolumns surely has relevance when discussing the Binding Problem, and understanding the “preprocessing” our brains do during vision gave me a better appreciation of our (thankless) ability to see. The concepts from this week's reading provide glue I'll use in assembling what I've learned so far, and once I have some sort of big picture it will be easier to understand the smaller details of sensation.