Review of Week 6

COGS1 – Winter 2017
Important Announcements:

- No lecture or sections on Monday, February 20, 2017 – President’s Day Holiday.
- Students from Monday sections are welcome to attend Wednesday or Friday sections week 7.
- EC-Reading Quiz – on Tuesday (Feb 21) from 3pm to Wednesday (Feb 22) 10:45am
- Sections are optional week 7.
- Quiz F will be administered online via TritonEd. Quiz F will be available from 3pm on Friday (February 24) to 6pm on Saturday (February 25).
- Announcements and reminders will be made via TritonEd. If you have any concerns please advise.
- Remember: Midterm 2 is on Monday, February 27! It will cover material from weeks 4-6.
Reading for Week 7 - How Babies Think
Remember ... there are video links posted

Links from lectures
- cortical.io - a model of converting words into semantic fingerprints
- Split Brain - Gazzaniga - Part 1
- Split Brain - Gazzaniga - Part 2
- It's A 3-Way Street
- Mirror Neurons - NOVA ScienceNow
- Epigenome: The symphony in your cells - Nature
What is Mindsight and Mindblindness? Why is ‘mind reading’ important?

What happens when a monkey who observes a goal directed activity (such as eating an apple) to the activity in their pre-motor cortex?

What role do pre-motor cortex, M1, and spinal motor neurons have in performing an action?

Is Mirror Neuron (MN) activity dependent on one’s expertise (Ballet vs. Capoeira)?

Discuss the Sally-Anne False Belief Task – how does that provide insight into Theory of Mind?
What is the functional significance of social cognition?
What is Theory-Theory? What is simulation theory? What is “mindblindness”?
What is subjective experience?
What is the social brain hypothesis?
What evidence was discussed in lecture and in your readings that there exists neural systems specifically for imitation and mimicry?
What is the principal means for conveying socially relevant information?
What are the consequences of having damaged simulation systems?
What brain area (from lecture) discharged when a monkey performed an action and when it observed a similar action? What type of action activated it?

What is mu rhythm? What is mu rhythm suppression? How was it measured? Why is it important to the experiment?

How did controls (neurotypicals) compare with autistic individuals in their ability to suppress the mu rhythm?

What is neurofeedback?
How are mirror neurons defined? (Think: action, observation, execution, goals.)

How are the intentions of others understood – what contribution do mirror neurons make towards this understanding? Which experiment was discussed in class?

What is the relationship between decoding facial expressions and mirror neuron activity?

Strokes: what is the difference between hemorrhagic and ischemic strokes? What is the difference between hemiparesis and hemiplegia? Why would one act FAST if you saw someone having a stroke?

What is the relationship between premotor cortex, M1, and spinal motor neurons.

What is Mirror Therapy? Why might it be useful for patients who have hemiparesis?

What are the regions associated with the “core mirror neuron circuit”?

Discuss Mukamel’s work recording from mirror neurons in humans - describe the following: (a) experimental setup; (b) the findings; and (c) the implications.