

- **Brain Localisation and Architecture of the Mind**
 - **Phrenology** = at the time, was a fantastic revolution
 - Put the "mind" into the brain rather than the heart for the first time
 - Started localisation of function
 - **The modularity hypothesis** = our mental life is made possible by the orchestrated activity of multiple cognitive processors, or modules
 - Every module has its own form of processing
- **The concept of modularity**
 - Same lesion can cause vastly different effects in different areas
 - Different networks work alone but also together
- **** Important question: **How do we know there are modules?** ****
 - **Broca** = found Broca's area, which is involved with speech production
 - Came from a patient named Tantan, whose post-mortem examination found a small lesion in a specific area
 - Tantan could understand most speech, but could not really produce it
 - **Wernicke** = had a patient who was almost continuously speaking but could barely understand anything
 - Found a lesion in a different area, which proves that there are many different modules for "one" function, such as the production and comprehension of speech
- Cognitive models = hierarchal
 - Little mermaid had Agnosia -- which literally translates to "no" or "lack of" in Greek...because she failed to speak and recognised objects for things that they were not
- **Scenesence** = the process of growing old...proceeds for a long period, thus for more than half the average life span, the standards of normal functioning are in inclination or declination...what is normal at one age can be abnormal at another
- **Bicycle drawing activity**-- shows some of process of a common neurological experiment
 - Collect norms (bicycles we drew) and run a task analysis
 - Find out what normal people do that the patient does not
 - Their performance must be out of the range of normality to be considered a deficit
- **The Logic of Dissociation** - central to the logic of relating normal functioning to the effects of brain injury is the concept of dissociations...a dissociation occurs when a patient performs very poorly on a task and normally on or at a higher level on another task. We could argue that different cognitive processes are involved in each case
- Lecture 4
 - **The Logic of Dissociation**
 - Occurs when a patient performs poorly on a task but normal on another
 - Single dissociation
 - Whatever part of the brain performs poorly cannot be associated with the part that does well
 - **Fusiform gyrus** = faces
 - **Facial recognition** -- red riding hood
 - Can tell if a face is old/young, but cannot recognise if it is their friend or not...vice-versa
 - Can either recognise details or recognise familiar faces
 - This shows that there are at least 2 processing parts for faces in the brain because of double dissociation
 - **Prosopagnosia** = face deficit...umbrella term = although there are several different kinds of facial recognition deficits, they can all be described under this one term
 - **Double Dissociation** = when there are two participants, and where one performs well on task A, the other performs poorly, and then vice-versa (x graph)
 - Shows that task A and task B are run by different systems
 - The Problem with **Resource Artefacts** -- words example
 - The words used in a memory experiment can make it more difficult/easy to score within the normal range
 - **Clinical Double Dissociation** - when two patients show opposite effects
 - One patient does well on task A and bad on task B, the other does the reverse
 - Single = when one patient performs well on one task and poorly on another
 - **Neglect (visuo-spatial)** - when people have a lesion in the right hemisphere, they have results on the left
 - People fail to attend to one side of the environment
 - Patient only ate the right half of the food on his plate
 - Not an issue with vision or the eyes, but rather with attention to space
 - **Definition:** the failure to report, respond etc. to novel or meaningful stimuli presented to