PSYCO 375 A1
Lecture 4
Visual Object Recognition: Part II

University of Alberta
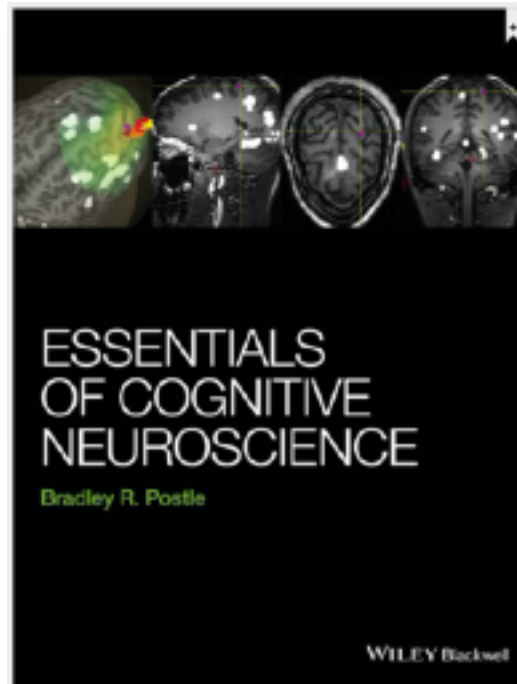
James Farley, Fall 2020

PDP Models
How They Work

METHODOLOGY BOX

9.1 Parallel distributed processing (PDP) modeling of cognition

ESSENTIALS OF COGNITIVE NEUROSCIENCE

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- We talked about two broad classes of models last lecture: **cognitive models** and **structural/ neurological models**

  - Note that what I'm calling a 'neurological' model can be referred to by slightly different terms, e.g neuropsychological model, systems neuroscience model, etc…. don't worry too much about the names but rather focus on how these two broad categories of models differ

- One type of model that (debatably) could be considered intermediate between the two named above is a '**Parallel Distributed Processing**' (**PDP**) model

  - Knowledge is represented in the _distributed pattern of activity_ of many **units** (or 'nodes')

  - **Weights** (values between 0 and 1) at each of the many **connections** determine how signals sent from a given unit will either increase or decrease the activity of the next unit when transmitted through that particular connection