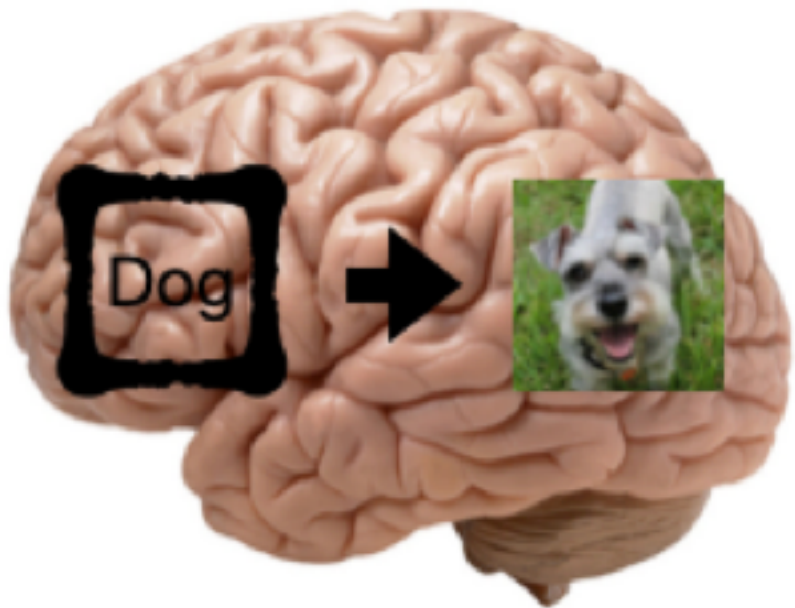
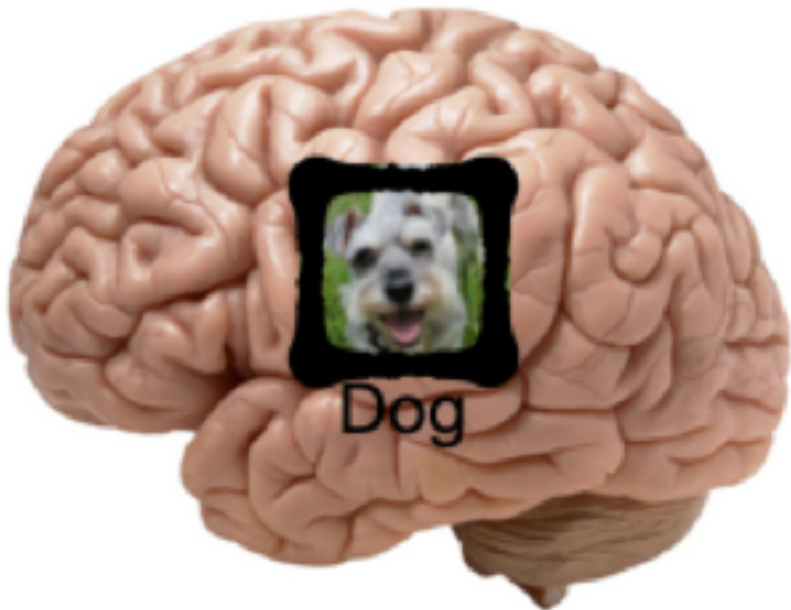




How They Represent Information

- Think back to the first few slides of the last lecture, in which the question of whether knowledge can be thought of as being stored in an '**amodal**' form (independent of any one modality, not constrained to vision, hearing, etc.) that is then applied to representations in specific modalities
  - This could be contrasted with the two being less clearly separable (i.e. conceptual and sensory-based representations are not entirely distinct but rather somehow one and the same)
- This is all a bit abstract in some ways but consider the fact that the way a PDP model works doesn't seem very compatible with the idea that having learned what a 'dog' is could be attributed/localized to any one (or other small number) of units (which, remember, are like neurons in many ways)





Dog

**Vs**



**RDPModels**

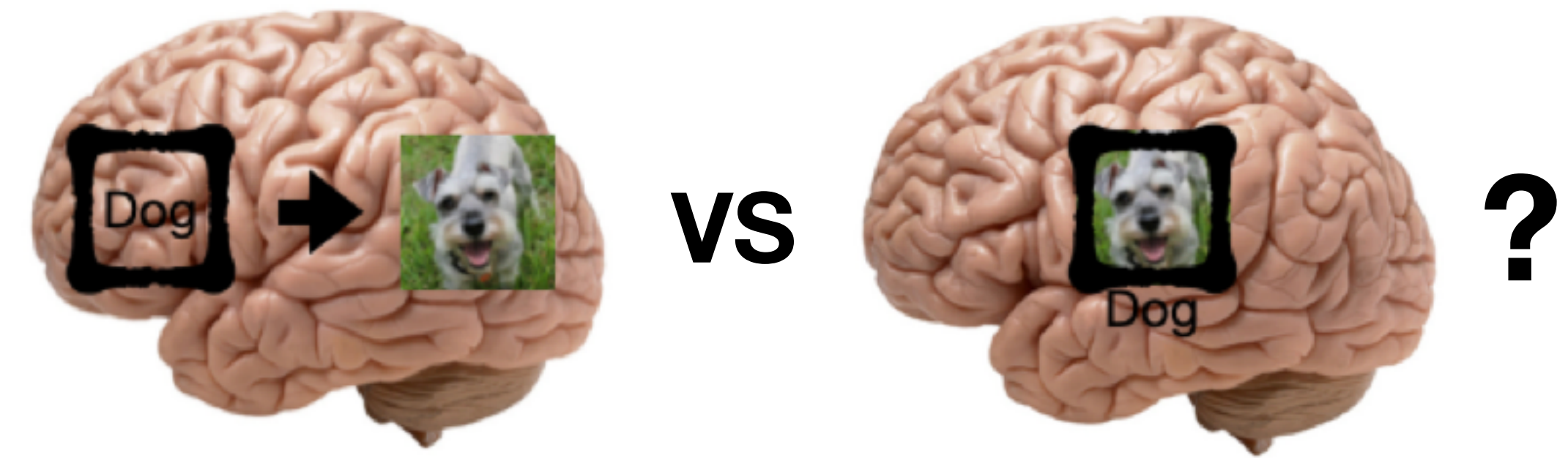






# PDP Models

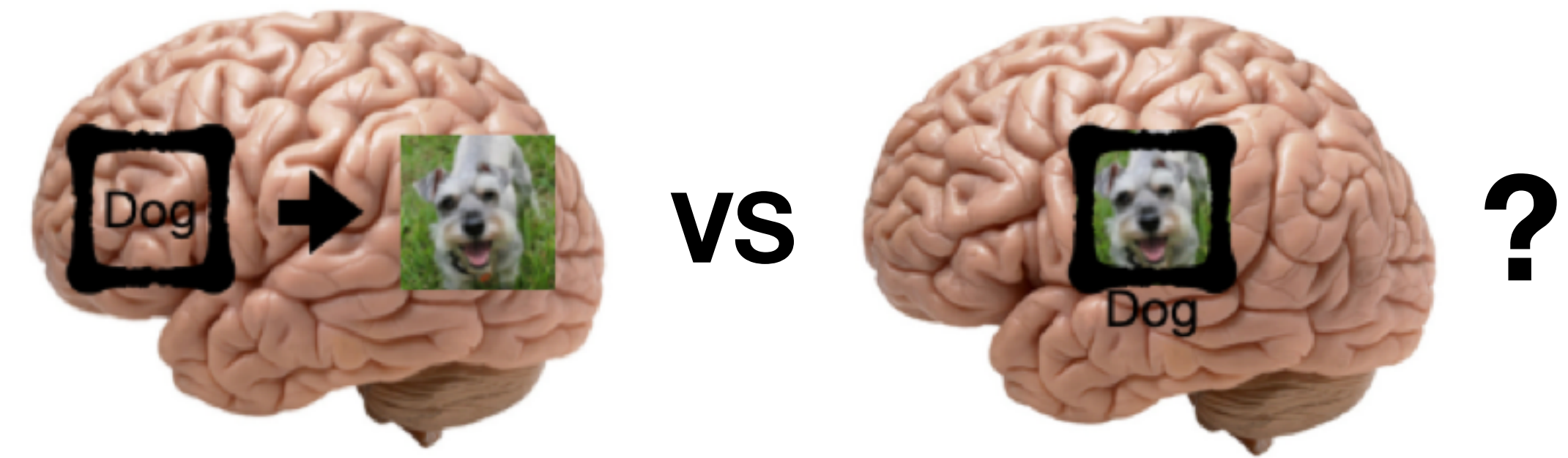
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# PDP Models

## How They Represent Information



- The implication of what was discussed on the previous slide is that ‘**meaning**’ (this is where it gets abstract!) isn’t represented by any one singular part of the PDP model
  - Could this also have implications for how we think about localization of function? We’re taking about representations and not functions here, but still...
- Rather, it seems to be an **emergent property** that can be understood to arise out of the interaction of all the parts of the system, not any one specific part itself
- While not what they were talking about, the Gestalt mantra applies here: ‘The whole is more than the sum of it’s parts!’
- “Semantic knowledge does not reside in representations that are separate from those that subserve perception and recognition, but emerges from the learned associations amongst such representations in different modalities.” (Rogers, 2004)