Lecture notes on Mog Stapleton, "Steps to a 'Properly Embodied' cognitive science," *Cognitive Systems Research* 22-23 (2013): 1-11

Abstract and Introduction: Despite doing away with substance dualism, a holdover Cartesian dualism still informs cognitive science, that of emotion and cognition. Traditional "embodied" cog sci made a nice move by extending the control system of organisms from just their brain to include various "offloadings" onto body and world, as in the "vehicle externalism" of the Clark and Chalmers paper. However, such traditional embodied cog sci work treated the body in terms of its gross morphology and its contributions to the sensorimotor control of the organism. Stapleton proposes to start looking at the living body as "interoceptive" (sensing its own internal states) and affective.

Beyond morphological embodiment: What does the discussion of the Brooks and Webb robots do for Stapleton's argument? Why has robotics turned to developmental psychology for new research ideas? Why should enactivism be distinguished from the sensorimotor paradigm? What are the two main concepts of the current brand of enactivism? Why is Vernon's emphasis on anticipation so interesting? How does Stapleton nuance Vernon's implicit modularity thesis?

Affective perception: what is the generalized predictive coding approach? How does affect fit into the Barrett and Bar model? What is the distinction between dorsal and ventral processing? How does bringing them together produce a "single affective prediction evolving over time"?

The value of the internal: what is the relation of the terms "valence" and "value"? What is the relation of "appraisal" and "homeostasis"? Why does Stapleton think it is important to stress that motor aspects are part of interoception? How does this all come together in the idea of "valence as affective motivation"?

Internal robotics: According to Parisi, what are the two key types of interaction for cog sci? What is the distinction between "physical" (neural) and chemical information? Why can one not separate affect and cognition?

Affective cognition: why are somatic markers not enough for true affective cognition in Damasio's 1994 model? What is decision-making in that model? Why is Damasio's 2010 model with its notion of a "primordial feeling state" preferable? How does Pessoa treat the amygdala differently from its classical treatment as an emotion module? According to Pessoa and Adolphs, what problem does the amygdala address?

Conclusions: what is the difference between LeDoux's early and late work? Why is interoception important for affective robotics and a 'properly embodied" cog sci?