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Cognitive Science C126
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Presubmission Enquiry #1: Perception as an Inference Problem

Last week, Professor Bruno Olshausen was the guest speaker at the Berkeley Review of Cognitive Articles decal, which I co-facilitate weekly. He spoke about an experiment in which a participant was shown an ambiguous black and white inkblot and then asked to draw it. The participant first drew a sketch that closely resembled the shapes and lines on the inkblot. Next, the experimenter told the participant that the inkblot was actually a cow's face, and then asked the participant to sketch the inkblot again. Now the participant drew a cow's face. I did the experiment with my friends and the results were the same. A follow-up test is telling participants that the inkblot is something else, such as a tree, dog, etc, and seeing if they sketch an image closer to that interpretation. According to Professor Olshausen, this phenomena occurs because perception is an inference problem. Before the participant had nothing to infer and drew what he saw. Once the experimenter revealed a possible interpretation of the inkblot, the participant inferred lines and boundaries that did not exist in the inkblot to coincide with his prior knowledge of a cow's face. In class, we discussed that the brain replaces ambiguous information with certainty. Therefore when participants are given context about something ambiguous, they supply details to substantiate their contextualized interpretation.

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