Additional thoughts on
"The Role of Image Understanding in Contour Detection",
Zitnick and Parikh, CVPR 2012.

Our paper presents numerous results on the relationship between correctly identifying the category of objects, and correctly locating their boundaries. In this note, I would like to address one hypothesis in the paper, and to further discuss its interpretation. On page 7 (recognition), we hypothesize that the positive sloping lines between object recognition and contour accuracy in Figure 9, "strongly support a causal relationship between recognition and contour detection." It is tempting to interpret this hypothesis as stating, "If a subject does not recognize an object correctly, they are not using high-level object category information and thus the contour accuracy degrades." However, it may be the case that the subject is using high-level information, but it just happens to be the wrong information. For instance, after an image patch is flipped and the colors rotated (Figure 2c) the subject may falsely perceive the presence of an object. The incorrect high-level information may mislead the subject into making the wrong decision about the presence of an object contour. Determining whether the tread in Figure 9 is due to a lack of high-level information or the wrong high-level information is unclear, and it is highly likely that it is due to a combination of the two, or other confounding factors. Hopefully, further research can shed light on this topic.

Regards,

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