

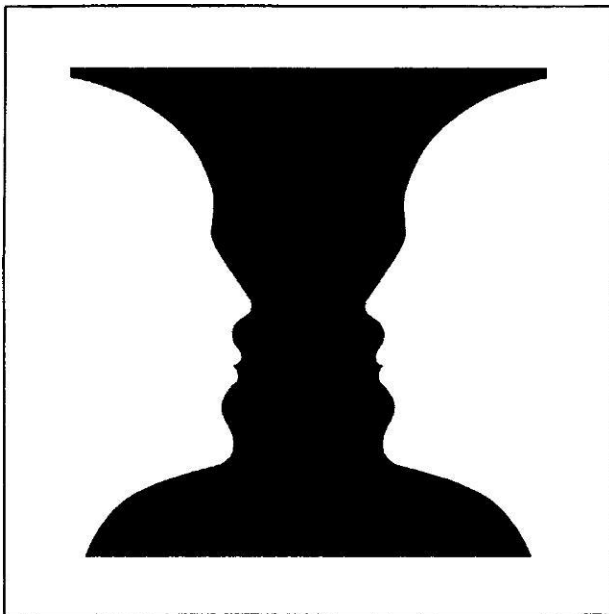
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CS-171 - Homework 2

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1) Ware describes bottom up and top down processing of visual information in the brain. Give a concrete and detailed example of how bottom up processing is influenced by top down processing, leading to a potentially wrong interpretation of "reality" by the viewer. Your example can include a screenshot, photo, or web site URL to refer to the scene that is being viewed



The above photo is an example of an optical illusion created by top-down processing. Depending on where the user's eye first lands and focuses their attention, one may perceive the image in one of two ways. If the eye first lands at the center, one might see a nose and then quickly find the pattern of a face. However they may also see the shape of the vase in black. Much of this depends on the viewer's personal bias, and what they may be looking for at that particular time. Once a pattern is recognized, our bottom-up processes become biased to what we are looking for. So once a viewer sees two faces, they will have trouble even noticing the vase and vice-versa.

2) In the Polaris paper, carefully read section 7.1 Scenario 1: Commercial Database Analysis on p. 62 again and examine Figure 6. Describe the visual mappings and visual queries, as mentioned earlier in the article, that Polaris enables in this series of screenshots.

There are three main components to the visualizations. The first is a series of scatterplots that display marketing vs. profit on the x-axis and y-axis respectively. Arranged as a grouping of small multiples one can quickly see the trends of each product. The second element is a list table that plots profit by state, split out by product.

Not very useful by itself, but when linked to the first chart, groups can be selected and the visual mappings of the marks can be varied with color, highlighting certain data. The third displays profit, marketing and sales in a small-multiple series of bar charts, and again allows for comparison of each product as well as comparisons between each of the three quantitative measures.

3) Go to the Many Eyes website and browse around the visualizations. Click through a few and look at the comments. How successful do you think Many Eyes has been in achieving its original design purpose according to the paper? What do you think is the biggest issue/flip with Many Eyes? What improvements might you suggest to Many Eyes to address these issues/flaws?

If the purpose of this site was to create a forum for users to intelligently discuss visualization techniques and their products, this site has failed miserably. Despite the fact that it has created a powerful online tool for creating visualizations from site-provided and user-generated data sets, most pages have no comments. Many seem like spam, blog posts and are entirely unrelated. There is little sense of community. If that were the purpose, why are anonymous users allowed to post? What are the incentives to post meaningful comments? If one compares Many Eyes to a successful technology focused community, stackoverflow.com, one might ask, where is the voting? How are users given notoriety? My first changes to the site would be to disallow anonymous posting (viewing would still be permitted), encourage users to create profiles, let them rate visualizations and give them points when they interact with the site.