

This model was again not as good as Equation (1). Its rank correlations with ease-of-imagining were $-.88$, $-.23$, $-.59$, $-.15$, all lower than the corresponding Equation (1) magnitudes.

NOTES

1. The category validity question might admit of an alternative interpretation. We intended subjects to read it as asking them to estimate the frequency of the feature at some point during the lifetime of objects in the category. But those who weren't careful could have read it as asking them to estimate the frequency of the feature for all objects in the category at a specified point in time ("what percentage of apples now in existence are growing on trees?"). The data suggest that this second reading was rare: The measure turned out to be highly correlated with other centrality measures.
2. Correlations involving surprise are negative because the surprisingness of an instance without a feature should decrease with the mutability of the feature whereas the other mutability measures should increase.
3. Availability was the least reliable measure. Its split-half correlation was only 0.76; the split-half correlations for other measures were all greater than 0.80. The pattern of correlations in Table 4 remains unchanged by a correction for reliability. The effect of such a correction is to disproportionately increase the largest correlations. Hence, the results are not due to range attenuation or any other source of unreliability.
4. A detailed analysis of the distinction between associative and rule-based processing can be found in Sloman (1996). Evidence that associative (similarity-based) categorization is faster than rule-based categorization can be found in Allen and Brooks (1991) and Smith and Kemler (1984). Evidence that it is less deliberative can be found in Smith and Sloman (1994).
5. Our method of measuring mutability spawned an unexpected factor limiting the performance of the model. Extremely immutable features, like "is living" for robin, are so immutable that they tended to cause participants to consider a different category. Participants seemed unable to imagine a real robin that lays eggs, eats worms, and flies but is not living and therefore instead imagined a toy or decomposing robin. In the context of this different category, the feature was no longer judged immutable although its dependency relations predict that it should have been. Ease-of-imagining judgments for such features had bimodal distributions, suggesting that some participants experienced difficulty performing the transformation and that others did not perform the task asked of them. Despite our efforts to eliminate such judgments from analysis (see methods), we were not always able to because participants were not always aware of their error. Three features led to this problem: one each from the categories guitar, apple, and robin. The rank correlations between ease-of-imagining and the basic model improve if we eliminate these features from analysis to $-.69$, $-.66$, and $-.74$ for the three categories, respectively.
6. A fuller exposition of this argument appears in Ahn and Sloman (1997).

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