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Language as a coordinative tool in wine recognition and description: influences from two time-scales

If language is viewed as a system of constraints on individual and collective behaviour, its coordinative role comes to the fore. Language can effectively change the probabilities of systemic behaviours, acting as a control on the interactive dynamics and outcomes. Such a view allows for comparing the impact of language on individual and collective systems, opening new methods of analysis of "interpretation" in terms of assessment of the systemic degrees of freedom, system's dimensionality or variability of performance.

In this study we experimentally investigate the impact of two types of language-based coordination on the recognition and description of complex sensory stimuli, namely red wine. Participants were asked to taste, remember and successively recognize samples of wines within a larger set in a two-by-two experimental design: 1) either individually or in pairs, and 2) with or without the support of a sommelier card - a cultural linguistic tool designed for wine description. Both effectiveness of recognition and the kinds of errors in the four conditions were analyzed. While our experimental manipulations did not impact recognition accuracy, bias-variance decomposition of error reveals non-trivial differences in how participants solved the task. Pairs generally displayed reduced bias and increased variance compared to individuals, however the variance dropped significantly when they used the sommelier card. The effect of card reducing the variance was observed only in pairs, individuals did not seem to benefit from the cultural linguistic tool. Subsequent analysis of descriptions generated with the aid of card by individuals and pairs showed that they were more consistent and discriminative in the case of pairs. The findings are discussed in terms of global properties and dynamics of collective systems when constrained by different types of cultural practices.