Wine Complexity: An empirical investigation
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Discussion by:
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Contributions
italics denotes text from the paper
(points in blue will be further discussed)

‘assess how complexity in wine is perceived by social drinkers, especially which attributes are most linked to their assessment of complexity in wine.’

‘three flights of wines - white wines, red wines, and dessert wines, at various ages and prices, to showcase the spectrum of wine complexity.’

‘The results demonstrated that complexity was positively correlated with liking and with quality, but not with the price of the wines or the number of flavours detected.’

‘participants used more consistent vocabulary to describe wines that they perceived to be more complex.’

‘In general, secondary and tertiary flavours (derived from fermentation or from ageing) were more often used to describe more complex wines’

Complexity:
‘According to the WSET, complexity can either result from fruit character alone – when the flavours span multiple categories such as floral, herbaceous, citrus fruit, stone fruit, etc. – or from a combination of primary (fruit-based), secondary (from wine-making), or tertiary (from bottle ageing) aromas (WSET Level 4 Diploma candidate assessment guide). This follows Parr et al.’s (2011) model of complexity (see Fig. 1), where the wine professional is trained to think about how the flavours are linked to wine production (i.e., yeast, lees, MLF, barrel, volatile acidity) as well as intrinsic qualities in the wine.’
Data analysis – 2 parts

• Use of correlation to study relationships

• ‘The Naive Bayes classifier revealed which flavour descriptors were most informative, in terms of distinguishing more complex from less complex, or simpler, wines.’

Social drinkers sampling

• 18 participants (7 female, 11 male)
• age 28–62 years (M = 46.2, SD = 11.3)
• took part at the Complexity and Wine tasting event as part of the Leverhulme International Network ‘Evaluating Methods of Aesthetic Enquiry across Disciplines’ workshop held at Somerville College, Oxford, UK.
• The participants were researchers in art history, music, psychology, philosophy, and neuroscience.

3 levels of expertise

The participants provided their self-rated level of wine expertise on a scale of 3 (1 = novice, 2 = intermediate, 3 = expert)

Could you discuss why 3?

Eight wines, chosen for their ability to showcase various aspects of complexity

<table>
<thead>
<tr>
<th>Tasted</th>
<th>Wine</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Untutored</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Untutored</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>Untutored</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>Untutored</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>Untutored</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>Untutored</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>Untutored</td>
</tr>
</tbody>
</table>

Tutored statements may induce an “experimenter demand effect.”
Function: Is based on experimenters’ statements. Could suffer from subjectiveness?
Wine COO and price chosen, and relationship with complexity: Is this a convenience set?

<table>
<thead>
<tr>
<th>Wine</th>
<th>Style</th>
<th>COO</th>
<th>PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dry White</td>
<td>Schlumberger les prince</td>
<td>France</td>
</tr>
<tr>
<td>2</td>
<td>Dry White</td>
<td>Jean-Marc Brocard Chablis</td>
<td>France</td>
</tr>
<tr>
<td>3</td>
<td>Dry White</td>
<td>Filipa Pato Branco</td>
<td>Portugal</td>
</tr>
<tr>
<td>4</td>
<td>Red</td>
<td>Chateau Vartely</td>
<td>Moldova</td>
</tr>
<tr>
<td>5</td>
<td>Red</td>
<td>Chateau Cantemerle 2012</td>
<td>France</td>
</tr>
<tr>
<td>6</td>
<td>Red</td>
<td>Chateau Cantemerle 2001</td>
<td>France</td>
</tr>
<tr>
<td>7</td>
<td>Sweet</td>
<td>Tokaji late harvest 2013</td>
<td>Hungary</td>
</tr>
<tr>
<td>8</td>
<td>Sweet</td>
<td>Tokaji szamorodni 2012</td>
<td>Hungary</td>
</tr>
</tbody>
</table>

Choice of correlations: Price and wine type do not vary across subjects (so no correlation!)

‘WINE ATTRIBUTES (Complexity, liking, quality and number of flavours)’

- Wine price correlation to consumers’ stated scores to wine attributes (see 3.2)
- Wine type correlation to consumers’ stated scores to wine attributes (see 3.3)

Post swallow flavour and complexity

‘The number of flavours perceived before swallowing was not correlated with the number of flavours perceived after swallowing ($r^{2}=-0.11$, $p=.30$). Interestingly, complexity was significantly correlated with the number of flavours perceived before swallowing ($r^{2}=0.29$, $p=.008$), but not after swallowing ($r^{2}=0.03$, $p=.79$).’ (see 3.5)

WSET – flavour post swallow normally refers to fruit flavour retained and how long it lasts. More for assessment of length than complexity.

Are certain flavour descriptors associated with greater complexity?

‘For each participant, each tasting note (i.e., the list of descriptors for each wine) was categorised as either low complexity (rating of 6 or less) or high complexity (rating of 7 or more), with the split point determined by the median complexity rating.’ (See 3.6)

Rating scale should be 1-9 likert-scale
I am wondering why 6 or less is low complexity, 7 or more is high complexity.
Consistency on using ‘smoke’ to describe complexity

However, why not for all wines studied?

‘Smoke’ appears in all tables. Need further elaboration on ‘smoke’ and relationship to complexity?

Is this a problem? Complexity after all is a tangible trait (and) objectively associated with wine properties

‘What does the present study reveal about complexity in wine as perceived by social drinkers? First, our results demonstrate that, at least for social drinkers, complexity is correlated with liking and quality, but not with the number of flavours detected (once controlling for liking and quality).’