How I taste Bordeaux en Primeur: Statistical Factor Analysis as an Objective Rating Tool and Guide to Purchase

I want to submit an abstract for:
Conference Presentation

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Keywords
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Research Question
How can a more useful form of wine criticism be found – one which permits more differentiated buying decisions?

Methods
A meticulous tasting technique serves to feed the statistical tools of factor and cluster analyses.

Results
En Primeur samples of Bordeaux wines may be classified into a small amount of well defined stylistic categories. This allows to buy first and foremost sensory properties, not ratings.

Abstract
How I taste Bordeaux en Primeur: Statistical Factor Analysis as an Objective Rating Tool and Guide to Purchase

Wine ratings are important movers in wine markets and media. As useful as they may be to express general aspects of quality, e.g., age-worthiness, as limited is their significance as soon as stylistic differences are concerned. As everyone will agree, the phrase “96/100 points” does not represent a property that can be smelled or tasted. Many if not most consumers, however, tend to mistake ratings for descriptions. They are convinced that a wine rated 96/100 satisfies their individual taste. In addition many believe that high ratings justify high prices. Buying a rating instead of sensory qualities, however, can be seriously misleading, if a buyer is buying for his or her own future consumption, and if he or she is at the same time not informed about the typical patterns of taste of the wines purchased. It is surprising how little has been done so far to change this unsatisfying situation. In my view factor analysis would be an important step forward, and I would be happy if I could soon change the “How I taste” in the title of my presentation to “How WE taste”.

In a first attempt to create a kind of wine criticism, which could overcome these deficiencies, the author applied,
with the help from experts in statistics, the well-known statistical tools of factor and cluster analysis to a set of around 100 dry German Riesling wines (1), vintages 2007 and 2005. Factor analysis identifies correlations between data; it is widely used in the social sciences in order to find connections and correlations that are not visible at first sight. The “factors” which are brought about by statistical calculations can in turn be used to define “clusters” of similar objects: The statistical calculus is capable of grouping wines that share basic properties. Factor analysis starts with a bulk of comparatively “objective” sensory data from the tasting. The statistical processing of those data leads to a few clusters that express clearly defined stylistical categories. This method renders it possible to assign each wine to one such cluster or stylistical category. Membership in such a category means that the wines share to slightly varying degrees the properties of the wine(s) in the center of the cluster. Information about cluster membership may stand for itself, or may serve as a valuable complement to a conventional score for „overall quality“.

Starting with the 2008 vintage, the author has been applying an increasingly elaborated tasting technique and the same kind of statistical evaluation to Bordeaux’ en Primeur tastings. The number of wines tasted and cluster analyzed in every vintage ranges from 300 to 400 approximately. It soon turned out that every vintage brings about its own factors and clusters, thereby throwing light on the effects of weather in the growing season as well as on typical picking decisions and vinification. One can say that the method, in the meantime, has reached a level of maturity.

The focus of the planned presentation will be threefold: First, the comparatively complex tasting technique and tasting scheme required to feed the statistical calculus with data will be summed up and discussed. During the en Primeur tasting sessions of the past seven Bordeaux vintages, sensory perceptions for typically around 20 dimensions have been quantified. These data do not only permit to sketch „standard sensory properties“ and thus the typical vintage character for each of the vintages involved. It will also be shown that the statistical calculus sheds as much light on the taster as on the wines, thereby confirming Gilles Cauvet’s classical saying that during a tasting „both the wine and the taster are examined“(2).

Secondly, a survey of selected results will be given. For instance, the strikingly accentuated significance of the „juiciness“ dimension in the factor analysis of the 2012 left bank wines may be taken as a reason to believe that diluting effects of autumn rain can be „seen“ in the sensory data. In 2014, a „menthol flavour“ cluster with only a few wines in it is calling if not for explanation, so at least for interpretation.

Last but not least, in June 2016, I would be in a position to present the brand-new results of the cluster analysis for the 2015 vintage.
