

Combining Vintage Charts Ratings into a Consensual Quality Ranking

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The problem

Need of an **unbiased assessment of vintage quality** in order to study how weather/climate changes influence a region's wine production quality

How to combine Vintage charts published by independent sources into a single measure of quality?

- not always consensual
- different tasting panels
- different criteria and perception of quality
- different set of wines tasted
- variety of rating scales (5-star, 10-point, or 100-point)
- same scale with different criteria

What we Propose

Combine **scores** into a consensual ranking of the vintages

- Convert each vintage chart into a ranking of the years
- Deal with missing values (correlations, average rank, ...)
- Formulate the task as a **Rank Aggregation problem** (NP-hard) and make use of a heuristic to obtain a good solution

What we achieve

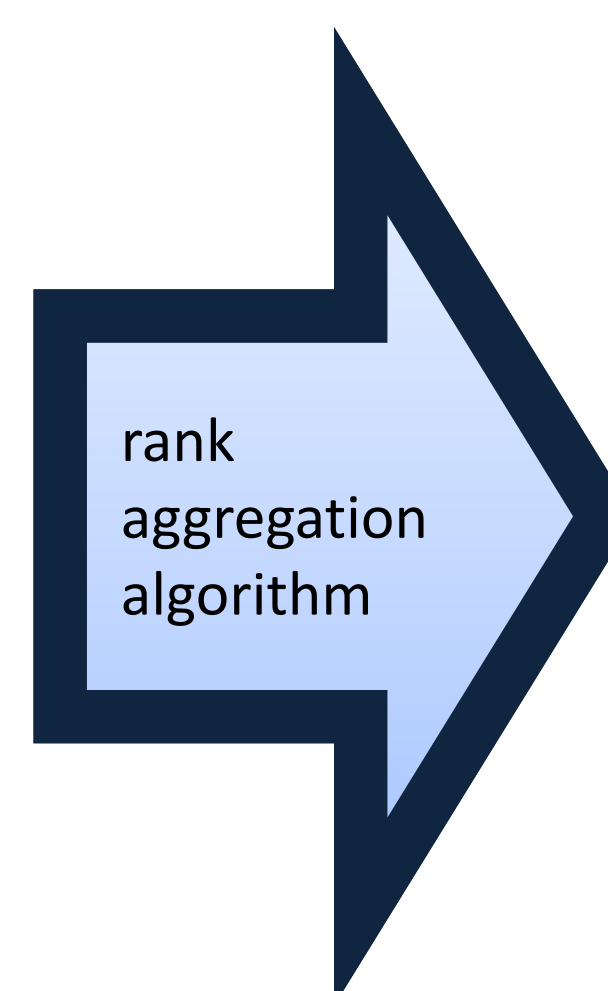
- Take advantage of the information available from **independent sources**
- A method with no assumptions about the criteria of each individual rating provider
- A combined ranking that represents a **relative measure of the vintages quality**

An example with White Burgundy

	Original Scores															
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Decanter	4	3	4	3	3	5	5	4	4	4	4	4	5	3	3	4
Wine Spectator	92	85	89	82	87	93	95	88	88	88	90	89	95	87	90	93
Michael Broadbent	4	3	3	3	3	4	5	4	4	4	3	3.5	4	3.5	4	5
Wine Advocate	87	70	90	72	77	93	92	89	84	89	88	86	92	84	91	90

compute ranks and deal with missing values

	Rankings															
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Decanter	4	12	4	12	12	1	1	4	4	4	4	4	1	12	12	4
Wine Spectator	5	15	8	16	13	3	1	10	10	10	6	8	1	13	6	3
Michael Broadbent	3	12	12	12	12	3	1	3	3	3	12	10	3	10	3	1
Wine Advocate	10	16	5	15	14	1	2	7	12	7	9	11	2	12	4	5



Combined Consensual Ranking			
1995	1	1999	8
1996	1	2000	10
2002	1	2001	11
2005	4	1998	12
1990	5	2003	13
2004	6	1994	14
1992	7	1991	15
1997	8	1993	15

Conclusions

We propose a method to produce a measure of relative quality of the vintages for a wine region

- Represents an **unbiased consensus** from a number of independent sources
- Can be a useful tool for researchers that need to evaluate vintage quality over the years in order to study the factors influencing it