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Contre-degustation Olympiades du Vin According to Borda[1]

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Abstract

The rankings derived from the averages of points assigned by the judges of the red and white wines at the 1980 *Contre-degustation Olympiades du Vin* are compared to those determined using the Borda Count. For the white wines, Borda reversed the order of wines ranked second and third, and eleventh and twelfth by the averages. This put two California Chardonnays in the top two places and one in last place. For the red wines, Borda reversed the order of the two Burgundies in third and fourth place and breaks a tie in fifth place moving an Australian Pinot noir to sixth place behind a Burgundy. The difference in rankings is traced to the distortion caused by the wide spread of points awarded by the judges compared to the constant difference in the Borda Scores between non-tied adjacent alternatives.

Keywords: wine tasting, decision procedures, Borda Count, *Contre-degustation Olympiades du Vin*, Chardonnay, Pinot noir, distortion analysis

[1] A summary of some of the results presented here is contained in (Hulkower, 2021).

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[3] The author is grateful for translations by Chelsea Janzen and Michael Gould. Robert Drouhin supplied the breakdown of the points each judge assigned the wines from which the rankings were derived.

I. Introduction

In the 17 October 1979 issue of the New York Times, Terry Robards reported the following about the *Olympiades Gault-Millau du Vin*: "Under conditions of deep secrecy last summer, some 300 wines from 33 countries were tasted and analyzed by 62 experts in the vast cellars of Nicolas, a French wine company, in Charenton, a Paris suburb. Because I was not present and therefore cannot personally attest to the conditions, I report the results with some trepidation, for havoc will erupt anew in the wine market when it becomes known how well some California wines apparently fared… A critical fact that raises questions about the validity of the tasting is that it did not pretend to include all or even most of the world's best wines. For instance, it is clear that California wines did extremely well, but it is less clear just how tough — or easy — the competition was… California took first, second and four of the top 10 places in the chardonnay section, relegating some of the more renowned white Burgundies of France to secondary status. The No. 1 chardonnay was the Trefethen 1976" (Robards, 1979).

Unhappy with this outcome, Robert Drouhin, owner of Maison Joseph Drouhin in Beaune, wrote to the organizers "I am ready to challenge the winners of your Olympics in the Pinot Noir and Chardonnay categories with a selection of Burgundy wines from the Joseph Drouhin establishment" ("*Après les Olympiades*," 1980). The follow-up to the 1979 *Olympiades Gault-Millau du Vin* was held in Beaune on 8 January 1980. While not as well-known as The Judgment of Paris which took place on 24 May 1976 and first demonstrated that California had become a source of top quality wine (Taber, 1976, 2006), the *Contre-degustation Olympiades du Vin* had a similar impact on the status of Oregon Pinot noir as well as reinforcing California's reputation, especially for Chardonnay.

The whites, mostly Chardonnays, were evaluated by Jacques Puisais; Jean Hugel; Max Leglise; J.-P. Morot-Gaudry; Georges Pertuiset Steven Spurrier, who had organized The Judgment of Paris; Christopher Tatham, MW; Harry Waugh, MW; and Jon Winroth. The reds, mostly Pinot noirs, were judged by Louis-Régis Affre; Robert Barton-Clegg; Phillippe Bourguignon; Georges Duboeuf; Odette Kahn, who had been on the panel for the Judgment of Paris; Franz Keller; Jean Lameloise; Piero Sattanino; Serge Tonneau; and Rebecca Wassermann. Each tasted 6 wines

selected by Drouhin and 6 from outside France that had ranked high in its category in the *Olympiades* and assigned points from 0 to 100 as follows: "a rating of 1 for visual impressions (intensity, tonality, charm of color), a rating of 3 for olfactory impressions (intensity, finesse, frankness of aromas or of the bouquet), a rating of 5 for the impressions in the mouth (balance of flavors and sensations, tactile, fullness, finesse, elegance, purity, persistence in the mouth), a rating of 1 for the overall harmony of the wine" ("*Après les Olympiades*," 1980). To arrive at a consensus ranking, the points awarded to each wine were averaged. Tables 1 and 2 display the white wines and red wines with the country of origin and the average points each received.

The problems associated with this method have been cited by Ashenfelter & Quandt, (1999) and Hulkower (2009). These are reviewed in the next section. The Borda Count, a method of aggregating rankings that uniquely satisfies four rational properties, is described in the third section, and used to reevaluate the results of the *Contre-degustation Olympiades du Vin* in the fourth. The fifth section highlights the impact of the tasting and the sixth contains conclusions.

Table 1

The White Wines

N°	White Wines	Average Points
1	**1978 Chassagne-Montrachet ler Cru Joseph Drouhin (France)**	**62.1**
2	**1978 Puligny-Montrachet ler Cru Joseph Drouhin (France)**	**70.7**
3	**1978 Meursault ler Cru Joseph Drouhin (France)**	**59.6**
4	**1978 Pinot bianco del Collio (Frioul) Schiopetto (Italy)**	**54.9**
5	**1978 Beaune Clos des Mouches Joseph Drouhin (France)**	**70.6**
6	**1977 Pinot Chardonnay Tyrrell's (Australia)**	**62.2**
7	**1977 Napa Valley Chardonnay Spring Mountain Vineyards (California, USA)**	**55.5**
8	**1977 Napa Valley Chardonnay Robert Mondavi (California, USA)**	**62.6**
9	**1976 Beaune Clos des Mouches Joseph Drouhin (France)**	**56.0**
10	**1976 Napa Valley Chardonnay Trefethen Vineyards (California, USA)**	**82.4**
11	**1976 Puligny-Montrachet ler Cru Joseph Drouhin (France)**	**77.8**
12	**1975 Napa Valley Chardonnay Freemark Abbey (California, USA)**	**75.6**

Table 2

The Red Wines

N°	Red Wines	Average Points
1	1978 Côte de Beaune Villages Joseph Drouhin (France)	55.9
2	1978 Beaune Clos des Mouches Joseph Drouhin (France)	66.2
3	1978 Dole Sang de l'Enfer Valais Adrien Mathier (Switzerland)	45.1
4	1978 Chevaliers Pinot noir Valais Mathier et Kuchler (Switzerland)	29.8
5	1976 Vosne-Romanee ler Cru Joseph Drouhin (France)	60.1
6	1976 Naoussa Boutaris (Greece)	44.2
7	1976 Pinot noir Tyrrell's (Australia)	60.1
8	1975 Pinot noir Hoffman Mountain Ranch (California, USA)	49.5
9	1975 South Block Reserve Pinot noir The Eyrie Vineyards (Oregon, USA)	69.8
10	1961 Chamberlin Clos de Beze Joseph Drouhin (France)	66.5
11	1964 Aloxe-Corton Joseph Drouhin (France)	57.1
12	1959 Chambolle-Musigny Joseph Drouhin (France)	70.0

II. The Problem with Using Average Points

In their analysis of the Judgment of Paris tasting, Ashenfelter and Quandt (1996) remarked: "As Steven Spurrier acknowledged in *Decanter* magazine in August 1996, he tallied the winners by 'adding the judges['] marks and dividing this by eleven (which I was told later was statistically meaningless.' The problem with this approach is, of course, that it may give greater weight to the judges who put a great deal of scatter into their numerical scores and thus express strong preferences by numerical differences" (p. 18). As Hulkower (2009) noted: "…in effect, this method violates 'one man, one vote' in that it does not give equal weight to each judge's opinion" (p. 172). Despite the guidelines for the assignment of points to each wine which might encourage greater consistency, the resulting rankings were plagued by distortion.

Robert Drouhin supplied the points assigned by each judge anonymized which are in Tables 3 and 4. The individual points for judge W9 were inexplicably missing but were easily recovered using the averages in "*Après les Olympiades*" (1980). In addition, we quantified the extent of the distortion for the *Contre-degustation Olympiades du Vin* white and red tastings at both the individual wine level and overall. In Tables 3 and 4, the columns labeled RW for Relative

Table 3

Distortion Analysis of the White Wine Points

	Wines																									
	1		2		3		4		5		6		7		8		9		10		11		12		Total	Relative
Judge	Points	RW	Points	RW	Points	RW	Points	RW	Points	RW	Points	RW	Points	RW	Points	RW	Points	RW	Points	RW	Points	RW	Points	RW	Points	Weight
W1	62	1.13	74	1.19	48	1.00	43	1.00	68	1.05	57	1.27	55	1.34	63	1.62	42	1.00	78	1.01	50	1.00	66	1.10	706	1.01
W2	70	1.27	74	1.19	80	1.67	82	1.91	67	1.03	71	1.58	58	1.41	73	1.87	56	1.33	78	1.01	84	1.68	86	1.43	879	1.25
W3	63	1.15	71	1.15	49	1.02	55	1.28	77	1.18	52	1.16	54	1.32	64	1.64	59	1.40	78	1.01	74	1.48	76	1.27	772	1.10
W4	69	1.25	77	1.24	49	1.02	50	1.16	76	1.17	65	1.44	59	1.44	45	1.15	60	1.43	90	1.17	98	1.96	79	1.32	817	1.16
W5	62	1.13	70	1.13	67	1.40	46	1.07	65	1.00	45	1.00	41	1.00	39	1.00	52	1.24	77	1.00	78	1.56	60	1.00	702	1.00
W6	58	1.05	62	1.00	64	1.33	52	1.21	75	1.15	81	1.80	57	1.39	81	2.08	60	1.43	84	1.09	74	1.48	84	1.40	832	1.19
W7	55	1.00	71	1.15	68	1.42	52	1.21	68	1.05	59	1.31	69	1.68	63	1.62	54	1.29	89	1.16	85	1.70	73	1.22	806	1.15
W8	58	1.05	67	1.08	52	1.08	59	1.37	69	1.06	68	1.51	51	1.24	73	1.87	65	1.55	85	1.10	79	1.58	81	1.35	807	1.15
W9	62	1.13	70	1.13	59	1.24	55	1.28	70	1.08	62	1.37	56	1.35	62	1.60	56	1.33	83	1.07	78	1.56	75	1.26	789	1.12
Totals	559		636		536		494		635		560		500		563		504		742		700		680			
Averages	62.1		70.7		59.6		54.9		70.6		62.2		55.5		62.6		56.0		82.4		77.8		75.6			
Ranking	8		4		9		12		5		7		11		6		10		1		2		3			

1	1978 Chassagne-Montrachet ler Cru Joseph Drouhin (France)
2	1978 Puligny-Montrachet ler Cru Joseph Drouhin (France)
3	1978 Meursault ler Cru Joseph Drouhin (France)
4	1978 Pinot bianco del Collio (Frioul) Schiopetto (Italy)
5	1978 Beaune Clos des Mouches Joseph Drouhin (France)
6	1977 Pinot Chardonnay Tyrrell's (Australia)
7	1977 Napa Valley Chardonnay Spring Mountain Vineyards (California, USA)
8	1977 Napa Valley Chardonnay Robert Mondavi (California, USA)
9	1976 Beaune Clos des Mouches Joseph Drouhin (France)
10	1976 Napa Valley Chardonnay Trefethen Vineyards (California, USA)
11	1976 Puligny-Montrachet ler Cru Joseph Drouhin (France)
12	1975 Napa Valley Chardonnay Freemark Abbey (California, USA)

Table 4

Distortion Analysis of the Red Wine Points

	Wines																									
	1		2		3		4		5		6		7		8		9		10		11		12		Total	Relative
Judge	Points	RW	Points	RW	Points	RW	Points	RW	Points	RW	Points	RW	Points	RW	Points	RW	Points	RW	Points	RW	Points	RW	Points	RW	Points	Weight
R1	41	1.00	57	1.46	37	2.06	18	∞	47	1.38	33	1.27	31	1.00	35	1.09	47	1.00	55	1.22	49	1.44	49	1.00	499	1.00
R2	60	1.46	60	1.54	41	2.28	0	1.00	60	1.76	33	1.27	68	2.19	76	2.38	53	1.13	68	1.51	40	1.18	85	1.73	644	1.29
R3	67	1.63	80	2.05	70	3.89	55	∞	77	2.26	56	2.15	77	2.48	84	2.63	80	1.70	85	1.89	65	1.91	72	1.47	868	1.74
R4	57	1.39	39	1.00	35	1.94	32	∞	52	1.53	41	1.58	72	2.32	42	1.31	61	1.30	45	1.00	55	1.62	58	1.18	589	1.18
R5	48	1.17	72	1.85	18	1.00	18	∞	61	1.79	46	1.77	69	2.23	55	1.72	71	1.51	71	1.58	43	1.26	74	1.51	646	1.29
R6	57	1.39	54	1.38	43	2.39	29	∞	75	2.21	66	2.54	50	1.61	62	1.94	95	2.02	50	1.11	86	2.53	68	1.39	735	1.47
R7	66	1.61	82	2.10	72	4.00	52	∞	73	2.15	76	2.92	72	2.32	44	1.38	73	1.55	71	1.58	72	2.12	72	1.47	825	1.65
R8	47	1.15	75	1.92	45	2.50	39	∞	69	2.03	34	1.31	87	2.81	33	1.03	91	1.94	65	1.44	34	1.00	87	1.78	706	1.41
R9	64	1.56	77	1.97	47	2.61	32	∞	53	1.56	31	1.19	42	1.35	32	1.00	66	1.40	76	1.69	59	1.74	65	1.33	644	1.29
R10	52	1.27	66	1.69	43	2.39	23	∞	34	1.00	26	1.00	33	1.06	32	1.00	61	1.30	79	1.76	68	2.00	70	1.43	587	1.18
Totals	559		662		451		298		601		442		601		495		698		665		571		700			
Averages	55.9		66.2		45.1		29.8		60.1		44.2		60.1		49.5		69.8		66.5		57.1		70			
Ranking	8		4		10		12		5.5		11		5.5		9		2		3		7		1			

1	1978 Côte de Beaune Villages Joseph Drouhin (France)
2	1978 Beaune Clos des Mouches Joseph Drouhin (France)
3	1978 Dole Sang de l'Enfer Valais Adrien Mathier (Switzerland)
4	1978 Chevaliers Pinot noir Valais Mathier et Kuchler (Switzerland)
5	1976 Vosne-Romanee ler Cru Joseph Drouhin (France)
6	1976 Naoussa Boutaris (Greece)
7	1976 Pinot noir Tyrrell's (Australia)
8	1975 Pinot noir Hoffman Mountain Ranch (California, USA)
9	1975 South Block Reserve Pinot noir The Eyrie Vineyards (Oregon, USA)
10	1961 Chamberlin Clos de Beze Joseph Drouhin (France)
11	1964 Aloxe-Corton Joseph Drouhin (France)
12	1959 Chambolle-Musigny Joseph Drouhin (France)

Weight show the magnitude of the influence on the average by judge *i* for wine *j*, $RW_{judge_i,wine_j}$. It was calculated by dividing the points, p_{ij}, $judge_i$ assigned to $wine_j$, by the minimum of the points given by all judges:

$$RW_{judge_i,wine_j} = \frac{p_{ij}}{min(p_{ij})},\ i = 1 \text{ to } 9 \text{ for whites}, 1 \text{ to } 10\ for \text{ reds}, \forall\ j$$

For example, Judge W4 gave white wine 11, the 1976 Puligny-Montrachet, 98 points which is 1.96 times the 50 points assigned by Judge W1. Judge R2 gave red wine 4, the 1978 Chevaliers Pinot noir, 0 points so each of the other judge's influence on the average is shown as infinitely greater with Judge R3 who gave 55 points exerting the most influence.

The overall distortion factors for the white and red tastings were calculated by dividing each judge's total points (TP_{judge_i}) assigned to all the wines by the smallest TP_{judge_i}:

$$RW_{judge_i} = \frac{\sum_j p_{ij}}{\min_i(TP_{judge_i})} = \frac{TP_{judge_i}}{\min_i(TP_{judge_i})},\ i = 1 \text{ to } 9 \text{ for whites}, 1 \text{ to } 10 \text{ for reds}$$

For the whites, judge W2 assigned a total of 879 points to the 12 wines, the most of any judge and 1.25 times greater than judge W5 who only gave a total of 702 points. For the reds, the dispersion is much larger with judge R3 awarding the most points, a total of 868, 1.74 times greater than judge R1 who only assigned a total of 499 points.

One can avoid this distortion: "Converting the grades to ranks guarantees that each judge has the same influence on the outcome" (Ashenfelter & Quandt, 1996, p. 18). As Hulkower (2009) did, we took this approach and then aggregated the rankings using the Borda Count.

III. About the Borda Count

Though named for Jean-Charles de Borda (1995), an eighteenth-century French mathematician, this positional voting scheme was first documented by Nicholas of Cusa (also known as Cusanus) in the fifteenth century (1995; Hagele & Pukelsheim, 2008). In the late twentieth and early twenty-first centuries, Donald Saari (2000a, 2000b, 2001a, 2001b, 2008) proved mathematically the uniqueness of the Borda Count in satisfying four properties thus establishing a theoretical foundation for this method. In this section, we review Saari's results which serve as the basis for our choice of the Borda Count for the aggregation procedure.

In the context of a wine tasting, positional voting has the judges rank order the wines. If the number of wines $n = 12$, the top ranked wine is assigned a Borda Score of $n - 1 = 11$, with the wine in second place getting $n - 2 = 10$, and so on down to the twelfth ranked wine which gets $n - 12 = 0$. In the case of ties, each candidate receives the average of the scores given to the rankings the group occupies. For example, if three wines out of 12 are tied and occupy the seventh through ninth positions, each would get a Borda Score of $((12 - 7) + (12 - 8) + (12 - 9))/3 = (5 + 4 + 3)/3 = 4$. The consensus ranking or societal outcome is obtained by summing the Borda Scores of each wine with the one having the highest total ranked first and proceeding down to the one with lowest which is ranked last. The Borda Score of a wine is also a normalized measure of the strength of preference vis-à-vis the others in the tasting that avoids the distortion of averaging points.

Arrow (1963) selected several properties that aggregation methods should satisfy but in doing so proved that the only method that satisfied all of them was one in which one voter's preferences dictated the societal outcome. Two of the properties describe the types of votes and outcomes permitted. Universal Domain allows all possible transitive rankings. An example of a transitive ranking is the following: if a judge ranks Wine A $\succ$ Wine B and Wine B $\succ$ Wine C, then Wine A $\succ$ Wine C, where $\succ$ means "is preferred to." If a procedure produces a transitive outcome from the judges' transitive rankings, it is said to satisfy Complete Transitive Outcome.

The method must also yield results that are consistent with the inputs. The Pareto condition states that if each judge ranks Wine A $\succ$ Wine B, then the overall ranking has Wine A $\succ$ Wine B. In addition, Arrow considered a property called Independence of Irrelevant Alternatives (IIA). Saari provided the following definition: "The ranking of a pair of alternatives depends only on how the voters rank this particular pair; information about other alternatives is irrelevant" (2008, p. 22). Arrow's theorem followed from the fact that this property conflicts with Complete Transitive Outcome since it only considers pairwise comparisons and ignores strength of preference, in particular, as measured by the number of alternatives in between the two being compared. In other words, if a method satisfies IIA, it treats Wine A $\succ$ Wine B the same as Wine A $\succ$ Wine C $\succ$ Wine D $\succ$ Wine B and may not return a transitive outcome. To remedy this, Saari replaced IIA with the Intensity form of Independence of Irrelevant Alternatives (IIIA) which addresses

what to expect of the societal outcomes of two profiles that are similar but not identical: "society's relative ranking of any two alternatives is determined only by each voter's relative ranking of the pair and the intensity of that ranking [measured by the number of alternatives separating the two]" (Saari, 2001b, pp. 189-190).

Thus sidestepping Arrow's dictator, Saari (2000a, 2000b, 2001a, 2001b, 2008) proved that the Borda Count uniquely satisfies Universal Domain, Complete Transitive Outcome, the Pareto condition, and IIIA, and also demonstrated that it is less susceptible to unexpected outcomes or paradoxes than any other procedure.

IV. The *Contre-degustation Olympiades du Vin* According to Borda

In order to implement the Borda Count, the points assigned by each judge to each wine were converted to a rank. We recognize that the judges were only asked to give up to 100 points to each wine and were not asked to rank them. If they had, the possibility remains that the rank order may have been different. Tables 5 and 6 display the rankings derived from each judge's points for the white and red wines. The symbol ≈ designates ties. Using the formula Borda Score = 12 – rank, we obtained the Borda Scores for each judge for each wine shown in Tables 7 and 8. The total of the Borda Scores for each wine determined its place in the overall ranking. Tables 9 and 10 compare the rankings by Borda to the rankings by average points. The differences are highlighted in larger bold italics.

Among the whites, Borda determined that the 1975 Freemark Abbey Chardonnay (Borda Score = 80.5, average points = 75.6) was in second place and the 1976 Puligny-Montrachet (78.0, 77.8) was in third, the reverse of the rankings by average points. In a battle for the bottom, Borda reversed the rankings of the 1978 Pinot bianco del Collio (21.0, 54.9) and the 1977 Spring Mountain Chardonnay (20.0, 55.5).

Among the reds, Borda moved the 1978 Beaune Clos des Mouches (79.5, 66.2) from fourth to third place ahead of the 1961 Chambertin Clos de Beze (75.5, 66.5) and broke the tie in fifth

Table 5

Rankings of White Wines Based on Points in Table 3

Judge	Ranking
W1	Wine 10≻Wine 2≻Wine 5≻Wine 12≻Wine 8≻Wine 1≻Wine 6≻Wine 7≻Wine 11≻Wine 3≻Wine 4≻Wine 9
W2	Wine 12≻Wine 11≻Wine 4≻Wine 3≻Wine 10≻Wine 2≻Wine 8≻Wine 6≻Wine 1≻Wine 5≻Wine 7≻Wine 9
W3	Wine 10≻Wine 5≻Wine 12≻Wine 11≻Wine 2≻Wine 8≻Wine 1≻Wine 9≻Wine 4≻Wine 7≻Wine 6≻Wine 3
W4	Wine 11≻Wine 10≻Wine 12≻Wine 2≻Wine 5≻Wine 1≻Wine 6≻Wine 9≻Wine 7≻Wine 4≻Wine 3≻Wine 8
W5	Wine 11≻Wine 10≻Wine 2≻Wine 3≻Wine 5≻Wine 1≻Wine 12≻Wine 9≻Wine 4≻Wine 6≻Wine 7≻Wine 8
W6	Wine 10≈Wine 12≻Wine 6≈Wine 8≻Wine 5≻Wine 11≻Wine 3≻Wine 2≻Wine 9≻Wine 1≻Wine 7≻Wine 4
W7	Wine 10≻Wine 11≻Wine 12≻Wine 2≻Wine 7≻Wine 3≈Wine 5≻Wine 8≻Wine 6≻Wine 1≻Wine 9≻Wine 4
W8	Wine 10≻Wine 12≻Wine 11≻Wine 8≻Wine 5≻Wine 6≻Wine 2≻Wine 9≻Wine 4≻Wine 1≻Wine 3≻Wine 7
W9	Wine 10≻Wine 11≻Wine 12≻Wine 5≻Wine 2≻Wine 8≻Wine 1≻Wine 6≻Wine 3≻Wine 9≻Wine 7≻Wine 4

1	1978 Chassagne-Montrachet ler Cru Joseph Drouhin (France)
2	1978 Puligny-Montrachet ler Cru Joseph Drouhin (France)
3	1978 Meursault ler Cru Joseph Drouhin (France)
4	1978 Pinot bianco del Collio (Frioul) Schiopetto (Italy)
5	1978 Beaune Clos des Mouches Joseph Drouhin (France)
6	1977 Pinot Chardonnay Tyrrell's (Australia)
7	1977 Napa Valley Chardonnay Spring Mountain Vineyards (California, USA)
8	1977 Napa Valley Chardonnay Robert Mondavi (California, USA)
9	1976 Beaune Clos des Mouches Joseph Drouhin (France)
10	1976 Napa Valley Chardonnay Trefethen Vineyards (California, USA)
11	1976 Puligny-Montrachet ler Cru Joseph Drouhin (France)
12	1975 Napa Valley Chardonnay Freemark Abbey (California, USA)

Table 6

Rankings of Red Wines Based on Points in Table 4

Judge	Ranking
R1	Wine 2≻Wine 10≻Wine 11≈Wine 12≻Wine 5≈Wine 9≻Wine 1≻Wine 3≻Wine 8≻Wine 6≻Wine 7≻Wine 4
R2	Wine 12≻Wine 8≻Wine 7≈Wine 10≻Wine 1≈Wine 2≈Wine 5≻Wine 9≻Wine 3≻Wine 11≻Wine 6 ≻Wine 4
R3	Wine 10≻Wine 8≻Wine 2≈Wine 9≻Wine 5≈Wine 7≻Wine 12≻Wine 3≻Wine 1≻Wine 11≻Wine 6≻Wine 4
R4	Wine 7≻Wine 9≻Wine 12≻Wine 1≻Wine 11≻Wine 5≻Wine 10≻Wine 8≻Wine 6≻Wine 2≻Wine 3≻Wine 4
R5	Wine 12≻Wine 2≻Wine 9≈Wine 10≻Wine 7≻Wine 5≻Wine 8≻Wine 1≻Wine 6≻Wine 11≻Wine 3≈Wine 4
R6	Wine 9≻Wine 11≻Wine 5≻Wine 12≻Wine 6≻Wine 8≻Wine 1≻Wine 2≻Wine 7≈Wine 10≻Wine 3≻Wine 4
R7	Wine 2≻Wine 6≻Wine 5≈Wine 9≻Wine 3≈Wine 7≈Wine 11≈Wine 12≻Wine 10≻Wine 1≻Wine 4≻Wine 8
R8	Wine 9≻Wine 7≈Wine 12≻Wine 2≻Wine 5≻Wine 10≻Wine 1≻Wine 3≻Wine 4≻Wine 6≈Wine 11≻Wine 8
R9	Wine 2≻Wine 10≻Wine 9≻Wine 12≻Wine 1≻Wine 11≻Wine 5≻Wine 3≻Wine 7≻Wine 4≈Wine 8≻Wine 6
R10	Wine 10≻Wine 12≻Wine 11≻Wine 2≻Wine 9≻Wine 1≻Wine 3≻Wine 5≻Wine 7≻Wine 8≻Wine 6≻Wine 4

1	1978 Côte de Beaune Villages Joseph Drouhin (France)
2	1978 Beaune Clos des Mouches Joseph Drouhin (France)
3	1978 Dole Sang de l'Enfer Valais Adrien Mathier (Switzerland)
4	1978 Chevaliers Pinot noir Valais Mathier et Kuchler (Switzerland)
5	1976 Vosne-Romanee ler Cru Joseph Drouhin (France)
6	1976 Naoussa Boutaris (Greece)
7	1976 Pinot noir Tyrrell's (Australia)
8	1975 Pinot noir Hoffman Mountain Ranch (California, USA)
9	1975 South Block Reserve Pinot noir The Eyrie Vineyards (Oregon, USA)
10	1961 Chamberlin Clos de Beze Joseph Drouhin (France)
11	1964 Aloxe-Corton Joseph Drouhin (France)
12	1959 Chambolle-Musigny Joseph Drouhin (France)

Table 7

Borda Scores for White Wines

	Wines											
Judge	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
W1	**6.0**	**10.0**	**2.0**	**1.0**	**9.0**	**5.0**	**4.0**	**7.0**	**0.0**	**11.0**	**3.0**	**8.0**
W2	**3.0**	**6.0**	**8.0**	**9.0**	**2.0**	**4.0**	**1.0**	**5.0**	**0.0**	**7.0**	**10.0**	**11.0**
W3	**5.0**	**7.0**	**0.0**	**3.0**	**10.0**	**1.0**	**2.0**	**6.0**	**4.0**	**11.0**	**8.0**	**9.0**
W4	**6.0**	**8.0**	**1.0**	**2.0**	**7.0**	**5.0**	**3.0**	**0.0**	**4.0**	**10.0**	**11.0**	**9.0**
W5	**6.0**	**9.0**	**8.0**	**3.0**	**7.0**	**2.0**	**1.0**	**0.0**	**4.0**	**10.0**	**11.0**	**5.0**
W6	**2.0**	**4.0**	**5.0**	**0.0**	**7.0**	**8.5**	**1.0**	**8.5**	**3.0**	**10.5**	**6.0**	**10.5**
W7	**2.0**	**8.0**	**5.5**	**0.0**	**5.5**	**3.0**	**7.0**	**4.0**	**1.0**	**11.0**	**10.0**	**9.0**
W8	**2.0**	**5.0**	**1.0**	**3.0**	**7.0**	**6.0**	**0.0**	**8.0**	**4.0**	**11.0**	**9.0**	**10.0**
W9	**5.0**	**7.0**	**3.0**	**0.0**	**8.0**	**4.0**	**1.0**	**6.0**	**2.0**	**11.0**	**10.0**	**9.0**
Totals	**37.0**	**64.0**	**33.5**	**21.0**	**62.5**	**38.5**	**20.0**	**44.5**	**22.0**	**92.5**	**78.0**	**80.5**
Ranking	**8**	**4**	**9**	**11**	**5**	**7**	**12**	**6**	**10**	**1**	**3**	**2**

1	1978 Chassagne-Montrachet ler Cru Joseph Drouhin (France)
2	1978 Puligny-Montrachet ler Cru Joseph Drouhin (France)
3	1978 Meursault ler Cru Joseph Drouhin (France)
4	1978 Pinot bianco del Collio (Frioul) Schiopetto (Italy)
5	1978 Beaune Clos des Mouches Joseph Drouhin (France)
6	1977 Pinot Chardonnay Tyrrell's (Australia)
7	1977 Napa Valley Chardonnay Spring Mountain Vineyards (California, USA)
8	1977 Napa Valley Chardonnay Robert Mondavi (California, USA)
9	1976 Beaune Clos des Mouches Joseph Drouhin (France)
10	1976 Napa Valley Chardonnay Trefethen Vineyards (California, USA)
11	1976 Puligny-Montrachet ler Cru Joseph Drouhin (France)
12	1975 Napa Valley Chardonnay Freemark Abbey (California, USA)

place between the 1976 Vosne-Romanee (64.5, 60.1) and the 1976 Tyrrell's Pinot noir (57.5, 60.1) in favor of the former.

On the difference between the two rankings, Hulkower asserts "The overall explanation stems from the fact that the Borda scores of contiguous non-tied alternatives differ by exactly one whereas this margin is not restricted when assigning points" (2009, p. 177). Borda restricts each judge to a total Borda Score of exactly $\frac{n(n-1)}{2}$,which is 66 for $n = 12$. The Borda Score for each wine is assigned in descending order based on rank, exactly one point apart from its neighbor, except for ties. For example, Judge W4 awarded 98 points to the 1976 Puligny-Montrachet and 79 points to the 1975 Freemark Abbey Chardonnay. The difference of 19 points, the largest of

any of the judges for these wines, contributed disproportionately to the difference between the average points of the two in contrast to the difference of 2.0 between the Borda Scores of 11.0 and 9.0 Judge W4's ranks converted to. Similarly, Judge R2 gave 0 points to the 1978 Pinot bianco and 68 points to the 1977 Spring Mountain Chardonnay, a difference of 68, compared to Borda Scores of 0.0 and 8.5, a difference of 8.5. The constant spacing enforced by Borda normalizes the contributions of each judge thereby guaranteeing equal influence on the societal outcome.

Table 8

Borda Scores for Red Wines

	Wines											
Judge	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
R1	**5.0**	**11.0**	**4.0**	**0.0**	**6.5**	**2.0**	**1.0**	**3.0**	**6.5**	**10.0**	**8.5**	**8.5**
R2	**6.0**	**6.0**	**3.0**	**0.0**	**6.0**	**1.0**	**8.5**	**10.0**	**4.0**	**8.5**	**2.0**	**11.0**
R3	**3.0**	**8.5**	**4.0**	**0.0**	**6.5**	**1.0**	**6.5**	**10.0**	**8.5**	**11.0**	**2.0**	**5.0**
R4	**8.0**	**2.0**	**1.0**	**0.0**	**6.0**	**3.0**	**11.0**	**4.0**	**10.0**	**5.0**	**7.0**	**9.0**
R5	**4.0**	**10.0**	**0.5**	**0.5**	**6.0**	**3.0**	**7.0**	**5.0**	**8.5**	**8.5**	**2.0**	**11.0**
R6	**5.0**	**4.0**	**1.0**	**0.0**	**9.0**	**7.0**	**2.5**	**6.0**	**11.0**	**2.5**	**10.0**	**8.0**
R7	**2.0**	**11.0**	**5.5**	**1.0**	**8.5**	**10.0**	**5.5**	**0.0**	**8.5**	**3.0**	**5.5**	**5.5**
R8	**5.0**	**8.0**	**4.0**	**3.0**	**7.0**	**1.5**	**9.5**	**0.0**	**11.0**	**6.0**	**1.5**	**9.5**
R9	**7.0**	**11.0**	**4.0**	**1.5**	**5.0**	**0.0**	**3.0**	**1.5**	**9.0**	**10.0**	**6.0**	**8.0**
R10	**6.0**	**8.0**	**5.0**	**0.0**	**4.0**	**1.0**	**3.0**	**2.0**	**7.0**	**11.0**	**9.0**	**10.0**
Totals	**51.0**	**79.5**	**32.0**	**6.0**	**64.5**	**29.5**	**57.5**	**41.5**	**84.0**	**75.5**	**53.5**	**85.5**
Ranking	**8**	**3**	**10**	**12**	**5**	**11**	**6**	**9**	**2**	**4**	**7**	**1**

1	1978 Côte de Beaune Villages Joseph Drouhin (France)
2	1978 Beaune Clos des Mouches Joseph Drouhin (France)
3	1978 Dole Sang de l'Enfer Valais Adrien Mathier (Switzerland)
4	1978 Chevaliers Pinot noir Valais Mathier et Kuchler (Switzerland)
5	1976 Vosne-Romanee ler Cru Joseph Drouhin (France)
6	1976 Naoussa Boutaris (Greece)
7	1976 Pinot noir Tyrrell's (Australia)
8	1975 Pinot noir Hoffman Mountain Ranch (California, USA)
9	1975 South Block Reserve Pinot noir The Eyrie Vineyards (Oregon, USA)
10	1961 Chamberlin Clos de Beze Joseph Drouhin (France)
11	1964 Aloxe-Corton Joseph Drouhin (France)
12	1959 Chambolle-Musigny Joseph Drouhin (France)

Table 9

Comparison of Rankings of the White Wines

N°	Appellation	Rank by Borda	Rank by Points
10	**1976 Napa Valley Chardonnay Trefethen Vineyards**	1	1
12	**1975 Napa Valley Chardonnay Freemark Abbey**	***2***	***3***
11	**1976 Puligny-Montrachet ler Cru Joseph Drouhin**	***3***	***2***
2	**1978 Puligny-Montrachet ler Cru Joseph Drouhin**	4	4
5	**1978 Beaune Clos des Mouches Joseph Drouhin**	5	5
8	**1977 Napa Valley Chardonnay Robert Mondavi**	6	6
6	**1977 Pinot Chardonnay Tyrrell's**	7	7
1	**1978 Chassagne-Montrachet ler Cru 1978 Joseph Drouhin**	8	8
3	**1978 Meursault ler Cru Joseph Drouhin**	9	9
9	**1976 Beaune Clos des Mouches Joseph Drouhin**	10	10
4	**1978 Pinot bianco del Collio (Frioul) Schiopetto**	***11***	***12***
7	**1977 Napa Valley Chardonnay Spring Mountain Vineyards**	***12***	***11***

Table 10

Comparison of Rankings of the Red Wines

N°	Appellation	Rank by Borda	Rank by Points
12	**1959 Chambolle-Musigny Joseph Drouhin**	1	1
9	**1975 South Block Reserve Pinot noir The Eyrie Vineyards**	2	2
2	**1978 Beaune Clos des Mouches Joseph Drouhin**	***3***	***4***
10	**1961 Chamberlin Clos de Beze Joseph Drouhin**	***4***	***3***
5	**1976 Vosne-Romanee ler Cru Joseph Drouhin**	***5***	***5 (tie)***
7	**1976 Pinot Noir Tyrrell's**	***6***	***5(tie)***
11	**1964 Aloxe-Corton Joseph Drouhin**	7	7
1	**1978 Côte de Beaune Villages Joseph Drouhin**	8	8
8	**1975 California Pinot Noir Hoffman Mountain Ranch**	9	9
3	**1978 Dole Sang de l'Enfer Valais Adrien Mathier**	10	10
6	**1976 Naoussa Boutaris**	11	11
4	**1978 Chevaliers Pinot noir Valais Mathier et Kuchler**	12	12

V. Impact of the Tasting

While not as significant as the reversal of the top two ranked red wines using Borda in the Judgment of Paris tasting (Hulkower, 2009), there are some important things to note regarding the reanalysis of the *Contre-degustation Olympiades du Vin*. First, Borda ranked two California Chardonnays 1 and 2 whereas the ranking by average points had a white Burgundy in second place. This echoes the top ranking of a California Chardonnay in the Judgment of Paris tasting.

The impact of this tasting on the emerging Oregon wine industry was more noteworthy as it led to the establishment of the first outpost of a Burgundian house in the state. "Intrigued by the results of the 1979 tasting, Robert [Drouhin] re-stages the tasting at the Drouhin cellars in Beaune, and uses many of his own Burgundies in the tasting, to understand the new world competition better. Amazingly, the same Oregon wine [that had placed in the top 10 in the Pinot noir category in the *Olympiades*] (the now legendary 1975 Eyrie Vineyards South Block Reserve) placed second by a very narrow margin, bested only by a 1959 Drouhin Chambolle Musigny" (Domaine Drouhin Oregon, n.d.). The Chambolle Musigny received 70 average points and a Borda Score of 85.5 while the Eyrie got 69.8 average points and a Borda Score of 84.0.

VI. Conclusion

This paper contains another example of how the use of the Borda Count to determine a consensus ranking in a wine tasting produced a result that differs from the one obtained using average points. It also quantifies the extent of the distortion resulting from the use of points both at the individual wine level and overall, for the *Contre-degustation Olympiades du Vin*. While judges' points are essential for certain types of analyses (Cicchetti, 2014; Hulkower, 2018), they should not be used as the basis for arriving at a consensus ranking of wines in a competition. For this, the Borda Count is uniquely suited.

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