

# Introducing the Roman Senatorial Debate

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## Successful implementation proposal

Here we present the rules of a round of Roman Senatorial Debate.

1. **Number of debaters.** The standard number of debaters is 8. Speaking time is 7 minutes.
  - The Roman Senatorial Debate format should work from 4 debaters to any number of debaters, even beyond 8, but for the purpose of a tournament, rooms should be assumed to accommodate 8 debaters, so the pace would mirror that of the British Parliamentary style.
2. **Choosing sides.** Before the first speech, each debater must reveal in their hand a number of coins. A sum of 1\$ means they support the motion, and so they're on the proposition, Yay (Y). A sum of 2\$ means they're against the motion, and so they're on the opposition, the Nay side (N). Anything else, including 0\$ indicates they're undecided (U). The sides chosen by the debaters must then be recorded, and so they must be seated appropriately. Rearrange the chairs if necessary so it is clear to everywhere all debaters stand. All sums are then pooled into the jackpot. Then they start the debate.
  - The imbalance is intentionally weighted in favor of the motion, making it easier to support than oppose. This is partly to incentivize whoever sponsoring or organizing the debate to feel that their time, energy, and money have been adequately spent in advancing an ideological position that they themselves favour.
  - The higher cost of opposition is also there to ensure that resisting the motion is a matter of genuine conviction, not casual contrarianism—it makes conscience expensive, and therefore meaningful.
  - The sum could be scaled up to (prop: 10\$, opp: 20\$), or even (prop: 10,000\$, opp: 20,000\$), depending on the tournament's debater demographic. But the ratio should be kept at 1:2.

- Senators who began
3. **Speaking order.** There are multiple ways to determine the speaking order. Here we present two methods, one simple and one sophisticated.
    - **Simple method.** The speaking queue is ordered by Y, N, U, in that order, until all sides run out. If one side has already run out, the next side continues on the queue.
      - Say you have 8 debaters, 7 Ys, and 1Ns, then the queue is (Y, N, Y, Y, Y, Y, Y, Y).
      - Another example, say you have 8 debaters, 3 Ys, 4 Ns, and 1 U, then the queue is (Y, N, U, Y, N, Y, N, N).
      - One more example, say 2 Ys, 5 Ns, and 1 U, then the queue is (Y, N, U, Y, N, N, N, N).
      - The point of stacking the side where there is a large number of supporting senators towards the "end" of the queue is to (1) give the opposing side more "time" for them to make clear their point earlier, and so their speech can have more impact, and (2) to give the more numerous side more time to reconsider their position.
    - **Sophisticated method.** The speaker order is not determined, but bidded. Whenever the floor is open, senators may bid for the speaking slot. There are three bids. All unsuccessful bids are pooled into the jackpot. The highest bidder gets the speaking slot. If there are no bidders, then the speaker to the left of the last speaker gets the speaking slot.
      - Obviously, this method of determining speaking orders is more monetarily competitive, and involves more strategizing. It also inflates the jackpot.
  4. Each senator makes a 7 minute speech. Any sitting may raise points of information during the 1st and 6th minute of the speech. During any time of their speech, they may add money to the pot.
  5. **Voting and resolution.** When all speeches have been, the chamber shall undergo a round of voting. This ultimate round of voting involves no monetary commitment. The vote is recorded by name. Each senator must write down on a piece of paper, his name, the side he votes for, and then all the votes are counted and revealed public. Votes with no names are invalid. Senators whose vote are not recorded are considered to have abstained. Senators may vote in favour, in opposition, or abstain or remain undecided. The threshold for winning is 1 + half of the total number of debaters. This means in a chamber of 8 senators, for Proposition or Opposition to win, it must secure 5 votes. The Proposition wins if and only if it has secured 5 votes, in which case we say the motion is passed, or adopted. The Opposition wins if and only if it has secured 5 votes as well, in which case we say the motion is defeated, or rejected. In the case where the vote is split, perhaps evenly 4-4, or 4-3-1 in Y-N-U, then we say the motion is unresolved, in which case we do not say the motion has passed or defeated. In such a case we also say the chamber is tied.
  6. **Points and Jackpot** The general philosophy is that points is what counts towards breaks - senators with the highest points break into the elimination rounds. Jackpot is monetary reward, and fuel. They do not count in any way towards breaks.

- The points are distributed thus, to every senator:

	stay 留	switch 轉軌	abstain 棄權
win 贏	3	1	0
lose 輸	2	0	0
tie 和	0	0	0

- Senators who were undecided at the start of the debate and voted in favour or against the motion are considered to have switched sides, and are rewarded 1 point.
- You can see that those who lost the debate but stuck to their guns are rewarded more highly in terms of points than those who switched sides.
- You can see that ties are very punishing to all senators involved. It basically means they have all wasted time and everyone has lost.

7. **Jackpot money distribution.** The jackpot money is split thus:

- $s$  is the total sum in the pot, which always abides by the following:  
 $s = w_{\text{留}} + w_{\text{轉}}$
- $v$  is the total number of votes on the winning side, which always abides by the following:  $v = v_{\text{留}} + v_{\text{轉}}$
- $w_{\text{留}}$  and  $w_{\text{轉}}$  are defined as such:
  - (a)  $w_{\text{留}} = s \cdot \frac{v_{\text{留}}+1}{v+1}$
  - (b)  $w_{\text{轉}} = s \cdot \frac{v_{\text{轉}}}{v+1}$
- To say this without justification, this creates a quasi-prisoner's dilemma situation in the following box, where those who switch sides and win, win money but lose out relatively on points.
- The split of the  $w_{\text{留}}$  and  $w_{\text{轉}}$  leaves a weird case where everyone switched sides and that side won. In such a case, there'd be nobody to claim the virtual 留贏 share. That share can go to many places: (1) the poorest member, (2) the hosting tournament, (3) divided equally amongst all players...(4) taken by the winning side as well...
- The point of the dynamic is: some people care about the money, some people care about passing the motion.

8. **The rewards table** Combining the points and jackpot money distribution, the rewards matrix for each senator is:

	stay 留	switch 轉軌	abstain 棄權
win 贏	$(3, \frac{sv_{\text{留}}+1}{v_{\text{留}}(v+1)})$	$(1, \frac{sv_{\text{轉}}}{v_{\text{轉}}(v+1)})$	(0,0)
lose 輸	(2,0)	(0,0)	(0,0)
tie 和	(0,0)	(0,0)	(0,0)

As we can see, the switching side has monetary pay out  $\frac{sv_{\text{轉}}}{v_{\text{轉}}(v+1)} = \frac{s}{v+1}$ .

9. **Chairs & Speakers** Suppose for the sake of decorum, and perhaps for the sake of maintaining accounting validity, you might want to introduce a chair, or a speaker. The chair's role, unlike in British Parliamentary debate, does not involve judging. He is only involved in making sure the outcome properly computed and resolved.

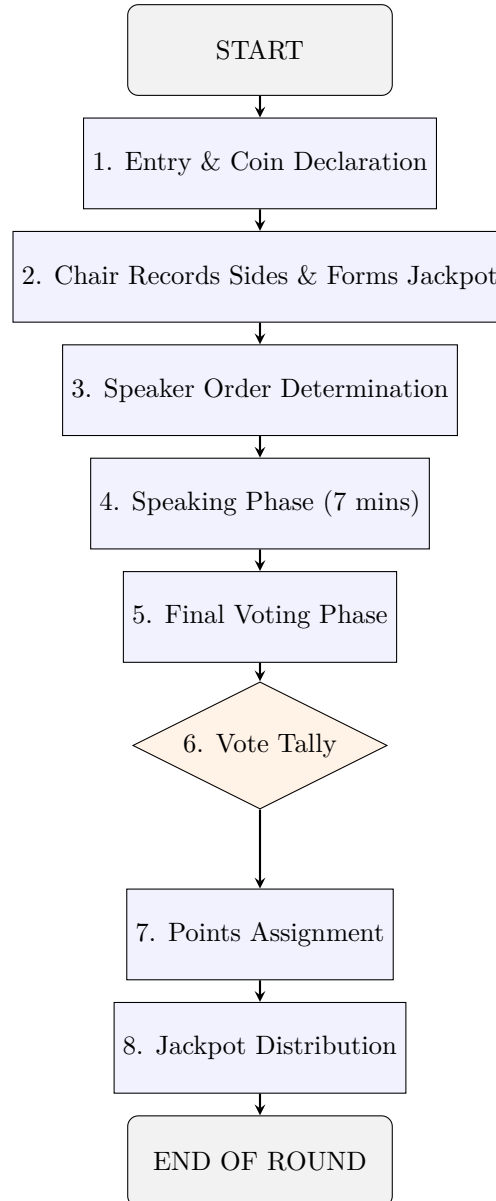


圖 1: Flowchart of a round of the Roman Senatorial Debate

## Payout structure by debater count

Recall that the number of senators can arguably be scaled up to any number. And also recall that the number of votes necessary to win is  $1 + \text{half of the total number of debaters}$ .

Here we present the payout structure for different numbers of debaters and voting scenarios.

$n_{\text{debaters}}$	$v_{\text{win}}$	$v_{\text{留}}$	$v_{\text{轉}}$	$w_{\text{留}} = 100 \cdot \frac{v_{\text{留}}+1}{v_{\text{win}}+1}$	$w_{\text{轉}} = 100 \cdot \frac{v_{\text{轉}}}{v+1}$	$w_{\text{留}}/\text{人}$	$w_{\text{轉}}/\text{人}$
6	4	0	4	20.0	80.0	n/a <sup>a</sup>	20.0
6	4	1	3	40.0	60.0	40.0	20.0
6	4	2	2	60.0	40.0	30.0	20.0
6	4	3	1	80.0	20.0	26.67	20.0
6	4	4	0	100.0	0.0	25.0	0.0
6	5	0	5	16.67	83.33	n/a <sup>a</sup>	16.67
6	5	1	4	33.33	66.67	33.33	16.67
6	5	2	3	50.0	50.0	25.0	16.67
6	5	3	2	66.67	33.33	22.22	16.67
6	5	4	1	83.33	16.67	20.83	16.67
6	5	5	0	100.0	0.0	20.0	0.0
6	6	0	6	14.29	85.71	n/a <sup>a</sup>	14.29
6	6	1	5	28.57	71.43	28.57	14.29
6	6	2	4	42.86	57.14	21.43	14.29
6	6	3	3	57.14	42.86	19.05	14.29
6	6	4	2	71.43	28.57	17.86	14.29
6	6	5	1	85.71	14.29	17.14	14.29
6	6	6	0	100.0	0.0	16.67	0.0

<sup>a</sup> n/a, because there are literally no participants who won who stayed on the position that they started with. Obviously this is a degenerate and highly unlikely case. But we still need to figure out how to handle the payout which has no one to receive it. It can either (1) be distributed amongst those who won, (2) go to anyone on the losing side who stuck to their guns, or (3) go to the poorest member, or (4) to the tournament organizer. We are not too interested in the details.

表 1: Payout structure for different numbers of debaters and voting scenarios

$n_{\text{debaters}}$	$v_{\text{win}}$	$v_{\text{留}}$	$v_{\text{轉}}$	$w_{\text{留}} = 100 \cdot \frac{v_{\text{留}}+1}{v_{\text{win}}+1}$	$w_{\text{轉}} = 100 \cdot \frac{v_{\text{轉}}}{v+1}$	$w_{\text{留}}/\text{人}$	$w_{\text{轉}}/\text{人}$
7	4	0	4	20.0	80.0	n/a <sup>a</sup>	20.0
7	4	1	3	40.0	60.0	40.0	20.0
7	4	2	2	60.0	40.0	30.0	20.0
7	4	3	1	80.0	20.0	26.67	20.0
7	4	4	0	100.0	0.0	25.0	0.0
7	5	0	5	16.67	83.33	n/a <sup>a</sup>	16.67
7	5	1	4	33.33	66.67	33.33	16.67
7	5	2	3	50.0	50.0	25.0	16.67
7	5	3	2	66.67	33.33	22.22	16.67
7	5	4	1	83.33	16.67	20.83	16.67
7	5	5	0	100.0	0.0	20.0	0.0
7	6	0	6	14.29	85.71	n/a <sup>a</sup>	14.29
7	6	1	5	28.57	71.43	28.57	14.29
7	6	2	4	42.86	57.14	21.43	14.29
7	6	3	3	57.14	42.86	19.05	14.29
7	6	4	2	71.43	28.57	17.86	14.29
7	6	5	1	85.71	14.29	17.14	14.29
7	6	6	0	100.0	0.0	16.67	0.0
7	7	0	7	12.5	87.5	n/a <sup>a</sup>	12.5
7	7	1	6	25.0	75.0	25.0	12.5
7	7	2	5	37.5	62.5	18.75	12.5
7	7	3	4	50.0	50.0	16.67	12.5
7	7	4	3	62.5	37.5	15.62	12.5
7	7	5	2	75.0	25.0	15.0	12.5
7	7	6	1	87.5	12.5	14.58	12.5
7	7	7	0	100.0	0.0	14.29	0.0

<sup>a</sup> n/a indicates no 留 voters to receive the payout.

表 2: Payout structure for different numbers of debaters and voting scenarios

$n_{\text{debaters}}$	$v_{\text{win}}$	$v_{\text{留}}$	$v_{\text{轉}}$	$w_{\text{留}} = 100 \cdot \frac{v_{\text{留}}+1}{v_{\text{win}}+1}$	$w_{\text{轉}} = 100 \cdot \frac{v_{\text{轉}}}{v+1}$	$w_{\text{留}}/\text{人}$	$w_{\text{轉}}/\text{人}$
8	5	0	5	16.67	83.33	n/a <sup>a</sup>	16.67
8	5	1	4	33.33	66.67	33.33	16.67
8	5	2	3	50.0	50.0	25.0	16.67
8	5	3	2	66.67	33.33	22.22	16.67
8	5	4	1	83.33	16.67	20.83	16.67
8	5	5	0	100.0	0.0	20.0	0.0
8	6	0	6	14.29	85.71	n/a <sup>a</sup>	14.29
8	6	1	5	28.57	71.43	28.57	14.29
8	6	2	4	42.86	57.14	21.43	14.29
8	6	3	3	57.14	42.86	19.05	14.29
8	6	4	2	71.43	28.57	17.86	14.29
8	6	5	1	85.71	14.29	17.14	14.29
8	6	6	0	100.0	0.0	16.67	0.0
8	7	0	7	12.5	87.5	n/a <sup>a</sup>	12.5
8	7	1	6	25.0	75.0	25.0	12.5
8	7	2	5	37.5	62.5	18.75	12.5
8	7	3	4	50.0	50.0	16.67	12.5
8	7	4	3	62.5	37.5	15.62	12.5
8	7	5	2	75.0	25.0	15.0	12.5
8	7	6	1	87.5	12.5	14.58	12.5
8	7	7	0	100.0	0.0	14.29	0.0
8	8	0	8	11.11	88.89	n/a <sup>a</sup>	11.11
8	8	1	7	22.22	77.78	22.22	11.11
8	8	2	6	33.33	66.67	16.67	11.11
8	8	3	5	44.44	55.56	14.81	11.11
8	8	4	4	55.56	44.44	13.89	11.11
8	8	5	3	66.67	33.33	13.33	11.11
8	8	6	2	77.78	22.22	12.96	11.11
8	8	7	1	88.89	11.11	12.7	11.11
8	8	8	0	100.0	0.0	12.5	0.0

<sup>a</sup> n/a indicates no 留 voters to receive the payout.

表 3: Payout structure for different numbers of debaters and voting scenarios

$n_{\text{debaters}}$	$v_{\text{win}}$	$v_{\text{留}}$	$v_{\text{轉}}$	$w_{\text{留}} = 100 \cdot \frac{v_{\text{留}}+1}{v_{\text{win}}+1}$	$w_{\text{轉}} = 100 \cdot \frac{v_{\text{轉}}}{v+1}$	$w_{\text{留}}/\text{人}$	$w_{\text{轉}}/\text{人}$
9	5	0	5	16.67	83.33	n/a <sup>a</sup>	16.67
9	5	1	4	33.33	66.67	33.33	16.67
9	5	2	3	50.0	50.0	25.0	16.67
9	5	3	2	66.67	33.33	22.22	16.67
9	5	4	1	83.33	16.67	20.83	16.67
9	5	5	0	100.0	0.0	20.0	0.0
9	6	0	6	14.29	85.71	n/a <sup>a</sup>	14.29
9	6	1	5	28.57	71.43	28.57	14.29
9	6	2	4	42.86	57.14	21.43	14.29
9	6	3	3	57.14	42.86	19.05	14.29
9	6	4	2	71.43	28.57	17.86	14.29
9	6	5	1	85.71	14.29	17.14	14.29
9	6	6	0	100.0	0.0	16.67	0.0
9	7	0	7	12.5	87.5	n/a <sup>a</sup>	12.5
9	7	1	6	25.0	75.0	25.0	12.5
9	7	2	5	37.5	62.5	18.75	12.5
9	7	3	4	50.0	50.0	16.67	12.5
9	7	4	3	62.5	37.5	15.62	12.5
9	7	5	2	75.0	25.0	15.0	12.5
9	7	6	1	87.5	12.5	14.58	12.5
9	7	7	0	100.0	0.0	14.29	0.0
9	8	0	8	11.11	88.89	n/a <sup>a</sup>	11.11
9	8	1	7	22.22	77.78	22.22	11.11
9	8	2	6	33.33	66.67	16.67	11.11
9	8	3	5	44.44	55.56	14.81	11.11
9	8	4	4	55.56	44.44	13.89	11.11
9	8	5	3	66.67	33.33	13.33	11.11
9	8	6	2	77.78	22.22	12.96	11.11
9	8	7	1	88.89	11.11	12.7	11.11
9	8	8	0	100.0	0.0	12.5	0.0
9	9	0	9	10.0	90.0	n/a <sup>a</sup>	10.0
9	9	1	8	20.0	80.0	20.0	10.0
9	9	2	7	30.0	70.0	15.0	10.0
9	9	3	6	40.0	60.0	13.33	10.0
9	9	4	5	50.0	50.0	12.5	10.0
9	9	5	4	60.0	40.0	12.0	10.0
9	9	6	3	70.0	30.0	11.67	10.0
9	9	7	2	80.0	20.0	11.43	10.0
9	9	8	1	90.0	10.0	11.25	10.0
9	9	9	0	100.0	0.0	11.11	0.0

<sup>a</sup> n/a indicates no 留 voters to receive the payout.

表 4: Payout structure for different numbers of debaters and voting scenarios

$n_{\text{debaters}}$	$v_{\text{win}}$	$v_{\text{留}}$	$v_{\text{轉}}$	$w_{\text{留}} = 100 \cdot \frac{v_{\text{留}}+1}{v_{\text{win}}+1}$	$w_{\text{轉}} = 100 \cdot \frac{v_{\text{轉}}}{v+1}$	$w_{\text{留}}/\text{人}$	$w_{\text{轉}}/\text{人}$
10	6	0	6	14.29	85.71	n/a <sup>a</sup>	14.29
10	6	1	5	28.57	71.43	28.57	14.29
10	6	2	4	42.86	57.14	21.43	14.29
10	6	3	3	57.14	42.86	19.05	14.29
10	6	4	2	71.43	28.57	17.86	14.29
10	6	5	1	85.71	14.29	17.14	14.29
10	6	6	0	100.0	0.0	16.67	0.0
10	7	0	7	12.5	87.5	n/a <sup>a</sup>	12.5
10	7	1	6	25.0	75.0	25.0	12.5
10	7	2	5	37.5	62.5	18.75	12.5
10	7	3	4	50.0	50.0	16.67	12.5
10	7	4	3	62.5	37.5	15.62	12.5
10	7	5	2	75.0	25.0	15.0	12.5
10	7	6	1	87.5	12.5	14.58	12.5
10	7	7	0	100.0	0.0	14.29	0.0
10	8	0	8	11.11	88.89	n/a <sup>a</sup>	11.11
10	8	1	7	22.22	77.78	22.22	11.11
10	8	2	6	33.33	66.67	16.67	11.11
10	8	3	5	44.44	55.56	14.81	11.11
10	8	4	4	55.56	44.44	13.89	11.11
10	8	5	3	66.67	33.33	13.33	11.11
10	8	6	2	77.78	22.22	12.96	11.11
10	8	7	1	88.89	11.11	12.7	11.11
10	8	8	0	100.0	0.0	12.5	0.0
10	9	0	9	10.0	90.0	n/a <sup>a</sup>	10.0
10	9	1	8	20.0	80.0	20.0	10.0
10	9	2	7	30.0	70.0	15.0	10.0
10	9	3	6	40.0	60.0	13.33	10.0
10	9	4	5	50.0	50.0	12.5	10.0
10	9	5	4	60.0	40.0	12.0	10.0
10	9	6	3	70.0	30.0	11.67	10.0
10	9	7	2	80.0	20.0	11.43	10.0
10	9	8	1	90.0	10.0	11.25	10.0
10	9	9	0	100.0	0.0	11.11	0.0
10	10	0	10	9.09	90.91	n/a <sup>a</sup>	9.09
10	10	1	9	18.18	81.82	18.18	9.09
10	10	2	8	27.27	72.73	13.64	9.09
10	10	3	7	36.36	63.64	12.12	9.09
10	10	4	6	45.45	54.55	11.36	9.09
10	10	5	5	54.55	45.45	10.91	9.09
10	10	6	4	63.64	36.36	10.61	9.09
10	10	7	3	72.73	27.27	10.39	9.09
10	10	8	2	81.82	18.18	10.23	9.09
10	10	9	1	90.91	9.09	10.1	9.09
10	10	10	0	100.0	0.0	10.0	0.0

<sup>a</sup> n/a indicates no 留 voters to receive the payout.

表 5: Payout structure for different numbers of debaters and voting scenarios



$n_{\text{debaters}}$	$v_{\text{win}}$	$v_{\text{留}}$	$v_{\text{轉}}$	$w_{\text{留}} = 100 \cdot \frac{v_{\text{留}}+1}{v_{\text{win}}+1}$	$w_{\text{轉}} = 100 \cdot \frac{v_{\text{轉}}}{v+1}$	$w_{\text{留}}/\text{人}$	$w_{\text{轉}}/\text{人}$
11	6	0	6	14.29	85.71	n/a <sup>a</sup>	14.29
11	6	1	5	28.57	71.43	28.57	14.29
11	6	2	4	42.86	57.14	21.43	14.29
11	6	3	3	57.14	42.86	19.05	14.29
11	6	4	2	71.43	28.57	17.86	14.29
11	6	5	1	85.71	14.29	17.14	14.29
11	6	6	0	100.0	0.0	16.67	0.0
11	7	0	7	12.5	87.5	n/a <sup>a</sup>	12.5
11	7	1	6	25.0	75.0	25.0	12.5
11	7	2	5	37.5	62.5	18.75	12.5
11	7	3	4	50.0	50.0	16.67	12.5
11	7	4	3	62.5	37.5	15.62	12.5
11	7	5	2	75.0	25.0	15.0	12.5
11	7	6	1	87.5	12.5	14.58	12.5
11	7	7	0	100.0	0.0	14.29	0.0
11	8	0	8	11.11	88.89	n/a <sup>a</sup>	11.11
11	8	1	7	22.22	77.78	22.22	11.11
11	8	2	6	33.33	66.67	16.67	11.11
11	8	3	5	44.44	55.56	14.81	11.11
11	8	4	4	55.56	44.44	13.89	11.11
11	8	5	3	66.67	33.33	13.33	11.11
11	8	6	2	77.78	22.22	12.96	11.11
11	8	7	1	88.89	11.11	12.7	11.11
11	8	8	0	100.0	0.0	12.5	0.0
11	9	0	9	10.0	90.0	n/a <sup>a</sup>	10.0
11	9	1	8	20.0	80.0	20.0	10.0
11	9	2	7	30.0	70.0	15.0	10.0
11	9	3	6	40.0	60.0	13.33	10.0
11	9	4	5	50.0	50.0	12.5	10.0
11	9	5	4	60.0	40.0	12.0	10.0
11	9	6	3	70.0	30.0	11.67	10.0
11	9	7	2	80.0	20.0	11.43	10.0
11	9	8	1	90.0	10.0	11.25	10.0
11	9	9	0	100.0	0.0	11.11	0.0
11	10	0	10	9.09	90.91	n/a <sup>a</sup>	9.09
11	10	1	9	18.18	81.82	18.18	9.09
11	10	2	8	27.27	72.73	13.64	9.09
11	10	3	7	36.36	63.64	12.12	9.09
11	10	4	6	45.45	54.55	11.36	9.09
11	10	5	5	54.55	45.45	10.91	9.09
11	10	6	4	63.64	36.36	10.61	9.09
11	10	7	3	72.73	27.27	10.39	9.09
11	10	8	2	81.82	18.18	10.23	9.09
11	10	9	1	90.91	9.09	10.1	9.09
11	10	10	0	100.0	0.0	10.0	0.0
11	11	0	11	8.33	91.67	n/a <sup>a</sup>	8.33
11	11	1	10	16.67	83.33	16.67	8.33
11	11	2	9	25.0	75.0	12.5	8.33
11	11	3	8	33.33	66.67	11.11	8.33
11	11	4	7	41.67	58.33	10.42	8.33
11	11	5	6	50.0	50.0	10.0	8.33
11	11	6	5	58.33	41.67	9.72	8.33
11	11	7	4	66.67	33.33	9.52	8.33
11	11	8	3	75.0	25.0	9.38	8.33
11	11	9	2	83.33	16.67	9.26	8.33
11	11	10	1	91.67	8.33	9.17	8.33
11	11	11	0	100.0	0.0	9.09	0.0

<sup>a</sup> n/a indicates no 留 voters to receive the payout.

表 6: Payout structure for different numbers of debaters and voting scenarios

$n_{\text{debaters}}$	$v_{\text{win}}$	$v_{\text{留}}$	$v_{\text{轉}}$	$w_{\text{留}} = 100 \cdot \frac{v_{\text{留}}+1}{v_{\text{win}}+1}$	$w_{\text{轉}} = 100 \cdot \frac{v_{\text{轉}}}{v+1}$	$w_{\text{留}}/\text{人}$	$w_{\text{轉}}/\text{人}$
12	7	0	7	12.5	87.5	n/a <sup>a</sup>	12.5
12	7	1	6	25.0	75.0	25.0	12.5
12	7	2	5	37.5	62.5	18.75	12.5
12	7	3	4	50.0	50.0	16.67	12.5
12	7	4	3	62.5	37.5	15.62	12.5
12	7	5	2	75.0	25.0	15.0	12.5
12	7	6	1	87.5	12.5	14.58	12.5
12	7	7	0	100.0	0.0	14.29	0.0
12	8	0	8	11.11	88.89	n/a <sup>a</sup>	11.11
12	8	1	7	22.22	77.78	22.22	11.11
12	8	2	6	33.33	66.67	16.67	11.11
12	8	3	5	44.44	55.56	14.81	11.11
12	8	4	4	55.56	44.44	13.89	11.11
12	8	5	3	66.67	33.33	13.33	11.11
12	8	6	2	77.78	22.22	12.96	11.11
12	8	7	1	88.89	11.11	12.7	11.11
12	8	8	0	100.0	0.0	12.5	0.0
12	9	0	9	10.0	90.0	n/a <sup>a</sup>	10.0
12	9	1	8	20.0	80.0	20.0	10.0
12	9	2	7	30.0	70.0	15.0	10.0
12	9	3	6	40.0	60.0	13.33	10.0
12	9	4	5	50.0	50.0	12.5	10.0
12	9	5	4	60.0	40.0	12.0	10.0
12	9	6	3	70.0	30.0	11.67	10.0
12	9	7	2	80.0	20.0	11.43	10.0
12	9	8	1	90.0	10.0	11.25	10.0
12	9	9	0	100.0	0.0	11.11	0.0
12	10	0	10	9.09	90.91	n/a <sup>a</sup>	9.09
12	10	1	9	18.18	81.82	18.18	9.09
12	10	2	8	27.27	72.73	13.64	9.09
12	10	3	7	36.36	63.64	12.12	9.09
12	10	4	6	45.45	54.55	11.36	9.09
12	10	5	5	54.55	45.45	10.91	9.09
12	10	6	4	63.64	36.36	10.61	9.09
12	10	7	3	72.73	27.27	10.39	9.09
12	10	8	2	81.82	18.18	10.23	9.09
12	10	9	1	90.91	9.09	10.1	9.09
12	10	10	0	100.0	0.0	10.0	0.0
12	11	0	11	8.33	91.67	n/a <sup>a</sup>	8.33
12	11	1	10	16.67	83.33	16.67	8.33
12	11	2	9	25.0	75.0	12.5	8.33
12	11	3	8	33.33	66.67	11.11	8.33
12	11	4	7	41.67	58.33	10.42	8.33
12	11	5	6	50.0	50.0	10.0	8.33
12	11	6	5	58.33	41.67	9.72	8.33
12	11	7	4	66.67	33.33	9.52	8.33
12	11	8	3	75.0	25.0	9.38	8.33
12	11	9	2	83.33	16.67	9.26	8.33
12	11	10	1	91.67	8.33	9.17	8.33
12	11	11	0	100.0	0.0	9.09	0.0
12	12	0	12	7.69	92.31	n/a <sup>a</sup>	7.69
12	12	1	11	15.38	84.62	15.38	7.69
12	12	2	10	23.08	76.92	11.54	7.69
12	12	3	9	30.77	69.23	10.26	7.69
12	12	4	8	38.46	61.54	9.62	7.69
12	12	5	7	46.15	53.85	9.23	7.69
12	12	6	6	53.85	46.15	8.97	7.69
12	12	7	5	61.54	38.46	8.79	7.69
12	12	8	4	69.23	30.77	8.65	7.69
12	12	9	3	76.92	23.08	8.55	7.69
12	12	10	2	84.62	15.38	8.46	7.69
12	12	11	1	92.31	7.69	8.39	7.69
12	12	12	0	100.0	0.0	8.33	0.0

<sup>a</sup> n/a indicates no 留 voters to receive the payout.

表 7: Payout structure for different numbers of debaters and voting scenarios

## Elimination mechanism

Unlike the British Parliamentary style tournament where you can set the number of rounds depending on how many outrounds you want, and then the teams are exponentially and deterministically eliminated, the Roman Senatorial Debate does not work like that.

A chamber might fail to resolve the motion, in which case every senator gets 0 points. A chamber might also resolve the motion unanimously without switching sides, in which case every senator gets 3 points. These irregularities pose difficulties to a straightforward elimination mechanism like that in the British Parliamentary style tournament, as a chamber might return all 8 senators with 3 points, or all senators with 0 points.

1. **Admission to elimination rounds.** At breaks, teams are admitted into the elimination rounds by virtue of the points they've accumulated.
2. **Tie resolution.** In any case where there is a tie, this either resolved by money, or force. In the case where the option to resolve it by force is enabled, any tied member has the right to resolve it by trial by combat. Women may be allowed to fight, but they are accorded the privilege to find a champion. Men are not accorded the privilege of champerty. Champions must be participating senators. This is in line with the general philosophy of the tournament that debate, politics, and intellectualism makes sense only if it is a game of honour - and honour only emerges if there is an ultimate backstop of violence.
3. **Points carryover.** Senators will continue to inherit their points from the preliminary rounds. Senators WILL NOT have their accumulated points reset to 0 in the breakrounds. The point of this is to give intellectual autonomy to the senators to stand their ground.
4. **Number of participants.** The number of senators the tournament admits into the outrounds is the number of rounds times 8 senators. we have:
  - (a) octos (8 strongest rooms, 4th last round): 64 人 →
  - (b) quarters (4 strongest rooms, 3rd last round): 32 人 →
  - (c) semis (2 strongest rooms, 2nd last round): 16 人 →
  - (d) grand final (last round): 8 人.
5. **Elimination mechanism.** In each of the outrounds, the aggregate half of the rooms with the lowest points are eliminated. So unlike BP where the result of each room individually decides the outcome of the outround, here the aggregate result of all rooms in the outround decides the outcome.
6. **The Market of Speech and Influence.** Since senators carry over their points from the preliminary rounds, those with high scores can speak freely with their immediate fear of elimination heavily discounted. This grants intellectual autonomy to top-performing senators, allowing them to assert their own private views with confidence and demonstrate their full intellectual prowess. This means there is now a privilege to speak, where you can basically air your own views on a topic, and you granted an audience.

This, on the whole, means that the tournament becomes a market where the commodity of speech and influence can be acquired by a combination of strategic political manoeuvre and careful money management.

7. **The Grand Final.** How is the winner of the Grand Final determined? This is tricky and it depends on what matters to you. The recommendation is that the you still run the debate as a normal round, but depending on the tournament's interest, one may arbitrarily define the "winner(s)" to be whoever stuck to his guns and whose side resolved the motion. But if for reasons of ceremony or competition the tournament must produce a "winner", they might resolve to define the winner as the side that the chamber resolved in favour for.

## Emergent phenomenon

It is very likely that this set of rules will yield emergent phenomena. It is my sincere hope that the game, along with its emergent phenomena, will beget and engender virtues in its participants: honour, intellectualism, honesty, duty, and most importantly, the prudent and intelligent use of force. The pen that is dancing is only as mighty as the sword that is at rest.

## Bribery

Consider the case where in the first round of votes, the vote distribution is 7 Y and 1 N. This is a highly stable state. The 7 participants have no incentive to switch their vote. Anybody switching would be giving up 3 points for at best 1 point, and the jackpot sum that's already in the bag.

Then, what's the point of the debate here? There is no point. There would only be a point to debate if there's a destabilizing force of some sort.

If things have been left to their own devices, then the inevitable solution will emerge by itself - bribery, vote-buying.

Vote-buying, from other senators, and only from other senators, serves as a reasonable destabilizing force.

If the form of vote-buying enabled involves the inflation of the supply of votes, then debate will become a simple matter of money takes all. This is not a good thing. Vote inflation must not be allowed. It destroys the need to debate, the need to persuade, and the need to offer a bribe. It eliminates politicking and favour-trading - which is the whole point of this exercise. But if vote-buying is restricted to the form of bribing other senators, then there will still be a tug of war between conscience and monetary self-interest.

Since we are dealing with actual money, vote-buying is going to be particularly impactful on less well-off participants. This naturally means there would be a natural incentive for poor participants to join the tournament - for the promise of monetary prizes. Just like how the poker game inevitably attracts the poor university student.

One might wonder, does one need to introduce a mechanism to enforce the promises of bribery? The answer is no. In fact, it absolutely should not be introduced. For if you do, then it eliminates the possibility of creating the culture of honour and promisekeeping. Furthermore, dishonest and lying bribe-offers will likely be punished as the tournament progresses. Reiterated game theory dynamic secures it. If you cheated someone of a promised bribe, what are the chances you will maintain your standing in the tournament? Or in another tournament?

On the other hand, perhaps there is someone you really want to screw over - either because of personal vendetta or because of the repugnance of their views. In these case, one might be highly motivated to engage in treachery.

The capacity for treachery is something we should cultivate—even if its victims find it distasteful. Participants must internalize this, not only because treachery is an unavoidable feature of life, especially in high politics, but also because those with lofty ideals and ambitions will find it a dagger they cannot do without. If our goal is to foster a culture of trust and honour, as well as the capacity to betray and wound—like the Roman senators of old—then we must give participants the space to exercise both. Most importantly, the point is that a man is good not because he is weak and is unable to inflict pain, but because he is strong and is able to do harm, but choses not to do so. *Si vis pacem, para bellum*.

It is therefore no overstatement to say that bribery is the mother of honour in this game.

This begets an interesting question: why are bribes so frowned upon in modern electoral arena?

The most promising answer is that not all bribes are identical. The follow-up is that favour-trading is the equivalent of bribes that we described and enabled in our debate game - and that is never disallowed. Indeed, favour-trading is what politics is all about. If disallowed, politics disintegrates and ceases to be.

So why do we not allow the ordinary voter to sell his vote? Why do we not allow the rich to buy votes from the poor? It seems a very direct way to redistribute wealth, and certainly seems far better than the current system of wealth redistribution through government policy in areas of interest, or the electoral campaign phenomenon where the rich donates huge sums to candidates to either fatten their pockets or to fund their advertisement efforts. Neither the state nor the people are enriched in these transactions.

It seems particularly intuitive why enabling the buying of votes in parliament is not a good idea - it should seem too powerful a mechanism to reorganize interests - it's like staring directly into the sun. To emerge from intuition land, and get into something more rigourous, allowing the bribing of parliamentarians enable embezzlement and cronyism. Embezzlement take the following the form: the government, empowered by the bribed parliamentarian of transferring funds to a service provider whose service is purchased by the government. The parliamentarian then receives a bribe, either directly in the form of cash, or in the form of a kickback. The government is robbed.

The key mechanism is that the parliamentarian increased the price the government is willing to pay for the service than the government would have paid if

there was no bribe. The difference is then split between the service-provider and the bribe paid to the parliamentarian. The service-provider is enriched, the parliamentarian is enriched, and the government is impoverished.

Calling this embezzlement is probably mildly misleading in the sense it seems to suggest it occurs far less often than one would expect. In reality, this is just lobbying - and it undoubtedly happens every day.

Does this mechanism still manifest in some other form if it is the ordinary voter who's bribed, and not the parliamentarian? The voter merely elects the parliamentarian, but the parliamentarian doesn't get any kickbacks - the "kickback" is already spent on buying the votes from the voter, and for the vote-buyer to recuperate his expenditure, the parliamentarian must somehow spend government budget funds more extravagantly than he would have done otherwise on some service from the service-provider. Is the parliamentarian more, or less incentivized to do this, than he would have been if he was not bribed/lobbied?

## Nonchalant Speech

In the Roman Senatorial Debate, it is possible to run into local pockets of complete speech freedom, begotten by isolated game-theoretic dynamics. In these instances, senators find themselves in a position to speak whatever they want, without finding their standing in the tournament being in anyway diminished or damaged. If the initial vote is 7Y-1N, and the opposing senator is a penniless and charmless idiot, then one on the Yay side can speak whatever they want, and the other side cannot do anything about it.

This can also manifest in the outrounds. Since senators carry the points they accumulated from the preliminary rounds, the ones who've done really well could afford to say anything, or nothing, in perhaps a round or two in the outrounds - without still being punished.

Note that in the outrounds, a senator's speech carries greater weight, magnified by both their earned prestige and the attentiveness of a larger audience. If so, one can argue that the entire tournament is a platform for one to game and buy their way to be heard, particularly in the outrounds.

## Militants

- Honour
- Motivations

Charm, multiround game theoretic dynamics, politics

## Virtues bred

virtues bred