

BALINSKI'S MAJORITY JUDGMENT: A GOOD ALTERNATIVE FOR THE NETHERLANDS?

Madeleine Michèle Versteeg

Faculty of Philosophy

Erasmus University Rotterdam

MA Filosofie van een Wetenschapsgebied

Maatschappij- en Geesteswetenschappen

Prof. Dr. H. de Swart

Dr. P. Schuurman

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A long habit of not thinking a thing wrong gives it a superficial appearance of being right, and raises at first a formidable outcry in defence of custom. But the tumult soon subsides.

- Thomas Paine

ABSTRACT

Social Choice Theory teaches us that the Majority Rule currently used in most democracies is not the most democratic method at all. In most democracies voters are supposed to vote for one alternative, either a candidate or a party, and the alternative with the most votes or with a majority of the votes is the winner. This method is prone to certain paradoxes and causes a major loss of information: voters may put only one cross before the name of one candidate, but usually have much more elaborate thought about the alternatives that they cannot express. As we shall see, majority voting may not elect the option that is the highest in esteem among the voters. This holds in particular for political elections, and is demonstrated by the very recent US presidential election where Hilary Clinton won the popular vote but was not elected. Alternative voting methods have been developed to solve this problem. Although none of them perfect, Balinski and Laraki's method of Majority Judgment, based on evaluations instead of individual preferences, seems closest to aggregating individual opinions into a social or common ranking of the alternatives in a satisfactory way.

The Dutch political system also uses standard majority voting. If science proves that majority voting is in general not the most democratic way to vote, it is necessary to analyse the Dutch system in the light of these findings. This thesis analyses the current shortcomings pointed out by Social Choice Theory, and discusses whether Majority Judgment is a feasible and desirable alternative for the Dutch political system.

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LIST OF ABBREVIATIONS, ACRONYMS AND SYMBOLS

BC	Borda Count
BMC	Borda Majority Count
EU	European Union
IIA	Independent of Irrelevant Alternatives
MJ	Majority Judgment
MP	Member of Parliament
MR	Majority Rule
PC	Pairwise Comparison
PV	Plurality Voting
SCT	Social Choice Theory

1 INTRODUCTION

1.1 Introductory note

These are turbulent times when it comes to elections. The recent US elections yielded a controversial result. The unpredicted Brexit left the European Union shaking. Elections in the Netherlands have produced a result that will greatly complicate the process of forming a viable coalition. In France, Marine Le Pen reached the second round and received more votes than ever. In addition, elections in Germany and Italy may put more controversial leaders in place. These elections will prove to be crucial for the future course of the EU and the world as a whole. The subject of how we elect our leaders seems more relevant than ever. Recent events have awoken the interest of social choice theorists and politicians in an improved election mechanism, and this thesis is part of that new tradition.

There are, however, different points of view on how our elections may be improved. Most of the commentaries on recent political elections and referenda, and subsequent reforms in these countries, focus on superficial changes and improvements. Examples are preventing fraud, counting ballots by hand instead of with computers,¹ making the democratic primaries in the US more formal, encouraging more people to register to vote, changing the way districts are decided on and replacing first-past-the-post with proportional representation. These measures can increase the quality of the existing voting system. More people will be represented in the

¹ Kiesraad, 'Hoe wordt de uitslag bij de Tweede Kamerverkiezing 2017 vastgesteld?', 2017, <https://www.kiesraad.nl/adviezen-en-publicaties/vragen-en-antwoorden/tweede-kamer-verkiezingsuitslag/hoe-wordt-de-uitslag-bij-de-tweede-kamerverkiezing-2017-vastgesteld>.

aggregated outcome and the chance of mistakes in the aggregation will be decreased. However, these changes do not improve the system drastically. A more thorough and ground-breaking method is to review how people best express their preferences and how these preferences are aggregated. "All mechanisms have two key features: what type of voter input they use and how those inputs are aggregated."² Social Choice Theory (SCT) studies these mechanisms.

Social Choice Theory aims to develop a procedure that aggregates individual preferences or evaluations to a collective choice or ranking of the candidates in an optimal way, for example satisfying a number of intuitively appealing properties. Different authors have brought to light deficiencies in voting methods. Arrow, for example, proved in 1950 that every procedure that is both 'Independent of Irrelevant Alternatives' (IIA) and transitive must result in a dictatorship.³ In reaction to several common paradoxes and deficiencies in majority voting uncovered in SCT, authors have identified new voting procedures such as Borda Count, Approval Voting, the Single Transferable Vote and the Alternative Vote. All these methods assume that voters give their individual preference rankings of the alternatives as input. This has greatly challenged the status quo of Majority Rule: picking your single favourite option.

Balinski and Laraki have developed a completely new method, called 'Majority Judgment', in 2007. Instead of assuming that voters give a preference ranking of the alternatives, they ask voters to give their evaluations of each alternative in a common language well understood by everyone involved, for instance in terms of 'excellent', 'good', 'acceptable', 'poor' and 'reject'. From the evaluations of each alternative by a voter one may deduce his preference ranking over the alternatives, but conversely from a ranking of the alternatives one may not deduce the evaluations of the alternatives by the voter in question. If a voter prefers A to B, he may find A excellent and B acceptable, but he may also find A poor and B even worse. So evaluations are much more informative than rankings.

In April 2016, Balinski and Laraki published a second article concerning Majority Judgment. This article brings up a number of new concepts and ideas but also provides an overall clarification of the theory. At the same time they have launched an attack on contemporary

² Madhavan, G., Phelps, C., Rappuoli, R., 'Compare voting systems to improve them', *Nature*, 10 January 2017.

³ Arrow, K., 'A Difficulty in the Concept of Social Welfare', *Journal of Political Economy* 58 (4), 1950, pp. 328-346. See also Section 2.3.

voting mechanisms and elections, such as the US presidential election of November 2016⁴ and the French presidential elections of 2017.

This thesis will analyse the suitability of Majority Judgment in general and more specifically for the Dutch political system. With the general elections of March 2017 in The Netherlands in mind, it is an interesting time to review our own practices and see whether this new method of voting would solve some of the issues that have arisen concerning elections. Social Choice Theory has been relevant throughout time, ever since group decision came into existence. Voting mechanisms, however, become more relevant the more uproar there is about elections. It would seem that society is currently distrustful of anything political. This is what allows populist leaders to come to power. Recent events have once again added to this unrest. Hilary Clinton won the popular vote, but did not become the President of the United States. Social choice theorists have long known that this is a possibility, and that it has even happened before in the USA. However, not often has there been such a strong contrast between two candidates, and such an immediate unrest towards the President-Elect. This has made the call for electoral reform possibly stronger than ever, as some wonder how Trump made it to become President without even winning the popular vote. This has given new interest to the subject. With the recent Dutch parliamentary elections in mind, reviewing the options for our own system therefore seems more relevant than ever.

In addition to societal relevance, the subject is very relevant for me personally. As a Law graduate I have had my fair share of Public, Administrative and Constitutional Law lectures. You would think I would be well educated on the way in which we elect and how these rules have come into existence. It was only during my Philosophy sources in Logic that I saw the mathematical flaws of our legal rules on elections. As a polling station president I have closely witnessed elections and referenda several times and have become increasingly interested in the method used. This thesis offers me the opportunity to combine my philosophical background with my legal knowledge to see if a procedure that works mathematically may be introduced in practice. I also hope this thesis will both educate other lawyers of the philosophical and mathematical aspects of election methods and encourage them to delve deeper into the subject.

⁴ Balinski, M. 'Majority Voting Led to a Trump Presidency that most don't want', *Newsweek*, 4 December 2016.

1.2 Research questions

The research question of this thesis will therefore be **whether Majority Judgment is a suitable and feasible method to adopt in The Netherlands in order to improve our elections and thereby democracy**. This will be studied through several sub questions.

- i. Is Majority Judgment indeed a better method than Majority Voting?
- ii. Would the Dutch General Elections be possible through Majority Judgment?
- iii. Where else could Majority Judgment be introduced in the Netherlands?

1.3 Outline

Based on these questions this thesis is outlined as follows. After the introduction, an overview of Social Choice Theory will be given. This includes the most common voting methods, their advantages and disadvantages. After this general introduction, Majority Judgment will be discussed in more detail in Chapter 3. This leads to a discussion in Chapter 4 of the voting methods and paradoxes in practice, especially in France and the USA. This thesis will then apply all of this theory to the Dutch voting system. Chapter 5 studies the Dutch general elections, in which a seat distribution over the different parties has to be established. In Chapter 6 it will be pointed out that Majority Judgment may be used for the election of the candidates within a party and in this way enhance the democratic character of the parties themselves. A sketch of how you could practically introduce Majority Judgment in the Netherlands is given in Chapter 7. Chapter 8 contains the main conclusions.

2 SOCIAL CHOICE THEORY AND VOTING METHODS

2.1 Development of Social Choice Theory

Social Choice Theory (SCT) concerns itself with methods to aggregate individual preferences or evaluations into a collective decision or outcome.⁵ It combines philosophy and mathematics to establish preferred methods to aggregate individual opinions to a social or collective preference. The philosophical aspect consists of deciding what are valuable properties, and considering which methods can be claimed to be democratic when it comes to political elections. Based on these established values and desired properties, social choice theorists can develop mathematically sound models with accompanying theorems.

Although the term was only coined later on, Nicolas de Condorcet and Charles de Borda first discussed SCT in the 18th century.⁶ During the French Revolution Condorcet proposed a voting system called pairwise majority voting.⁷ The article included two important insights: the Condorcet Jury Theorem and the Condorcet Paradox. The combination of these two insights laid the basis for the development of SCT. The thought was that majority rule is on the one hand a valid method of reaching a collective decision, but on the other hand could cause some

⁵ List, C., 'Social Choice Theory', *The Stanford Encyclopedia of Philosophy*, 2013, <https://plato.stanford.edu/archives/win2013/entries/social-choice/>.

⁶ Condorcet N., *Essay on the Application of Analysis to the Probability of Majority Decisions*, Paris, 1785.

⁷ Ibid.

very specific problems. To find other methods that do not cause these problems is what SCT is currently occupied with.

During the same era, Borda already proposed an alternative to majority voting: the Borda count.⁸ This method avoided the Condorcet paradox, and started the search for alternative voting methods. This chapter shall first explain the Condorcet paradox, after which Arrow's research into general desirable properties for voting methods will be discussed. At the end of this Chapter different alternative voting methods that have been developed in the course of time are discussed.

2.2 Majority Voting

Majority voting can be considered to be the status quo in modern democracies. It is the system people are most familiar with, and it is used for anything, from deciding what movie to watch to electing a president. Although it is also used for rejecting or accepting one option, such as a legislative proposal, this thesis focuses on deciding between several options. It is a system in which every voter gets one vote and picks one of the alternatives by, for example, colouring a square on a ballot paper. The alternative that receives more than 50% of the votes (Majority Rule) or most votes (Plurality Rule), will be the winner. All that counts are the number of coloured squares an option receives, and this decides the outcome.

Majority voting has several desirable properties, as Condorcet has pointed out.⁹ Every person gets only one vote, and in large or uneven electorates the chance of a tie is negligible. It may be considered to be very democratic, because of the 'one person one vote' principle. Condorcet has, however, shown that it is far from democratic, because with more than two options a minority may rule over a majority, as shall be explained in Section 2.2.1.

By making 'most preferred' equivalent to 'preferred by most' we deliberately bypassed a crucial problem: What if the minority prefers its alternative much more passionately than the majority prefers a contrary alternative? Does the majority principle still make sense? This is the problem of intensity . . . [W]ould it be

⁸ Borda, J.C. de, 'Mémoire sur les élections au scrutin', *Proceedings of the French Academy of Science*, 1781.

⁹ Supra n. 6.

possible to construct rules so that an apathetic majority only slightly preferring its alternative could not override a minority strongly preferring its alternative?"¹⁰

As we shall see in Section 2.2.1 the majority principle may not favour the majority at all. Majority voting does not strive for the most consensual winner and its aim is not to make the voters overall as happy as possible. This is because it asks for only a minimal amount of information, namely ‘what is your most preferred alternative?’, no matter what exact form majority rule takes.

2.2.1 Plurality

Plurality rule is a system that picks the option with the most votes regardless of whether this is a majority of the votes. It uses the same input as Majority Rule; individuals pick one option out of a number of options. In an election with only two candidates and no option for blank voting, this system is equal to Majority Rule. With more than two options, one can win with less than 50% of the votes if it still has more votes than the other options. Plurality Rule may however violate the ‘majority principle’, meaning that a minority in fact may win. This can be demonstrated by the example below for three alternatives.

Imagine a group of ten friends voting on what movie to watch. The alternatives consist of one thriller, and two drama movies. The thriller receives four votes in favour, and both drama movies receive three. According to Plurality Rule, and habits for most people, the thriller wins because it has the most votes. It might seem a majority here prefers that movie and thereby wins. However, common sense in this example tells us that actually, a majority prefers to watch a drama movie and not a thriller at all. If there had only been one drama movie present in the options, this movie would have beaten the thriller in a majority vote. If either of the drama movies had won, an actual majority would be more satisfied than now with the thriller, which actually only satisfies a minority. This is due to intensity; we can imagine that those voting for one drama movie much prefer the other drama movie as a second alternative to the thriller, which would be only their third choice. This is how plurality rule can actually violate the majority principle, and make a minority the winner. As common sense tells us, this seems an unfair way to decide on winners.

¹⁰ Dahl, R.A., *A Preface to Democratic Theory: Expanded Edition*, Chicago: University of Chicago Press, 2006, p. 90 – 92.

2.2.2 Pairwise Comparison and the Condorcet paradox

A pairwise comparison between candidates can show the violation of the majority principle. A Condorcet winner is a candidate that in a pairwise comparison beats every other candidate, where A beats B is by definition: a majority of the voters prefers A to B. A Condorcet winner is the candidate that would win an election against each of the other candidates in a plurality vote if there were only those two candidates. A Condorcet winner may not exist as is shown in the example further on in this section. A voting method is said to satisfy the Condorcet criterion if it elects the Condorcet winner whenever it exists. For instance, Plurality Rule does not satisfy the Condorcet criterion, as becomes clear from the following example. This example is an election where nine voters give a ranking of three options. The following number of voters gives the indicated preference ranking:

4 voters: A – B – C

3 voters: B – C – A

2 voters: C – B – A

In this case, A is the plurality winner since it has the most first votes: four. However, B is the Condorcet winner since B beats A with 3+2 against 4, and B beats C with 4+3 against 2 in a pairwise comparison.

Majority voting intrigued the Marquis de Condorcet, a French philosopher and mathematician who wrote an article on SCT in 1785. The method was already common in the 18th century and he studied this specific method extensively. Condorcet concluded that although it definitely has its perks, the method can also result in paradoxical results. This is called the Condorcet paradox: results based on majority voting can be irrational, even if individual choices are rational. For three options, even though only one can be picked, voters are supposed to have a preference order. These are rational orderings, for instance, option A is preferred to option B and C, and option B is preferred to option C. Imagine three voters, who all have different preference orderings:

Voter 1: A – B – C

Voter 2: B – C – A

Voter 3: C – A – B

Each voter has an individual logical preference ordering of the candidate. However, pairwise comparison results in a cycle: a majority prefers A to B, another majority prefers B to C and a third majority prefers C to A. This means that the aggregated result of the example above is A

$B > C > A$; a paradoxical circular result with no winner. The Condorcet paradox is also the reason why ranking candidates does not work; there is a chance of a cyclic result. Notice that actual preferences are not necessarily symmetric; meaning the intensity by which one option is preferred to another option is not always equal. Option A and B may be very similar to a voter, but strongly preferred to option C. This is, however, not reflected in ranking methods, where all preference rankings are ‘flattened’ and are supposed to have the same intensity. Hence the cyclic result may come into existence even if it is not an actual symmetric cycle, and not all options are equally strongly preferred by the voters. So, giving a preference ranking over the alternatives causes loss of information.

2.3 Arrow’s impossibility theorem

After Condorcet had analysed the different shortcomings of majority voting, Kenneth Arrow set out to formulate general conditions for voting methods based on Condorcet’s findings.¹¹ This resulted in the impossibility theorem. Put shortly, Arrow’s impossibility theorem states that there is no aggregation method for two or more voters and three or more alternatives into one collective decision that satisfies a total of five desirable properties.¹² These desired properties, or axioms, were established by philosophical considerations and have some overlap with Condorcet’s research. The impossibility theorem has led to two types of reactions in the field of SCT; those who try to find a voting method that satisfies all of these axioms on restricted domains, and those who aim to establish new or altered axioms to characterise what a good voting procedure should look like. In order to analyse these different voting methods, Arrow’s conditions first need to be discussed.

2.3.1 Arrow’s five conditions

Arrow has proved that no voting method can satisfy all of the following five desired properties that will be explained below when there are more than two alternatives. If a voting method satisfies universal domain, transitivity, the Pareto property and IIA, then it must be dictatorial. However, this is clearly not desirable. The five conditions defined by Arrow are the following.

¹¹ Arrow, K., ‘A Difficulty in the Concept of Social Welfare’, *Journal of Political Economy* 58 (4), 1950, pp. 328-346.

¹² Morreau, M., ‘Arrow’s Theorem’, *The Stanford Encyclopedia of Philosophy*, 2016, <https://plato.stanford.edu/archives/win2016/entries/arrows-theorem/>.

2.3.1.1 Universal Domain

Universal Domain, also called unrestricted domain, entails that the voting methods should be able to process any configuration of individual preferences. The orderings may be weak according to Arrow; hence the preference of one option to another option does not need to be strong or intense. There may, for example, also be a tie between two options in the individual preferences. However, any logically possible combination of individual preferences should be taken into account in the domain.

This condition is important for developing a voting method before its exact application is known. When we are not yet aware of what candidates will be on the ballot and what people's preferences will be, we need to be able to consider all possible options and combinations.

2.3.1.2 Ordering or Transitivity

This condition provides that any method should avoid the Condorcet Paradox whereby results are not transitive even though individual preferences are. In other words, the aggregated result should make sense and not consist of a cycle. Since individuals are rational people, we can assume that their individual preferences are indeed a weak or linear ordering. People are smart enough to know that when they prefer option A to option B, and prefer option B to option C, then they also prefer option A to option C. However, when individual preferences are aggregated, the social preference may consist of a cycle. We have seen this with the Condorcet Paradox and Pairwise Comparison,¹³ and this is considered to be an undesirable property.

2.3.1.3 Weak Pareto principle

The Pareto principle states that if all individuals prefer option A to option B, then so should the collective. Unanimous strict preferences, not ties, should be respected by the voting method and should be reflected in the collective decision. This results in a system in which no other factors are taking into account besides individual preferences. Thus the outcome of an election will only be determined by the preference orderings of the voters, and any other factors - such as non-welfare factors - will only be reflected in the individual's preference but not taken into account in the aggregation.

¹³ See Section 2.2.2 on the Condorcet Paradox.

2.3.1.4 Independence of Irrelevant Alternatives

The axiom of Independence of Irrelevant Alternatives (IIA) requires that the collective preference of option A over option B depends only on individual preferences with respect to A and B, and is not influenced by a third alternative C.

For instance, Plurality Rule is not IIA: in the 2000 presidential elections in the USA, Bush won over Gore because a third candidate, Nader, was participating in the elections in the state of Florida. Most people who voted for Nader would have voted for Gore if Nader had not participated. In that case, Gore would have won over Bush.

Specifically for elections, IIA is especially important. It prevents serious manipulation of the outcome by altering your preference order. The irrelevant alternative cannot alter the outcome between the other options.¹⁴

2.3.1.5 Non-dictatorship

A rather straightforward final axiom is that there must exist no individual that can act as a dictator in the voting process, i.e. whose individual preference is automatically considered to be the collective preference no matter what the individual preferences of the other voters are.

Although it is not to say that a dictator will make an unwanted decision - a benevolent dictator might even be the best solution of all - the presence of a dictator is considered undesirable in a democratic society. Democracy implies the presence of influence of the individuals that make up society, and a voting method should adhere to this principle.

2.4 Proposed voting methods

The first social choice theorists were the ones uncovering the cracks in our voting mechanisms. They repeatedly wrote about all that was wrong with majority voting. After the mistakes in majority voting were uncovered, Arrow tried to propose a general method of conditions that any voting method would have to adhere to. Over the years, based on Arrow's conditions, SCT moved in the direction of alternative and improved methods. Clearly we cannot function without voting mechanisms, not in daily life and not in a democratic country. If majority voting does not consistently work in a desirable way, what method would? In a response to the paradoxes found in majority voting alternative voting mechanisms were developed. These all have their own unique attributes and will be discussed one by one.

¹⁴ See Section 2.4.1 on the Borda Count for a mathematical example of a voting method that violates IIA.

2.4.1 Borda Count (BC)

J.C. de Borda has suggested an alternative to Plurality Rule that takes into account the entire individual preference ordering instead of only the first preference of a voter.¹⁵ Each individual gives a ranking of the options, and a score is awarded to each position in the individual rankings. The number of points a candidate receives for a certain ranking by the voter equals the number of candidates it has beaten in that ranking. The candidate with the highest total number of points wins. This does not necessarily have to be the Condorcet winner. BC does not satisfy the condition of Independence of Irrelevant Alternatives (IIA), because the points awarded to others shift once one option is taken out of the race. In addition, it is not strategy-proof because voters may put a competitive option lower in their ranking in order to let their most favourite option win.

To illustrate this method, and its shortcomings, the following example may be considered. A family has to choose between pizza, pasta, curry, or soup for dinner, and the three family members rank the options as follows:

Family member 1: pasta – curry – pizza – soup

Family member 2: curry – pizza – soup – pasta

Family member 3: pasta – curry – pizza – soup

Now the BC assigns the following scores to these rankings. The 1st place receives 3 points, the 2nd place 2 points, the 3rd place 1 point and the 4th and final place receives 0 points. The point distribution is then as follows.

	Voter 1	Voter 2	Voter 3	Total BC score
Pizza	1	2	1	4
Pasta	3	0	3	6
Curry	2	3	2	7
Soup	0	1	0	1

Applying BC to the given example makes curry the winning option, as it has the highest number of points. Please notice how according to Plurality Rule pasta would have won, given that two out of three people rank pasta in the first place. As mentioned, BC is not IIA. This can

¹⁵ Borda, J.C. de, 'Mémoire sur les élections au scrutin', *Proceedings of the French Academy of Science*, 1781.

also be demonstrated by the example above. Imagine taking soup out of the competition, because it has the lowest score. For family member 2, pasta would then become 3rd in the ranking, and would thus receive 1 point instead of zero. Now Pasta and Curry would both have 4 points, having taken Soup completely out of the competition, and there would be no clear winner. This is demonstrated in the table below.

	Voter 1	Voter 2	Voter 3	Total BC score
Pizza	0	1	0	1
Pasta	2	0	2	4
Curry	1	2	1	4

2.4.2 Approval Voting

Approval voting is different from Majority Rule and the Borda Count, as it allows individuals to indicate all the options they approve of. Whereas in most modern elections you are only allowed to colour the square before one name or party, approval voting lets you colour in as many squares as you deem acceptable. The winner is the candidate that receives the most approval votes. It means there are two options per candidate for each voter: approve or disapprove.

In an election with many candidates or options, this method seems preferable to a preference list, as one does not need to consider every single one alternative. One may just disapprove those options one has not thoroughly considered, instead of having to weigh them against other options for a ranking. Practically this is easier for individuals. Theoretically, Approval Voting also has its disadvantages. It is not strategy-proof, as individuals can dishonestly disapprove options, thereby reducing the approval point total of that option and favouring those options they approve most of.

Using the same example as above, a family uses approval voting for deciding on dinner. Consider the preference ranking identical to above, but now instead of a ranking the family indicates approval or disapproval. A ranking does not illustrate the intensity with which one option is preferred to another one. Therefore giving a ranking does not automatically mean that only the first option is completely approved by a voter. Possibly the first three options are very similar to the voter, and he would approve all three of them. Another voter might indeed only prefer his first option. The same can happen in this example, as illustrated below, where V indicates ‘approve’ and X indicates ‘disapprove’.

Family member 1: pasta – curry – pizza - soup

Family member 2: curry – pizza – soup - pasta

Family member 3: pasta – curry – pizza – soup

	Voter 1	Voter 2	Voter 3	Total approvals
Pizza	V	V	V	3
Pasta	V	V	V	3
Curry	V	V	V	3
Soup	X	V	X	1

If family member 2 would like to eat any of the options, and approves all of them, and number 1 and 3 are really only disapproving soup, then it turns out that pizza, pasta and curry are all equally approved options according to this method. All three options would in honesty be fine for all three family members. However, imagine family member 3, the son for example, slightly prefers pasta. He can then easily vote dishonestly, and only approve pasta. Automatically pizza and curry would lose a vote, and pasta would be the only option that is approved by all three of them. This illustrates that the method is not strategy-proof.

2.5 Conclusion

When one starts analysing voting methods, one quickly realises that our status quo of majority voting is susceptible to many possible paradoxes. Although it looks like a democratic method, it can yield undesirable results that actually go against the wishes of a majority. This realisation has led to the development of alternative voting methods based on individual preference rankings. However, when Arrow defined the conditions voting methods should satisfy, he came to the conclusion that for more than two alternatives no voting method can satisfy all of them. All of the methods mentioned in this chapter violate at least one of the conditions. Social Choice Theorists did not give up though, and from 2007 onwards Balinski and Laraki have tried to develop a method that overcomes Arrow's Impossibility Theorem: Majority Judgment. In order to escape Arrow's impossibility result they take the evaluations of the alternatives by the voters – instead of the preference rankings of the voters – as input for the aggregation mechanism, as evaluations are much more informative than preference rankings. The aggregation mechanism itself is again based on majorities, but in quite a different way, as will be shown in the next chapter.

3 MAJORITY JUDGMENT

3.1 Introduction of Majority Judgment

Back in 2007 Michel Balinski and Rida Laraki first published their method and theory of Majority Judgment.¹⁶ Relieving themselves from the paradigm of preference voting in SCT, their method uses evaluations instead of rankings. As pointed out earlier, evaluations of the candidates are much more informative than preference orderings. A mere cross on a piece of paper cannot reasonably be considered an expression of all of a voter's thoughts.

But what in fact is an election? We call it an expression of the popular will. But is it? We go into a polling booth and mark a cross on a piece of paper for one of two, or perhaps three or four names. Have we expressed our thoughts? Presumably we have a number of thoughts on this and that with many buts and ifs and ors. Surely the cross on a piece of paper does not express them ... [C]alling a vote the expression of our mind is an empty fiction.¹⁷

Many of the paradoxes come into existence because the voting method takes insufficient information as input. The quote above reflects this sentiment of information loss that people share with Balinski and Laraki. According to Balinski and Laraki, a preference ranking does not express all the thoughts individuals have on the different options. It does not express how strongly a voter prefers one option to the other, for example. Usually individuals have many

¹⁶ Balinski M., Laraki R., *Majority Judgment: Measuring, Ranking, and Electing*, Cambridge: MIT Press, 2011.

¹⁷ Lippmann, W., *The Phantom Public*, Piscataway, NJ: Transaction Publishers, 2011, p. 46.

more thoughts on the alternatives than just one name they prefer. Although this may be expressed in discussions leading up to the elections, it cannot be expressed on the ballot paper. Majority Judgment tries to solve this by letting individuals express their evaluation of every single option; from these evaluations one may immediately deduce a preference ranking over the alternatives, but not the other way around. Basically, Majority Judgment is Approval Voting but with a greater range of evaluations for each candidate than only a mere 'approve' or 'disapprove'. Balinski and Laraki prove that Majority Judgment avoids both the Condorcet and the Arrow paradoxes, because of the more detailed information asked. Whereas traditional voting methods may lead to a winner that has the lowest overall evaluation, Majority Judgment picks the winner with the best overall evaluation.

3.2 Outline of the method

Majority Judgment has a similar starting point as other methods discussed. It aims to aggregate individual evaluations or opinions into a collective outcome, in the form of a single winner and/or a ranking of the candidates. It has been developed for and already been used in many settings, from figure skating competitions to national elections. As mentioned, it differs from previous methods in that it asks every voter for an evaluation of each option. This works in the following way.

Different options or alternatives are identified. These can be the candidates running in an election, participants in a figure skating competition, or wines that need to be compared. Then a range is decided on, which consist of the different 'grades' one can give to each option. Balinski and Laraki often use the range {terrible, poor, average, good, excellent}. These five terms express the way the individual voters feel about an option, and should be commonly well-understood terms. Other ranges may be used, such as a grade from 0 to 10. The scale of scores is fixed, and voters will have to pick one of the grades for each option or leave an evaluation blank. Indeed a voter can evaluate different candidates in the same way, thus expressing no preference of one over the other.

All of these given evaluations are then aggregated into a *median score*. Mathematically this is the value that separates the higher half of a probability distribution from the lower half. The candidate with the highest median score wins. In case of an even number of scores, the lower median score is used. If two candidates receive the same median score in first instance, one of the median grades is removed from the scores of each until one of the two candidates has a higher median score.

3.3 Example

A simple example can demonstrate this method. Imagine the following question being asked to a hundred members of a book club: “How would you evaluate each of the following books to read for next month’s book club?” This may give the following results.

	Excellent	Good	Average	Poor	Terrible
Eat, Pray, Love	40	13	5	9	33
I am pilgrim	20	31	26	14	9
Gone girl	20	27	12	31	10
Girl on the train	10	18	31	35	6

The majority grade, or median grade, is found by adding up scores to see which rating lies in the middle of the distribution and thereby finding majorities on both sides of the spectrum. Thus for *Eat, Pray, Love* a majority of 53 ($40+13$) believes the book to be a Good or better choice. At the same time, a majority of 60 ($13+5+9+33$) believes the book to be a Good or worse choice. From both sides of the range these calculations end up in a ‘Good’, therefore this is the median grade. The same can be calculated for the other options, and these majority grades are displayed in bold.

Both *Eat, Pray, Love* and *I am Pilgrim* have the majority grade ‘Good’. To find the overall winner, MJ takes away one majority grade of each and then recalculates the new winner. In this case, both lose one evaluation of ‘Good’. This leaves *Eat, Pray, Love* with 12 ‘Good’, and *I am Pilgrim* with 30 ‘Good’. *I am Pilgrim* now has a majority of 50 that believe the book to be Good or better, and a majority of 79 that believe it to be ‘Good’ or worse. So, the majority grade of both books is still ‘Good’. Therefore, we take away one more majority grade. *I am Pilgrim* now has 49 votes for ‘Good’ or better, and 49 votes for ‘Average’ or worse, the total number of votes now being 98. Now, the lower evaluation is chosen as the majority grade in the MJ method. After two rounds of deleting majority grades, the book *I am Pilgrim* is now left with a lower majority grade, namely ‘Average’, while the majority grade of *Eat, Pray, Love* is still ‘Good’. This means that *Eat, Pray, Love* is the winner because it has the highest overall evaluation in the eyes of the book club members.

3.4 Properties

As discussed at the start of this chapter, Majority Judgment intuitively has many desirable properties. It fights against loss of information on Election Day, and tries to process as many individual opinions as possible. It also seems very intuitive. Although we grow up with Majority Rule, picking winners by majority voting, we are just as accustomed to evaluating things. From a young age onwards we receive grades in school, and we fill in questionnaires with a range of evaluations. Therefore Balinski and Laraki consider it an easy method to adopt for societies, and easier than providing a ranking.¹⁸ Another good property is that MJ also gives information on just one candidate. Besides using it to pick a winner, it can also be used to show society's opinion on different candidates and how this may shift over time.

More important, however, is that it prevents the Condorcet and Arrow paradoxes from occurring. From the five conditions of Arrow's impossibility theorem, transitivity is automatically applicable to Majority Judgment. The final result is always a logical ordering, since voters do not give a ranking but evaluations. There is always a logical ordering to be found in the overall evaluations, where a higher evaluation indicates a higher place in the final ranking. It also adheres to the universal domain condition, and actually allows the largest number of different inputs of all voting systems.¹⁹

Of all the methods, Majority Judgment is said to be the most resistant to strategic manipulation.²⁰ Although never bulletproof, it encourages rational voting and limits the possibilities of dishonest voting according to Balinski and Laraki. Voters may exaggerate their opinions a bit, giving their less preferred candidates a slightly lower evaluation. However, they will not evaluate less preferred candidates better than more preferred options. This was proven by a series of election simulations that Balinski and Laraki did in which several different systems were studied. Of all the methods, MJ was the most strategy-proof.²¹

It is clear that Majority Judgment is IIA, as each candidate's evaluation is based on its individual evaluations, and not on how it compares to other candidates in a ranking. Removing

¹⁸ Balinski M., Laraki R., 'Majority Judgment vs Majority Rule', *Cahier* 2016-04, 29 March 2016, p. 35.

¹⁹ *Supra* n. 18, p. 2.

²⁰ *Supra* n. 18, p. 27.

²¹ Balinski M., Laraki R., 'Election by Majority Judgment: Experimental Evidence', *Cahier du Laboratoire d'Econométrie de l'Ecole Polytechnique* 28, 2007, p. 15.

one alternative does not alter the winner, because it does not change the overall evaluations of the remaining candidates.

3.5 Criticism

Overall, Majority Judgment seems to have a number of nice properties, especially in the light of Arrow's impossibility theorem and the voting methods discussed in the previous chapter. Majority Judgment (and Range Voting in general) is however also subject to criticism. Several points of criticism relevant to this thesis are set out in this subchapter.

3.5.1 Not Condorcet-consistent

One criticism might be that Majority Judgment does not always elect the Condorcet winner and is thereby not Condorcet-consistent.²² This critique is based on the idea of the superiority of voting through preference rankings. Indeed MJ does not always elect the Condorcet winner, because it believes that evaluations sometimes show another candidate to be more consensual than the candidate with the most plurality votes. Therefore, the purpose of MJ is to let the idea of a Condorcet winner go, and look at a wider range of information that voters give about candidates than just their first preference. "If one believes that the actual grades have significance beyond just indicating preference, i.e., there is some objective merit being indicated, then the outcome is less problematic."²³ Balinski and Laraki have aimed to create a system that indicates more than just a preference, and indeed therefore the concept of a Condorcet winner seems inapplicable in this case. Balinski himself has also rebutted the criticism in this way.

*MJ is solidly based on the fundamental idea of majority – not on the majority's preference on pairs of candidates – but on the majority's evaluations concerning each candidate's grades.*²⁴

Those criticising MJ based on Condorcet consistency therefore hold the traditional system too dear, and will have to alter their way of thinking more radically in order to grasp Majority

²² See for example, Brams S.J, 'Grading Candidates', *American Scientist* 99 (5), 2011, p. 426.

²³ Edelman, P.H., 'Michel Balinski and Rida Laraki: Majority judgment: measuring, ranking, and electing', *Public Choice* 151, 2012, p. 809.

²⁴ *Supra* n. 18, p. 35.

Judgement. As Balinski has said, "Condorcet-consistency is not a desirable property in all circumstances."²⁵

3.5.2 Common understanding of the grades

One problem with Majority Judgment may be the common understanding of the grades used. Majority Judgment calls for the use of words to evaluate candidates, such as *excellent* and *very good*. However, these linguistic grades may not be commonly understood by a group of voters. This can be because of two reasons: firstly, voters may appreciate the scale of the grades differently and mean different things with different grades and secondly, the language may not be understood at all.

Balinski and Laraki have addressed the first objection. They state that other methods have the same problem, which is why they cause a loss of information.²⁶ The single cross on a ballot paper of the first place in a ranking may mean completely different things to different people. Therefore this criticism is not limited to Majority Judgment. When using Majority Judgment this problem can be addressed in two ways. First of all, using a scale of grades familiar to a specific group of people promotes the common understanding of the grades. For example using the same grading scale as in educational institutions in a particular country seems easy to adapt to, which is why this thesis uses grading on the same scale of 0 to 10 as in the Dutch education system. Balinski and Laraki suggest the same grading scale as used at the Paris-Diderot University, which is familiar to them.²⁷ Secondly, a broader scale of grades may create more nuances and limit the severity of a different understanding of different grades. When using only three alternatives, for example *reject*, *passable*, *excellent*, a different understanding of grades has bigger implications for the median grade than on a scale from 0 to 10.

The second linguistic objection seems unavoidable in a multicultural society. Nowadays, not everyone speaks the same language in a country, never mind in bilingual countries. Therefore I personally disagree with the words used by Balinski and Laraki and much prefer using actual numbers as grades. These have a much more universal understanding, and their nuances can more easily be explained to those not having experience with the particular scale. This is the

²⁵ Supra n. 18, p. 35.

²⁶ Supra n. 18, p. 38.

²⁷ Supra n. 18, p. 39.

third reason why this thesis uses the scale of 0 to 10. In general, every voter who really distinguishes between two candidates should be able to express this.

3.5.3 Practical objections

Although in theory the method may seem to work well, there are understandably some practical issues. These are especially relevant when one considers a large national election such as the Dutch Parliamentary election. When a ballot paper consists of a large number of options, it seems unmanageable to evaluate each and every option. Although Majority Judgment aims to encourage participation and thoughts on every option, an individual cannot reasonably be expected to have a well thought out opinion on a hundred options.²⁸ This is partially resolved by the option not to give a grade to a candidate, which will be considered the same as a reject or 0. This criticism will be readdressed in the next chapters, where the option of removing candidate names from the Dutch voting ballot is discussed.²⁹

3.6 New article on Majority Judgment and Majority Rule

In March 2016, nine years after the introduction of the theory, Balinski and Laraki published a new article on Majority Judgment.³⁰ It argues against using MR even in elections with only two candidates, and against pleads the case for introducing MJ. In addition to a more thorough clarification of the MJ method, the article also introduces two new concepts: domination and polarisation.

3.6.1 Domination

Balinski and Laraki introduce a new desirable condition that voting methods should satisfy. A voting method should respect domination, which means that if the grades of one candidate dominate the grades of the other candidate, that first candidate should be socially evaluated higher. Majority Judgment satisfies this condition.³¹ In fact, any method that satisfies May's axioms and avoids the Condorcet and Arrow paradoxes does so.³²

²⁸ The ballot paper for the Dutch Parliamentary Elections for example consists of 28 political parties, each with up to 80 candidates.

²⁹ See section 5.4.1 on the issue of candidate lists in The Netherlands.

³⁰ Supra n. 18.

³¹ Supra n. 18, p. 8.

³² Supra n. 18, p. 18.

3.6.2 Polarised candidate pairs

Arrow's impossibility theorem says that it is impossible to satisfy all the criteria for more than two candidates. For only two candidates, Majority Rule is generally considered to be an adequate method. Few paradoxes occur when there are only two options on a ballot paper, whether you have just one vote or should rank them. Both lead to the same results; the name you cross is clearly first in your ranking, the uncrossed name second. Therefore there is little ambiguity with only two candidates, and less loss of information. There are no irrelevant alternatives, and there are no strategies to adopt. The only strategy is to vote for the candidate you prefer less, but this probably leads to unwanted results. This is especially true if the two options are the very opposite of each other. For these situations Balinski and Laraki introduce the term 'polarisation' in SCT.

There are many everyday instances where one can imagine a vote between two complete opposite options. The same goes for a court jury, where a jury that strongly believes the defendant should go free at the same time strongly opposes the alternative: jail. In current political climates, this situation may also take place in national elections.

"Political polarization" has been given increasing attention. It means a partisan cleavage in political attitudes [...] supporting ideological extremes, attributable to voters, elites, candidates, or parties. The concept necessarily concerns an opposition between two. [...] The notion evokes the idea that most voters are at once intensely for one side and intensely against the other, so the situation approaches that of a jury decision where there is no question of (in Dahl's words) pitting a passionate minority against an apathetic majority.³³

Polarisation means that the higher an individual evaluates one candidate, the lower the same individual evaluates the other candidate.

In their new article, Balinski and Laraki demonstrate that only in the case of these polarised candidate pairs, Majority Rule makes sense and coincides with Majority Judgment. As mentioned in Chapter 2,³⁴ majority voting has been exclusively criticised for more than two candidates. It was generally considered that Majority Rule functioned well for only two

³³ Supra n. 18, p. 18.

³⁴ See Section 2.2 on Majority Voting.

candidates. However, in this article Balinski and Laraki prove that also for two candidates MR can cause paradoxical and wrong results.

*MR for two candidates [...] harbors a very serious drawback that to our knowledge has not been recognized before: when voters express themselves more precisely by evaluating candidates MR may well place a candidate B ahead of another A when A's evaluations dominate B's.*³⁵

Even for two candidates the idea of a more consensual candidate holds up. If in a Majority Rule vote candidate A would have more votes than B, it might be possible that those voting for candidate A evaluate B higher, than the voters for candidate B evaluate candidate A. The following example illustrates this:

	1	2	3	4	5
A	Good	Acceptable	Poor	Excellent	Very Good
B	Very Good	Good	Acceptable	Poor	Reject

Majority Rule selects B as the winner, because B beats A with 3 against 2. But A has the better evaluations, more precisely; A dominates B as shown by the table below:

A	Excellent	Very Good	Good	Acceptable	Poor
B	Very Good	Good	Acceptable	Poor	Reject

Another example: in a vote between Bernie Sanders and Hilary Clinton, those voting for Clinton might also be very happy with a consensual candidate as Sanders. Those voters might have both candidates in high esteem, and only slight prefer Clinton. However, those voting for Sanders may have a much lower esteem of Clinton and would not consider her a decent alternative to Sanders. The intensity with which one option is preferred over the other differs between the two groups of voters. Therefore overall evaluations of the losing candidate Sanders may still dominate the evaluations of the winning candidate Clinton, and thus the population would have been happier overall with the other candidate winning. Even with two candidates,

³⁵ Supra n. 18, p. 14.

MR “does not obtain sufficient information about a voter’s intensity of support.”³⁶ It is only for polarised pairs that MR makes sense; because the two options are the opposites of each other, a simple majority vote displays the exact right amount of information.

*It would seem that it is precisely when an electorate is polarized – or when a jury seeks the correct answer between two opposites – and there can be no consensus, that the “strongly for or strongly against” characteristics of MR should render acceptable results.*³⁷

When complete opposites of each other, evaluations will consist of nearly only 10s and 0s. With two candidates, this equals a vote for one candidate, and a non-vote for the other candidate. Thus in this scenario Majority Rule makes sense and coincides with the results of Majority Judgment. However, because elections will not always consist of polarised pairs, it is to be preferred to consistently use Majority Judgment, exactly because it gives the same result in these polarised situations, but gives better and more reliable results in all other situations.

3.7 Conclusion

No voting method is perfect and we have seen that Arrow even considers it impossible for a method to satisfy all desirable properties. Majority Judgment was designed to overcome the limits that preference based systems have by switching to evaluations. Balinski and Laraki’s theory comes across very strong and indeed offers a very informative alternative to majority voting. The advantages are clear; mathematically it is the most thorough and accurate way to aggregate the evaluations of voters into a social choice or social ranking of the candidates. It is, however, on the practical side that worries come into existence. Majority voting is a relatively straightforward method, which is why it is applied everywhere from kindergarten classrooms to political elections. Majority Judgment is a more complicated method, not only because more thorough opinions need to be formed on more than one option, but also because it calls for more elaborate voting ballots and procedures. After having seen some real life examples of different voting methods and their paradoxes or solutions in Chapter 4, Chapter 5 will come back to Majority Judgment to see if these difficulties can be overcome and its mathematical usefulness applied in the political system of the Netherlands.

³⁶ Balinski, M., Laraki, R., ‘Trump and Clinton Victorious: Proof that US Voting System Doesn’t Work’, The Conversation, 9 May 2016.

³⁷ Supra n. 18, p. 20.

4 VOTING METHODS IN PRACTICE

4.1 Introduction

After having discussed different voting methods and voting paradoxes in theory, real life examples will demonstrate the actual need for altered voting methods. This will demonstrate the need and call for reform, which will lead to the discussion on possible improvements in the Netherlands in the next chapter. In recent history there are several examples of voting methods not electing the ‘right’ winner; where it seems that the public overall would have been happier with a different winner. These preferences were however not rightly translated by the voting method into the correct winner. The recent American elections may be cited as an example of this.

4.2 American election

The recent US President Election of 2016 is an interesting example of what can go wrong with majority voting. Donald Trump beat Hilary Clinton by number of electoral votes and became President in January 2017. Hilary Clinton won the popular vote however, with 48.5% against 46.4%.³⁸ More than ever before has the elected President led to dismay, which in turn has questioned the voting method used. This paragraph will aim to show what went wrong under majority voting, and how Majority Judgment could have led to a different scenario.

³⁸ Associated Press Interactive, ‘2016 General Election’, <https://interactives.ap.org/2016/general-election/?SITE=NEWSHOURELN>.

4.2.1 Primaries and party nominations

Already during the primaries controversies surrounded the party nominations. Both Clinton and Trump won their party nominations despite strong voices opposing this decision. They won by majority voting, a plurality vote, when there were still several candidates for each party. Donald Trump was facing Ted Cruz, John Kasich and Marco Rubio. Hillary Clinton only faced Bernie Sanders. Although Trump and Clinton won, they were both very divisive candidates, with strong voices both in favour and against. Other candidates appeared to be much more consensual. This is the key in understanding why Trump and Clinton may not have been the most preferred candidates when taking everyone's full opinion into account.³⁹ "With MV, voters cannot express their opinions on all candidates. Instead, each voter is limited to backing just one candidate, to the exclusion of all others in the running."⁴⁰ This is what has been shown in Chapter 2 on SCT.

One can easily imagine that all those in favour of Cruz, Kasich and Rubio were strongly opposed to Trump, while those voters in favour of Trump may have also been happy with one of the other three candidates. This information is lost in the primaries, but does decide the overall satisfaction with the nominated candidate. With a current approval rating of only 28%, the lowest ever for a new president,⁴¹ it seems safe to assume that other candidates would have had a much larger approval rate already in the primaries. However, due to majority voting this cannot be expressed and is not taken into account. The limited information given by voters in elections can lead to a president that is disapproved by a large number of people and will not have a high rating among the voters.

In the Republican Primaries Arrow's paradox occurred, as demonstrated in Section 2.3. This is something that has also happened before in the USA, because the system is not IIA. When George W. Bush won from Al Gore and Ralph Nader in 2000, he only won because Nader was in the race.⁴² If Nader had not been in the race, those voting for Nader would have preferred Al Gore over Bush, and Al Gore would have gotten the majority of the votes. The same would

³⁹ Balinski, M., Laraki, R., 'Trump and Clinton Victorious: Proof that US Voting System Doesn't Work', *The Conversation*, 9 May 2016.

⁴⁰ Ibid.

⁴¹ Cohn, N., 'Trump's Approval Ratings Are Down. How Much Does It Mean?', *New York Times*, 17 February 2017.

⁴² Supra n. 39.

probably have happened in the Republican Primaries of 2016 had Trump only had one competitor.

A similar situation took place in the Democratic Primaries. Although Hilary Clinton won more votes, those not voting for her were often very strongly against her. Bernie Sanders seemed a much more consensual candidate. Had their ranking been determined by evaluations through Majority Judgment, it is likely that Bernie Sanders would have had a higher overall evaluation, and would have thus been the Democratic nominated candidate.

When voters are able to express their evaluations of every candidate – the good and the bad – the results are turned upside-down from those with majority voting.

According to majority judgment, the front-runners in the collective opinion are actually Kasich and Sanders. Clinton and Trump are the trailers. From this perspective the dominant media gave far too much attention to the true trailers and far too little to the true leaders.⁴³

The system may thus fail to elect the candidates actually preferred by a majority. Already in the primaries inconsistencies with the will of the majority of the people can come into existence. This is then repeated again in the actual election.

4.2.2 Popular vote versus actual outcome

A recurring theme in the aftermath of the 2016 elections was the popular vote. The popular vote in the USA means the percentages of votes in the country as a whole, when not considering district and state winners through electoral colleges. Trump won the elections based on a majority of electoral colleges. He won 306 electors, whereas Clinton won 232 electors.⁴⁴ Whenever a candidate wins the majority of votes within a state, the electors of that state pledge to vote for that winning candidate. Who next wins an absolute majority among the electors is elected as President of the United States.

⁴³ Supra n. 39.

⁴⁴ Trump won 30 states, Clinton 19 states. The electors from Maine are fairly distributed based on the percentage of votes received. Eventually of these electors, 304 actually cast their vote for Trump and 227 for Clinton. The other electors defected and ended up voting for other candidates. Associated Press Interactive, '2016 General Election', <https://interactives.ap.org/2016/general-election/?SITE=NEWSHOURELN>.

Although Clinton had only 227 electors compared to Trump's 304, she did win the popular vote. Of all the ballots cast by US citizens, Donald Trump received 46.1% of the votes and Hilary Clinton 48.2%.⁴⁵ This amounts to a total of 2,864,974 more votes for Clinton being President than President Trump.⁴⁶ This can be considered to be a paradox in the US election system; there is a greater consensus for Clinton as president, with nearly 3 million more people in favour of her leading the country. However, due to the aggregation method used in the USA, Trump came out as the winner. This confirms that it depends as much on the method used as on the votes cast who comes out of the election as the winner.

Much of the debate surrounding the election outcome has focused on the Electoral College and its electors. Many argue that the winner takes all Electoral College system fails to elect the right president because it can differ from the popular vote. It is not the first time in history that the candidate with the popular vote did not win the election, and this debate is therefore not new. However, the system is not unique⁴⁷ and has been chosen for a reason. If it would be abolished and the popular vote would determine the outcome of the election according to a system such as they have in Maine, where the percentage of votes determines the percentage of electors pledging for that candidate, there is still the possibility of controversial outcomes. We have seen in previous chapters that majority voting in general can yield undesirable outcomes when compared to the true opinions of the people. Therefore, changing the mere aggregation method would not truly change the system for the better. Hilary Clinton and Donald Trump may have been very polarised candidates, making majority voting an appropriate method that gives the same outcome as Majority Judgment,⁴⁸ but this is not true for all US election candidate pairs.

4.2.3 Alternative scenario under Majority Judgment

Majority Judgment's ranking based on individual evaluations would have shown the overall opinion of the people of a candidate. Therefore not only votes in favour, but also votes against

⁴⁵ Krieg, G., 'It's Official: Clinton swamps Trump in Popular Vote', CNN, 22 December 2016. For raw data see Associated Press Interactive, '2016 General Election', <https://interactives.ap.org/2016/general-election/?SITE=NEWSHOURELN>.

⁴⁶ Supra n. 45.

⁴⁷ The UK has a similar system with first past the post districts when it comes to electing the party to govern the country.

⁴⁸ See Section 3.6.2 on polarised pairs.

are taken into account. With Clinton and Trump both having very strong voices against as well as in favour, this would have definitely resulted in different candidates after the primaries. The final race between Clinton and Trump would have been interesting as they are a polarised pair. However, what would be one of the most interesting options under Majority Judgment is having multiple candidates per party.

The possibility under Majority Judgment to give high evaluations to more than one candidate means two Democratic candidates would not stand in each other's way on the ballot paper. Bernie Sanders would have been able to run alongside Clinton, and both would have had the chance to beat Trump. This might remove the need for a two-phase system of party nomination and actual election, or might favour independent candidates. People now worry they waste their vote when not voting for one of the two party nominees. However, although in theory very promising, due to the complicated, expensive, and traditional way of campaigning the two major parties may not like having more than one candidate in the second round. Therefore, both rounds will need to use the most democratic voting method – Majority Judgment – to avoid overall paradoxes. Although opinions might change between the party nomination and the actual election, if both systems are based on evaluations, then there is little chance that the candidate that lost in the first round would have won in the second round. The overall evaluations from Majority Judgment are independent of the other options, as it is not a preference ranking. The best strategy for the parties is to nominate the candidate with the highest evaluation, because this person will have the best chance of winning the election.

4.3 French elections

In the French Presidential elections paradoxes have also taken place previously. The French are more than aware of this, and have even proposed changing the voting mechanism.⁴⁹ This will, however, not happen in time for the upcoming elections, but it does signal awareness. The upcoming presidential elections have the same characteristic as many other contemporary elections, including the just discussed US election, namely the popularity of a populist candidate. Marine le Pen is a force to consider, but is subject to the same problem as Trump and Clinton: very strong voice in favour, but very strong voices against as well. This type of candidate is especially prone to get involved in a voting paradox, as happened previously in France.

⁴⁹ Ferrand, O., 'Réformer l'élection présidentielle, moderniser notre démocratie', Terra Nova, 21 April 2011.

The French presidential elections are currently organised in a very specific way. There is a two-round system of voting where candidates are elected in a run-off.⁵⁰ The first round is majority voting where French citizens can pick one candidate. If none of the candidates secures an absolute majority of votes in the first round, the result will be based on plurality voting. A second round of majority voting is held two weeks later between the two candidates with the highest number of votes in the first round.

The two-round system was set up to guarantee that the elected president always receives a majority. However, this system of majority voting has its own pitfalls. Balinski and Laraki have made clear that due to this method, in previous elections not always the most favoured president has been chosen. Specifically, the 2002 French Presidential elections showed a voting paradox.⁵¹ The nation was expecting the choice between Chirac and Jospin in a second-round run-off. However, Jean-Marie Le Pen received more votes in the first round than Jospin. In the run-off, Chirac then beat Le Pen by 82%. Polls suggested that Jospin would have beaten Chirac in a second round run-off. This shows that the majority received by a candidate in the second round in no way represents a majority vote in general, and that a strong position in the first round can counter-intuitively result in a very weak position in the second round. This gives a very distorted picture of the actual support for candidates and the playing field between candidates.

With no options left in the second round, those who have previously voted for another candidate have to make a choice. Would there have been another candidate facing Chirac in the second-round, that vote might have been different. This can in some ways be compared with the previously mentioned nominations in the US presidential system, where Bernie Sanders might have beaten Trump in the 'second-round' (the actual election) had he not lost to Hilary Clinton in the first round (the Democratic nomination). It is another manifestation of Arrow's paradox, where the ultimate elected winner "depends on the presence or absence of candidates including those who have absolutely no chance of winning."⁵²

⁵⁰ Article 7, Constitution of France.

⁵¹ Balinski, M., 'Election by Majority Judgment: Experimental Evidence' in Dolez B. (ed.), *In Situ and Laboratory Experiments on Electoral Law Reform: French Presidential Elections*, Studies in Public Choice 25, 2011, p. 16.

⁵² Supra n. 51, p. 17.

This debacle in 2002 led to questions ahead of the 2007 Presidential Elections.⁵³ In 2007 several experiments were conducted during the Presidential Elections, including experiments with Majority Judgment. Terra Nova, a French think tank,⁵⁴ executed these experiments. This has led them to argue in favour of using MJ during the 2012 elections,⁵⁵ without much luck. France is still using their majority rule and plurality run off system for the current 2017 elections.

4.4 Conclusion

SCT is not merely a theory; it is something that can be witnessed in practice. The American and French presidential elections mentioned in this chapter clearly demonstrate that current voting methods can indeed lead to paradoxes and results undesired by a majority. In the age of the rise of populism and polarising societies, electing the truly most highly evaluated candidate seems essential to create good leadership and overall happy populations. This is as true for the Netherlands as it is for France and the USA.

⁵³ Supra n. 51, p. 18.

⁵⁴ Terra Nova, www.tnova.fr. Balinski and Laraki are both linked to this think tank.

⁵⁵ Supra n. 49.

5 DUTCH GENERAL ELECTIONS

5.1 Introduction

The previous chapters have demonstrated that majority voting is a faulty method that can yield paradoxical results. This can even happen in national political elections, and has indeed happened indisputably in some countries. Combining these observations should make us wary of using majority voting at all, whether previous elections have resulted in unjust winners or not. Using majority rule at the very least makes our system prone to wrong results and is not the most democratic way to elect our leaders. Majority rule is simply not the best fit for a democratic system.

The Netherlands, as a democracy, strives to have fair and democratic elections as well. This chapter aims to discuss whether the Dutch elections satisfy that definition. By setting out the current system, and analysing it in terms of SCT, we can understand the pitfalls. It will then be seen whether Majority Judgment is a viable solution to these democratic shortcomings, as it gathers a lot more information from the voters than majority voting does.

5.2 Background information

The most important elections held in the Netherlands are the General Elections, which are normally held every 4 years.⁵⁶ In it the Dutch people elect the members of the Second Chamber, our House of Representatives, 150 in total. These members belong to political

⁵⁶ It is not unusual for a cabinet to resign before completing the four-year period, thus causing elections to be held sooner. This has consistently happened to all cabinets between 2002 and 2012.

parties, and the largest party elected gets the chance to form a government through a coalition that will have a majority of the seats in the Second Chamber. The election happens through what has been called 'an extreme version of proportional representation'⁵⁷, where there is only a 0.67% - or 1/150th - threshold of number of votes to get a seat in the Second Chamber. There is thus ample opportunity for smaller parties to get a seat in the chamber. This has resulted in the creation of a large number of 'splinter parties',⁵⁸ often focusing on a particular topic or demographic. When these parties receive seats, it creates a problem for the formation of a coalition because it becomes more difficult to create a majority with only two or three parties.

After the election, the number of seats each party has received in the Second Chamber determines which party may start the formation of a cabinet. This is often the largest party and its leader would then become Prime Minister. However, due to the splintered nature of the Second Chamber, the largest party will never receive a majority of the seats by itself.⁵⁹ It will therefore have to form a coalition to gather more than 75 seats and govern the country together. This coalition of parties will form the cabinet, the Prime Minister and its Ministers, the Council of Ministers. This is the main executive body of the government of the Netherlands. The realisation of more and more small parties in the General Elections, and the prognosis of them actually receiving seats due to the low threshold, has created a problem for the formation of a coalition.

Traditionally, a two or three party coalition was enough to receive a majority in the Second Chamber. The results of the 2017 General Election suggest that at least four parties are needed to gather 75 seats.⁶⁰ This is complicated even further by the fact that no party wishes to govern in cooperation with the PVV of Geert Wilders, the populist party that is the second largest party in the Second Chamber, with 20 seats won in this election.

⁵⁷ Wisniewska, A., Ehrenberg-Shannon, B. 'Dutch elections: Geert Wilders' Party for Freedom slides in opinion polls', *Financial Times*, 3 March 2017.

⁵⁸ Officially, 81 political parties registered to take part in the General Elections 2017. 28 parties gathered enough support, 580 support intentions, and fulfilled the formal requirements, a sum of 11.250 euros, and will thus appear on the ballot paper.

⁵⁹ A one party majority was last realized around 1900.

⁶⁰ Supra n. 57. For up to date polling information see Frontbencher, 'Peilingen', 2017, <http://frontbencher.nl/peilingen/>.

5.3 Voting method

The Netherlands uses a traditional way of voting; on Election Day voters may tick the box before the name of only one candidate. The ballot paper this year contained 28 parties, and 1114 candidates spread over these parties. You vote for one candidate, but this counts as a vote for the corresponding party.

*De kiezer gaat na ontvangst van het stembiljet naar een stemhokje en stemt aldaar door een wit stipje, geplaatst vóór de kandidaat van zijn keuze, rood te maken.*⁶¹

The numbers of votes for all candidates of one party are added up to determine the total number of votes for that party. The number of seats the party receives is then calculated according to how many $1/150^{\text{th}}$ of the votes they have received. This number of seats determines which candidates become MPs, namely those first on the list. The exception is for those individual candidates receiving more votes than 25% of the threshold for a seat.⁶² These individual candidates have been chosen directly to become a MP and bump one of the candidates of the list out of the Chamber. Generally, however, the persons highest on the list receive the most votes. Around 80% of the voters vote for the first name on the list, the *lijsttrekker* or front-runner, thus merely indicating a preference for that party.⁶³

Although there is not truly a winner in the Netherlands, possibly not even one largest party, the voting is a form of Majority Rule, or more precisely, Plurality Rule. Only one choice can be made, and this causes a major loss of information. This has been demonstrated in Chapter 2, and is also applicable to the Dutch system. Voters have much more information to give than just one party they support. This is especially true for a system in which coalitions need to be formed. Besides having an opinion on what party should lead the government, often people also have an opinion on what parties their favourite party should form a coalition with. These are parties they would approve of, or would highly evaluate.

Therefore ideally a new system of voting would incorporate two thoughts. It would let the voter express more thorough opinions on different parties, and would favour parties with a higher overall rating and that are therefore more consensual. This would hopefully lead to two

⁶¹ Article J 26, Kieswet.

⁶² Article P 15, Kieswet.

⁶³ See the results of the General Election 2012, or for example the overview in Holsteyn, J. van, Andeweg, R., 'Tweede Orde Personalisering: Voorkeursstemmen in Nederland', *Res Publica* 54(2), 2012, p. 171.

advantages; reduce the number of splinter parties and allow votes against controversial political parties thereby lowering their overall evaluation.

5.4 Pitfalls of Majority Judgment

With respect to the characteristics of the Dutch election system, Majority Judgment has some specific disadvantages and challenges as well.

5.4.1 Candidate lists

A major drawback of the current Dutch General Election voting method is the presence of a large number of individual candidates. In addition to 28 different political parties on the voting ballot, a total number of 1114 candidates will be individually named and can be voted for. It seems impossible task to form an opinion on all of these individual candidates, and it is quite unlikely that any voter has researched all possible candidates on an individual level.

The political party drives the number of votes, demonstrated for example by the on average 80% of the votes that the front-runners receive. Some reasons to vote for candidates lower on the list are political achievement, personal acquaintance, celebrity status, or common identity traits such as being female or from a certain demographic. However, these votes rarely have a direct impact. Of the more than 1000 candidates, never more than two have been granted a seat in the Second Chamber due to the number of individual votes they have received. Due to a targeted campaign for the 2017 election to vote for women falling just short of the polled number of seats on the candidate list, this year four candidates of which three women were chosen directly.⁶⁴ This low number of directly chosen candidates is in spite of the fact that scholars have seen an increase in preferential voting over the past 15 years.⁶⁵ Apparently the increased preferential⁶⁶ voting barely has an effect on the composition of the Second Chamber.⁶⁷

⁶⁴ — —, 'Voorkeursstemmen brengen drie vrouwen en een boer in de Tweede Kamer', *NOS*, 17 March 2017.

⁶⁵ Holsteyn, J. van, Andeweg, R., 'Niemand is groter dan de partij: Over de personalisering van de Nederlandse electorale politiek', *Jaarboek Documentatiecentrum Nederlandse Politieke Partijen 2006*, 2008, p. 108.

⁶⁶ According to Van Holsteyn and Andeweg about 25% of the votes are preferential votes, for a candidate that is not the front-runner. In 2012 this was 20% when looking at the election results.

⁶⁷ The same is considered true for voting for a female candidate to increase the number of women in the Second Chamber. In 2012 one million preferential votes went to women, which was 75% of all preferential votes. This has however not led to an increase in female MPs. In 2010 the two candidates that got a seat in the chamber due to

Besides the fact that preferential voting is actually used by the electorate, there is also the question of interpretation. Due to the current method of voting, we cannot tell for sure what the red circle before a name indicates. In the Netherlands you have to vote for one candidate, therefore votes for the front-runners may also be neutral votes for the party without signalling that they also believe the front-runner is the right leader of the party. In the same sense a vote for a lower placed candidate may indicate different things. Perhaps the voter feels that person deserves a seat in the Second Chamber, but perhaps they also mean that that candidate should be the number one of the party.

This happened for example in the General Elections of 2006 with Mark Rutte, the current Prime Minister and front-runner for the VVD, and Rita Verdonk, the second candidate on the list of the VVD at the time. She had lost an internal party vote to become front-runner, but subsequently received more votes in the actual election than Mark Rutte. It was the first time in Dutch parliamentary history that a front-runner did not receive the most votes within a party. However, this did not lead to a coupe and a replacement of the party leader, even though the electorate seemed to prefer a candidate lower on the list more than number one. This suggests that preference voting has relatively little impact, and the most important battles have already been fought within a party: who can be the front-runner, and the order in which candidates appear on the ballot paper.

What would happen if all candidates would be removed from the ballot paper? For one, the ballot paper would be a lot smaller and counting would become a lot easier, but these are not fundamental advantages or disadvantages. Based on what has just been discussed, in theory it would have a very minimal effect on the candidates that take place in the Second Chamber, no matter what motive voters have to vote for a certain candidate. However, it could have indirect effects on the number of votes. If there would only be party names on the ballot, perhaps voters only associate this party with the front-runner that leads the campaign, and due to the personalisation that has led to more preferential voting, this front-runner will influence the total number of votes. Those that now vote for different candidates may not agree with the front-runner, and instead of deferring to preferential voting, they may now switch parties because of that. If that is true, removing candidates would indeed alter the votes drastically. However, this

preferential voting were both women, Pia Dijkstra and Sabine Uitslag, but in 2012 no women were elected due to preferential voting. Wiel, C. van de, 'Ook de premier doet het: stemmen op een vrouw', *NRC Handelsblad*, 8 March 2017.

is based on a Majority Rule system. With Majority Judgment, there would be no need for this as one can evaluate more than one party.

What the preferential voting again shows is that Majority Rule takes too little information into account. We do not know what people mean by their preferential voting, hence it is unsure how to treat these votes. It is unfeasible to apply Majority Judgment to all candidates currently on the list, since it would be too large of an exercise for voters. Because voting only for a party, potentially through Majority Judgment, would also cause a loss of information on which candidates are desired in the Second Chamber, it seems unadvisable to completely discard voting for candidates. It does however not seem necessary to vote for this in the general elections. Voting for candidates could for example take place within a party through intraparty elections. This will be discussed in Chapter 6.

5.4.2 Seat allocation

The General Elections in the Netherlands do not only elect a winning party that may form a coalition. Most importantly, they allocate the seats of the Second Chamber between all parties depending on how many votes they have received. There are 150 seats in the Second Chamber, and the threshold for getting a seat is $1/150^{\text{th}}$ of the votes. Hence, for every $1/150^{\text{th}}$ of the votes that a party receives, they are allocated one seat. Based on the total number of votes cast, it is calculated what $1/150^{\text{th}}$ is. It is then calculated how often every party received this number of votes, which determines the number of seats per party. There are always some seats that remain unallocated at this point. This is either because votes were cast for a party that did not end up getting beyond the threshold of $1/150^{\text{th}}$, or because parties have more votes than an exact multiplication of $1/150^{\text{th}}$. The allocation of these remaining seats is conducted by calculating per party how many votes are cast on average per assigned seat. This happens by dividing the total number of votes for a party by the number of seats it received plus one. This gives an average number for every party, and the party with the highest number receives the first leftover seat. After every one seat is allocated, new averages are calculated for that party. The next left over seat is then allocated to the party with the largest average at that point. This method is demonstrated by the following example of the 2017 Dutch General Election results.⁶⁸

⁶⁸ Kiesraad, 'Officiële uitslag Tweede Kamerverkiezing 15 maart 2017', 21 March 2017, <https://www.kiesraad.nl/actueel/nieuws/2017/03/20/officiële-uitslag-tweede-kamerverkiezing-15-maart-2017>.

On 15 March 2017 a total of 10,516,041 valid votes were cast in the General Election. The number of votes required for one seat therefore was $10,516,041 / 150 = 70,106.94$. The number of seats for each party was then calculated. The VVD for example received 2,238,351 votes. $2,238,351 / 70,106.94 = 31.928$. Therefore, the VVD in first instance receives 31 seats. The PVV received 1,372,941 votes, and receives 19 seats because $1,372,941 / 70,106.94 = 19.584$. After calculating this for every party, a total number of 142 seats are allocated. This leaves 8 remaining seats.

The average number of votes per allocated seat including an extra fictional seat is then calculated for each party. For the VVD this is $2,238,351 \text{ votes} / (31 \text{ seats} + 1) = 69,948.469$. For the PVV this is $1,372,941 / 20 = 68,647.05$. The average number of votes per seat is higher for the VVD, therefore the VVD would be given the first extra seats. For the second seat, the same calculation is done, but now the VVD will have 33 seats and will therefore have a lower average number. $2,238,351 / 33 = 67,828.818$. The number stays the same for the PVV, and now they have more support or votes per seat. Therefore the second remaining seat will be allocated to the PVV. This calculation continues for all remaining seats, and of course includes all parties that receive seats in first instance.⁶⁹

This Dutch system is significantly different from the French and American election methods that Balinski applied Majority Judgment to.⁷⁰ If voting would be restricted to voting for parties instead of candidates, would it be possible to design a Majority Judgment voting system that allocates seats between parties? There have been experiments with Majority Judgment and seat distribution.⁷¹ Zahid preferred the use of what he calls the Borda Majority Count, an adapted version of the Borda Count where the points are not given as a ranking but as an evaluation, so that the added up number of points could determine the seat distribution. He has however also suggested a formula for seat distribution under Majority Judgment.⁷²

It is not self evident how one may allocate seats to parties using Majority Judgment. Nevertheless, in order to do so given the results presented in the table below, we have acted as follows: given a wave, let γ be the highest majority grade

⁶⁹ For the complete calculations and number, see Kiesraad, 'Uitslag van de verkiezing van de leden van de Tweede Kamer van 15 maart 2017: Kerngegevens', *Publicatie Kiesraad*, 21 March 2017.

⁷⁰ See Sections 4.2 and 4.3.

⁷¹ Zahid, M.A., *A New Framework for Elections*, Maastricht: Shaker Publishing, 2012.

⁷² *Supra* n. 71, p. 94.

of the different parties. In our example, $\gamma = ac$ - for all three waves. For each party A let $\beta(A)$ be the number of voters who gave A an evaluation higher or equal to γ . Then, with C being the set of all parties,⁷³

$$\#seats(A) = \frac{\beta(A)}{\sum_{B \in C} \beta(B)} \times \text{total number of seats (150)}$$

This is a rather complicated formula, which is why Zahid took refuge to the Borda Majority Count. When using Majority Judgment with grades from 0 to 10 instead of certain phrases, as suggested in this thesis, it is indeed easy to fall back on a mechanism that uses average grades. This differs from the traditional way in which Majority Judgment decides on the winner and a ranking. However, it does allow us to calculate a seat distribution in a manner similar to the Borda Majority Count (BMC).

Translating the evaluations into grades makes it easier to calculate with the results. The traditional MJ method can be used to determine the overall evaluation of each party, and this can be used in determining who may initiate the formation of a government and what parties should be part of the coalition. However, a different method may be used for the seat distribution in a second calculation.

For the seat distribution, we need to somehow calculate a share of 150 seats that a party will receive. BMC does this in a very effective way. The total points given to a party are added up, as well as the total points overall for all parties. This last grand total will determine the number of points needed for one seat, by dividing it by 150. The total points given to a single party then determine how many seats it has in the same way as the current system does with the total number of votes. Instead of the points given in BMC, MJ on a scale of 1 – 10 can use the grades given. The following example of an election profile will demonstrate this method.

In the imaginary election outcome below, a total number of 10.000 votes have been cast. These have been cast at complete random to give an example of the fact that any election outcome should be possible in theory. Voters have to indicate for each party what grade they would give. Have they left the ballot blank, then that vote will count as a 0 for those parties not filled out. The number of times each grade has been assigned is multiplied by that grade. This gives the total number of points given to that party.

⁷³ Supra n. 71, p. 94.

	0	1	2	3	4	5	6	7	8	9	10	Total	Seats
VVD	1009	987	532	1176	609	565	1290	1044	1201	876	711	50.490	13
PPV	2089	1400	659	335	219	570	349	485	859	1107	1928	49.053	12
CDA	865	914	1008	765	901	979	799	776	879	981	1133	51.139	13
D66	670	499	780	643	701	750	1497	1521	818	1041	1080	56.884	14
GL	1474	1121	1079	1080	689	711	647	713	962	921	603	43.718	12
SP	2289	1110	1209	726	781	425	789	812	612	668	579	38.071	9
PvdA	1212	1088	856	923	782	1047	1569	702	778	621	422	44.293	11
CU	1649	1472	1202	655	554	544	516	645	831	933	999	43.423	11
PvdD	750	731	711	1035	978	899	1301	1223	643	780	949	51.686	13
50+	1981	968	821	899	961	1044	812	777	654	531	552	40.213	10
SGP	2101	1809	1401	455	376	304	388	341	487	1333	1005	39.658	10
Denk	2811	1531	744	825	869	781	455	587	431	569	397	32.253	8
FvD	2500	950	1131	865	1024	812	659	541	487	564	467	35.346	9

The table above demonstrates the adapted Majority Judgment method to allocate seats in the Second Chamber. The grand total number of points is 576.227, found by adding up the total scores per party. $576.227 / 150$ means 3841 points are needed for a seat. This results in the seat allocation as indicated in the table. This adds up to a total of 145, after which the remaining 5 seats could be distributed in the same manner as currently happens.

Based on the example above it can be seen what effects this calculation might have on the Dutch political system. Independent of whether the aggregation and allocation in itself is democratic, one can see that this method of allocation firstly seems to greatly benefit smaller parties. Relatively few voters normally chose to give their vote to a small splinter party. However, in an evaluation system, all voters can express their opinion on all of these parties. For some this can have very positive effects, as many voters can have a positive impression of the party without it being their number one choice normally. These parties can receive a lot more seats than they normally would in the current system.

Secondly, the difference of number of seats between parties would seem to become a lot smaller. There is a smaller range of possible number of seats, in the example above this is between 8 and 14 seats whereas it currently ranges from 1 to 33 in the Dutch Second Chamber. That means that in addition to smaller parties gaining a lot more seats, logically the

traditionally larger parties lose seats. The Second Chamber will be more or less split equally between all parties. This causes an enormous problem again for the formation of a coalition that has a majority of the seats in the Second Chamber. This very specific characteristic of the Dutch political system creates many difficulties when the presence of too many parties causes the disappearance of larger parties. This will be discussed in the next section in relation to the existence of smaller splinter parties, but the BMC for seat allocation has the same effect. Because it becomes nearly impossible for one or two parties to receive many more seats than other parties, the traditional two- or three-party coalitions become increasingly unlikely. It causes a range of democratic issues when coalitions need to be formed by a large number of parties. This will be returned to in the next section.

Thirdly, this method of aggregation promotes strategic voting because it creates a method that is not IIA. Since there is a true maximum of 150 seats to be distributed, the more points you give to other parties the fewer seats your most preferred party or parties receive. Every point you give to other parties reduces the share of total points that your single most preferred party will receive. Therefore you are encouraged to only give 10s and 0s. This would completely undermine the idea of Majority Judgment to gather informative and honest evaluations of all options, thereby giving more information than a mere majority vote. It is therefore not only not-IIA, but as a consequence also not strategy proof.

These observations are solely based on an imaginary election outcome. As mentioned, Zahid has conducted a similar Borda Majority Count seat distribution based on actual voter input.⁷⁴ The first two observations are less evident but similar in his seat distribution. He bases his experiment on the opinions of voters on 11 parties, and applies the different voting methods to these results. The number of seats received by the different parties ranges from 7 to 18 when using BMC.⁷⁵ Under Plurality Vote, using the same voter input, the number of seats received by the same 11 parties ranges from 2 to 30.⁷⁶ Under Plurality Vote the PvdD and SGP both receive 4 seats, while under BMC they receive on average 11 and 9 seats respectively. Both the first and second observation are therefore also true for the actual experiment conducted by Zahid in the Dutch system. Small splinter parties receive a lot more seats under Majority Judgment and the difference in number of seats between parties becomes smaller. The

⁷⁴ Supra n. 71, p. 97.

⁷⁵ Idem.

⁷⁶ Idem, p. 89.

difference is smaller in Zahid's experiments, but this is potentially due to the fact that the number of parties actually receiving seats in Dutch elections has grown from 11 to 13. Zahid used only 11 parties for his experiments, whereas this thesis uses the current 13, which might be worsening the problem. With a greater number of splinter parties, these would all be benefitting at the expense of the larger more established parties. This explains the small variations between my thought experiment and Zahid's experimental results, but both point towards the same trends.

Although this method would in theory give a seat distribution, there are clearly several pitfalls to be identified. In addition, it also undermines the intention Balinski had with Majority Judgment, namely using the median grade and refrain from using any point-summing method such as the Borda Majority Count. One can thus question the effect this method would have on the properties of Majority Judgment. However, the use of the median grade for a seat allocation seems mathematically infeasible at first sight. After having determined the median grades for parties, what factor should be used to determine the strength of this median grade for a $1/150^{\text{th}}$ split of seats?

Using the actual number of votes cast on the median grade creates an unfair and random distribution, since the median grade is determined by the number of votes both below and above the median grade, not the number exactly on the median grade. Two parties can have the same median grade without having the same number of median grades. If you would use the number of votes cast for the median grade as the determining factor for a seat distribution, then party B receives few seats and party A might receive all, even if they have the same median grade. MJ therefore seems very suitable for electing only a winner and determining a ranking of the candidates, but not for distributing seats between candidates. More mathematical research may have to be done on this subject, but it seems Majority Judgment was clearly not designed for a distribution of seats. Creating a distribution method even undermines some of the best properties of MJ, such as being IIA and being resistant to strategic behaviour.

5.4.3 Too many parties

Another obstacle for applying Majority Judgment to the Dutch General Elections is the large number of parties. As discussed, the fragmentation of Dutch politics has led to a large number of splinter parties. This year, 28 parties appeared on the ballot, and 13 parties actually won

seats in the Second Chamber.⁷⁷ These splinter parties mainly exist to give a voice to political discontent, whether it is on one specific topic or from one specific demographic. An example of the first, a one-issue party, is the Party for the Animals (PvdD), which was established in 2002 to fight for animals and the environment. This party has had 2 seats in the Second Chamber since 2006, but grew to 5 seats in most recent past election. Examples for parties for specific demographics are the 50+ party, for the older generations, and the Christian parties SGP and ChristenUnie. Many of the splinter parties are split offs from large established party. The most successful example of this is the populist party PVV from Wilders, who was first a member of the Second Chamber for the VVD.

The fundamental question is whether splinter parties are democratic or that they hinder our democracy. These splinter parties seem to cause a paradox. At first sight it seems democratic that it is easy to create new political parties, and to gather the votes to support their issues. Indeed it answers to the political unrest and gives the people an opportunity to voice their support for specific issues. With a large number of parties, the chance increases that there is a party that exactly fits with your opinions and believes. This seems democratic as well; there is a party for everyone. On the other hand, it causes a democratic deficit in the Second Chamber. Due to the large number of splinter parties, the established parties receive less seats. Whereas in the past two parties could gather a majority and form a coalition, this year it appears at least five parties are needed for a majority coalition.⁷⁸ The act of forming a coalition means that parties need to compromise. And they compromise exactly on some of the beliefs and policies that you agree with, shared with them and voted for.

Some believe a (higher) *kiesdrempel*, or election threshold, would be the solution. This would entail a percentage of votes a party needs in order to receive a seat in the Second Chamber. Currently there is a de facto threshold of 1/150th, based on the number of seats. A true election threshold would increase this percentage, thus preventing a large number of parties from having only one or possibly two seats. This system is common in other countries, such as Germany and Belgium where a 5% threshold is enforced. In the Netherlands a 5% threshold would correspond to seven seats. Of the current Second Chamber parties, even more established parties such as ChristenUnie (5 seats) and SGP (3 seats) would then not be present,

⁷⁷ According to the latest polls, see Frontbencher, 'Peilingen', 2017, <http://frontbencher.nl/peilingen/>.

⁷⁸ See section 5.2 on the functioning of the Dutch General Elections. This is given that no party wishes to govern together with the PVV.

and GroenLinks that has now received 14 seats would have not been present in the previous Second Chamber with only 4 seats.. This seems rather extreme, a threshold of seven seats. In addition, a *kiesdrempel* would not benefit the actual elections. A threshold is centred on the number of votes received. However, for Majority Judgment to be successful, there need to be less parties on the actual ballot paper. It seems quite difficult to form articulated opinions on 28 parties, not merely because there are never 28 parties present in debates on television.

What other options are there to decrease the number of political parties in the Netherlands? Perhaps removing candidate names from the ballot papers would indirectly also have positive effects on the number of political parties. Currently, most splinter parties come into existence because candidates split with their party but remain in the Second Chamber as individuals who have won a seat in the election. These individuals then start a new party from these individual seats they already have in the Second Chamber. Recent examples of this are the PVV, DENK, VNL. The PVV is a very successful example, but DENK also received 3 seats in the recent elections after Kuzu and Ozturk split from the PvdA in 2014. If seats were not appointed on an individual level but to a party as a whole, because there are no individual names to vote for on a ballot, then MPs splitting from their party would have to be automatically removed from the Second Chamber. This prevents a large number of one-man fractions and splinter parties from coming into existence.

A second potential development would be the merging of parties over the next couple of years. Larger parties have realised this last election that with the current spectrum of political parties it became increasingly difficult to win seats. The expected difficult formation process will prove the same. For those parties aiming to govern, this development will discourage the tendency to fight against each other. Parties with nearly the same conviction no longer need to steal seats from each other; they need to steal seats together from smaller parties and opposing parties.

PvdA has experienced a major loss of seats recently. Now one of its prominent party members, a Minister in the previous cabinet, now pleads the case for a merger between GroenLinks, PvdA, and other left wing parties.⁷⁹ This would create a bloc of parties that could potentially win a majority in the Second Chamber by stealing seats from smaller parties en masse. With

⁷⁹ Plasterk, R., 'Laat links gecombineerde fractie vormen met Klaver als voorman', *De Volkskrant*, 19 March 2017.

the realisation of larger parties and mergers, the campaigns can also focus on truly opposing parties instead of very similar parties. Because a coalition always needs to be formed in the Netherlands, preferably with parties with very similar views, it is useless to only steal seats from parties with similar views. Working together and creating larger parties does seem like an interesting trend to counteract the current trend of splinter parties. The larger the large parties are, the harder it is for splinter parties to become influential and join the government. This could therefore aid in solving the problem of the presence of too many parties in the Second Chamber elections.

5.5 Conclusion

Although Majority Judgment in theory is the best method to organise elections, it does seem hard to apply to the Dutch General Elections. Majority Judgment gives a ranking of candidates or parties, but does not give a suitable seat distribution for the Second Chamber. The Dutch General Election system is so completely different from Presidential Elections in France and the USA, that MJ cannot be applied or tested in the same way. This is due to the seat allocation instead of one winner, due to the personalisation of MPs, and due to the large number of parties as a result of fragmentation. These three factors mean that not just the voting ballot can be adapted to Majority Judgment, but the entire system and old habits need to be completely changed to accommodate Majority Judgment in national elections.

6 OTHER STARTING POINTS IN THE NETHERLANDS

6.1 Introduction

The last chapter has shown that although Majority Judgment in theory seems the optimal method, it is very complicated to apply to the Dutch General Election. However, having seen that Majority Judgment is to be preferred to Majority Rule and other voting methods, it seems necessary to analyse other Majority Rule decisions made in the Netherlands.

This chapter will aim to find procedures in the Dutch political sphere where Majority Rule can be replaced by Majority Judgment to improve those procedures. This would potentially lead to a more democratic system overall. It turns out that many of our procedures are prone to the paradoxes encountered in SCT, because Majority Rule is the status quo not only for the general elections but for all group decisions.

6.2 Intraparty elections

One option coming from the proposed changes in Chapter 5 is a renewed intraparty election system along the lines of Majority Judgment. Currently, intraparty elections are not very common but they do happen. Fairly recently, the PvdA held an election for front-runner. This is probably the most used format of an election within a party. Back in December a majority vote decided between Diederik Samson and Lodewijk Asscher. Members of the Dutch labour party could vote either digitally or through the post, and had to pick one of two names. Similar

elections, but with more than two candidates, have previously happened at the CDA, VVD and PvdA. Chapter 2 and 3 on SCT and MJ have demonstrated that Majority Rule has many undesirable properties, even for only two candidates, and Majority Judgment is to be preferred in these cases. This also seems feasible since party members are often acquainted with the potential front-runners and will have well formulated opinions on each option. The opinions can be better voiced through an evaluation method such as Majority Judgment. An election like this equals the format of the US and French presidential elections, and it seems feasible to apply Majority Judgment when deciding between several names as the leader of a party, or even a complete ranking of candidates on the party's list at the general elections.

In addition to electing the front-runner intraparty through Majority Judgment, the previous chapter has suggested that deciding on a candidate list within a party and then leaving those candidates off the ballot during the actual general election would be an option worth investigating. To prevent complete party domination in Dutch politics it is undesirable to leave the candidate list completely up to the party leadership. However, it seems unnecessary to do this during the General Elections per se.

Voting on a candidate list prior to the General Election would have several benefits. First of all, it creates a smaller ballot paper that is more suitable for using Majority Judgment on. Secondly, it might prevent the presence of some splinter parties since members leaving their party during a term will no longer have a claim to those seats in the second chamber. Thirdly, it creates the option for more intraparty elections and involvement when candidate lists and front-runners are decided on through Majority Judgment by the members of a party.

An intraparty election could have several positive effects on its own. Firstly, it has the potential to create more involvement with a party⁸⁰ and politics in general, including more long-term commitments to one party as opposed to the current last-minute voting decisions.⁸¹ Secondly, it may counteract the enormous amount of party politics currently undermining the democratic electoral system. As explained previously,⁸² although candidate names are present on the voting ballot, preference votes on an individual candidate rarely make a difference in the

⁸⁰ The number of members of the PvdA increased with around 1000 during the elections, — —, 'Duizende nieuwe PvdA-leden door lijsttrekkersverkiezing', *Financieel Dagblad*, 8 November 2016.

⁸¹ Currently, only a total of 300.000 Dutch people are a member of a political party, Outeren, C. van, 'Aantal leden politieke partijen zakt tot onder 300.000', *NRC Handelsblad*, 25 February 2015.

⁸² See Section 5.4.1 on candidate lists.

Netherlands. The order of the candidate list as put together by the party leadership is determinative in the final composition of the Second Chamber. Internally, this currently happens in a very undemocratic and secretive manner.

There is an enormous desire to become more involved at all levels of politics, and not just by merely ticking one box on a ballot paper once every four years. The creation of the political party *GeenPeil*, a party promoting direct involvement of members during votes in the Second Chamber, and the call for more referenda on specific topics support this claim. If members of a political party were able to get involved from the very start by voting for a front-runner, a candidate list, and possibly even a party programme, this may make the elections and governments as a whole more democratic. However, this will only be true if Majority Judgment is used instead of majority voting. Majority voting causes a lack of information causing certain paradoxes, and this is equally undesirable at a party level as at a national level.

6.3 Polling

Polling is not an actual form of elections, but it is an important part of elections and has also been prone to using paradoxical methods. Especially in the past year polling has been under scrutiny because of the wrongly predicted results of the Brexit and the US presidential elections.⁸³ In the past, Dutch general election results have also been predicted incorrectly, with PVV polling for 17 seats but winning 24 in the 2010 elections.⁸⁴ In the recent elections the VVD was not polled to have more than 29 seats, with an average of around 27, but actually won 33 seats. Although historically not always right, polling is still given a lot of weight in all elections, and the polls often dominate the news.

Part of the problem of polling is that it does not take into account the voting system used. Indeed, for the USA elections the popular vote was predicted, namely a win for Clinton. However, the specific US system led to a win for Trump. Due to voting paradoxes, the same can happen in, for example, France and the Netherlands. Polling takes more complicated opinions into account than just one name the voters prefer, but as shown many voting systems do not.

⁸³ Vance, R., 'Trump and Brexit show why the media should stop their overreliance on polls', *The Guardian*, 25 November 2016.

⁸⁴ Melissen, H.J., 'Wat hebben we aan peilingen?', *NPO Focus*, <http://www.npofocus.nl/artikel/7494/wat-hebben-we-aan-peilingen->.

How does polling work? This differs significantly between pollsters, but there are quite a few standard methods. Most importantly, samples of voters are used. There are 'randomly' taken from society to create a reflection of the electorate as a whole. The numbers differ however, varying between 1.000 and 50.000 participants.⁸⁵ Both the size of the groups and the actual representativeness are crucial. The latter factor in particular makes accurate predictions difficult. One can always speculate if actual representation is possible, but more and more safeguards are designed to get as close to this as possible. However, the polling is always orientated towards a certain group of people. Most polls these days happen through Internet, thereby excluding people without a computer or Internet. The people participating in polling are generally more interested in politics than the average person and have given the matter some thought. First time voters may be omitted from the polls. Other fluctuations may also be possible, for example the absence of Turkish Dutch people from the polls in the Netherlands.⁸⁶ Pollsters try to overcome these difficulties by weighting votes differently to compensate for the relative absence of certain demographics. This is then as close to an actual representation as they can get.

What may be more interesting is to look at the question(s) posed to the sample voters. When looking at different opinion polls, we can see that this differs but is mostly composed of a Majority Rule format. Maurice de Hond, an influential pollster in the Netherlands, has been using different voting mechanisms. An example is the Pairwise Comparison between different front-runners conducted by de Hond. The following table demonstrates the results:⁸⁷

De Hond asked his set of voters who they would vote for as Prime Minister if they only had the choice between two candidates. These results are displayed for the representative set as a whole, and split up by voters for different parties.

⁸⁵ Ibid.

⁸⁶ Hond, M. de, 'De twijfelachtige kwaliteit van de kritiek op mijn werk en peil.nl', *Peil.nl*, January 2017, <http://www.maurice.nl/beheer/wp-content/uploads/2017/01/De-twijfelachtige-kwaliteit-van-de-kritiek-op-mijn-werk-en-Peil-nl.pdf>.

⁸⁷ Hond, M. de, 'Stemming van 3 maart 2017', *Peil.nl*, 3 March 2017.

Voor wie kiest u als premier als u alleen uit deze twee kunt kiezen?

<i>percentage positief minus negatief</i>		Huidig stemgedrag						
	Allen	PVV	VVD	CDA	D66	PvdA	SP	GrLinks
Rutte	38%	19%	93%	5%	67%	59%	4%	36%
Buma	42%	48%	1%	90%	19%	18%	62%	40%
Rutte	40%	39%	95%	59%	5%	35%	5%	10%
Pechtold	39%	14%	3%	26%	92%	52%	58%	87%
Rutte	41%	38%	95%	66%	35%	6%	4%	10%
Asscher	39%	19%	4%	20%	52%	85%	63%	86%
Rutte	48%	42%	95%	79%	44%	32%	9%	5%
Klaver	36%	18%	5%	10%	48%	58%	70%	93%
Rutte	51%	33%	100%	77%	71%	63%	2%	28%
Roemer	37%	42%	0%	15%	21%	19%	97%	64%
Rutte	61%	8%	98%	80%	90%	92%	38%	90%
Wilders	27%	89%	0%	14%	5%	1%	18%	0%

This information was considered newsworthy as was displayed in several news items that week. It is not a complete Pairwise Comparison; it only places Rutte in comparison with all the other candidates. The other candidates are not compared among each other. Still, this information allows us to envision a paradox as explained in Chapter 2 possible in the Dutch General Elections 2017. We can see that, in a pairwise comparison, Rutte wins against all other candidates except for Buma. Buma beats Rutte in a pairwise comparison with 42% against 38%. A potential circular result, hence not adhering to transitivity, could be taking place here. If any other front-runner would beat Buma in a pairwise comparison among all voters, then there is an illogical overall result. Buma would beat Rutte, Rutte beats the other candidate, and the other candidate beats Buma, therefore not leading to any winner.

It is thus crucial that polling is put in context. Critique has already been given on polling, mostly referring to the insufficient methods and the inaccuracy, but it is also important to recognise that paradoxes may also appear in polling, just like in real elections. Luckily, polls are not meant to democratically elect a winner. Their main goal is to give non-concluding insights. Therefore polling is far from worthless and is in fact a valuable source of information. It could potentially form the basis for a new election method as it gives ample opportunity to experiment with different questions and formats.

Majority Judgment used in polling would give even more insights into the actual position of different parties and front-runners, because of the limited loss of information. This fits perfectly with the aim of polling. We can see that Maurice de Hond, and other pollsters, already test with different methods: the classic majority rule, Pairwise Comparison as just shown, and

rankings.⁸⁸ Majority Judgment would be a much more insightful and less paradoxical way of testing the opinions of the electorate.

6.4 Conclusion

Even if Majority Judgment turns out to be quite complicated to apply in determining a seat distribution in the Dutch General Elections, this Chapter has identified two very attractive alternative starting points. Both polling and intraparty elections can easily use Majority Judgment. This would give both a much more democratic and insightful result, but would also benefit the introduction of more democratic voting methods overall. Once people get used to a new system as an alternative to majority voting, then it becomes easier to introduce this to other elections as well. Both polling and intraparty elections can greatly contribute in that way.

In addition, using MJ in intraparty elections would have several democratic benefits besides the voting method itself. It could counter the current party politics, could stimulate more political involvement, and could simplify the General Elections. The introduction of Majority Judgment in these two areas can be rather straightforward, and will by pass many of the feasibility issues identified for the seat distribution in the General Elections in the next chapter.

⁸⁸ See for example Hond, M. de, 'Stemming van 5 februari 2017', *Peil.nl*, 5 February 2017.

7 FEASIBILITY AND FIRST STEPS

7.1 Introduction

The previous chapters have touched upon the desirability of a different voting method in democracies. Majority rule, the status quo, seems insufficient in electing the overall most highly evaluated candidate. However, desirability does not equal feasibility. To change a voting method used in national elections, legal and habitual changes have to be made. This will always come paired with opposition and unwillingness. This chapter aims to explore the problems on the levels of feasibility, but also suggests possible solutions and approaches to these problems.

7.2 Necessary legal changes

Most importantly, to change a voting method, the method has to be changed formally. In the Netherlands, our election procedure is based on the Constitution and the *Kieswet* or Electoral Law. The Constitution does not explicitly state the aggregation method and voting input that must be used in an election, and therefore does not seem to have to be altered. The Electoral Law however would need a complete revision. A complete revision would take several years to prepare, research and write. After this it will have to go through parliament, and then it will take a while before the law will come into effect and will be used in the following election. This is a very long-term project and would require significant government involvement in proposing such changes.

7.3 First steps

Being aware that while Majority Rule is a faulty mechanism to make decisions and Majority Judgment proves to be difficult to introduce in one go, we must ask ourselves what can be done

right now. These steps are focused in two areas: educating the right people about voting methods and creating room to test and introduce new methods.

7.3.1 Educating the Electoral College

The Electoral College, or *Kiesraad*, of the Netherlands is the main advisory body regarding elections as well as the central polling station during actual elections. They organise elections, and give advice on all types of elections as well as the electoral law to the government. The Electoral College consists of seven members, most of whom have had a past career in politics or research. Of the current members, five out of seven have studied law in university.⁸⁹ Their curriculum vitae ensure us of a thorough knowledge of politics and the Dutch state and government, and some have extensive experience with researching elections. However, none of the research has focused on the mathematical and logical aspects of elections: Social Choice Theory. A law degree also guarantees little knowledge of SCT and the mathematical side of elections. This is a true shortcoming in the knowledge of those overseeing our elections.

A crucial first step would therefore be to educate the Electoral College on SCT and the paradoxes Majority Rule can cause. This allows them to give substantial advice to the government on how elections can possibly be improved and become more democratic.

7.3.2 Experimenting with polling by Majority Judgment

As mentioned in the previous chapter, pollsters may be perfectly suited to experiment with Majority Judgment first. They already have the resources and the influence to bring Majority Judgment to the attention of a large audience. All pollsters would have to do is alternate the questions asked to their set of voters, and include forms of Majority Judgment. These can then be compared with other methods in practice, thereby giving insights into the world of SCT and how the method chosen influences the result. In addition, this allows people to get used to the idea of evaluating parties and front-runners. At the same time this introduces the concept to the bigger world because the polls appear in the daily news in the run up to an election and are discussed with a high frequency in talk shows and news programmes. The trick is again to educate the pollsters about SCT, and let them experiment and educate the public through those experiments.

⁸⁹ Kiesraad, 'Over Ons', 2017, <https://www.kiesraad.nl/over-ons/leden-kiesraad>.

7.3.3 Introduce small scale Majority Judgment elections

This follows from what has been discussed in Chapter 6. There are several elections and procedures for which it is easy to implement some form of Majority Judgment. Pollsters can experiment with Majority Judgment, just as they experiment with other alternative voting methods. Intraparty elections could be set up using Majority Judgment, and this can form an experiment and test run for the General Elections. These small-scale MJ elections already have to benefit of giving processes more democratic legitimacy, but they also act as a first step towards general acceptance of MJ elections.

8 CONCLUSION

8.1 Conclusion

Social Choice Theory has revealed the inconsistencies in majority voting. As a result, majority voting is mathematically and philosophically an undesirable voting method in a democracy. However, perfect alternatives are scarce. Majority Judgment, as proposed by Balinski and Laraki, seems to come closest to resolving the paradoxes in majority voting. It is a complete revision of traditional voting by switching from preferences to evaluations. It aims to elect the candidate with the highest esteem in the eyes of the voters, instead of just being a way to elect a winner. Balinski and Laraki care about translating the opinions of voters as correctly as possible into a result, or a ranking of candidates. This prevents information loss that is characteristic to many other voting methods.

Even in political elections paradoxes occur, and previous elections demonstrate that Majority Judgment might have prevented undesirable results in these elections. The French and American elections both show this. Based on the theory of SCT and the evidence from previous elections, this thesis posed the question whether Majority Judgment would also form a viable alternative to majority voting in the Netherlands. Would the introduction of Majority Judgment make our elections more democratic?

In theory, Majority Judgment would indeed be an improvement over majority voting. However, that the Dutch political system is significantly different from other systems where MJ has been tested. For the possible introduction of Majority Judgment, several barriers exist in the Dutch political system. First of all, the fact that elections have to result in a seat allocation for the different parties is a significant obstacle to applying Balinski's Majority Judgment method. On first inspection there does not seem to be a feasible method to calculate this seat distribution

without losing the desirable properties of MJ. MJ is a method superior to other voting methods, but does not work well for determining seat allocations.

Secondly, the candidate lists present on the voting ballot for General Elections make it nearly impossible to introduce MJ without altering that system. Voters cannot evaluate more than 1000 candidates. Therefore, in order to make MJ feasible the candidates would have to be removed from the voting ballot. This would leave only the party names. Besides decreasing the number of options to evaluate, this also has several other advantages. Candidate list elections can be held intraparty through MJ, which may increase party involvement and decrease party politics. This in itself will create more democratic legitimacy. However, even then a third obstacle for MJ remains. The large number of parties that take part in the Dutch general elections, 28 in 2017, makes it difficult for voter to evaluate all of them even if candidate names are removed.

For both the first and the third obstacle no simple solution can be found. Even if there were one, feasibility issues arise. Altering the law and changing procedures would take a long time, and the Kiesraad is not yet educated fully on alternative voting methods. Overall, MJ does not seem a suitable alternative for the Dutch General Elections given the current political system.

Knowing however that MJ is a better alternative for majority voting in general, this thesis suggests other starting points for changing the way we vote in the Netherlands. The elections within political parties, based on the idea of removing candidates from the voting ballot, could be organised in a MJ manner. MJ is suitable for giving a ranking as a result, and this could determine both the front-runner of a party and what candidates in what order have a chance of getting a seat in the Second Chamber. Polling could also take more suitable methods into account, and use MJ voting to get the public accustomed to this way of electing. This also gives more valuable information on the evaluation of different candidates.

These small but significant steps would already increase democratic legitimacy through voting methods and would in addition make the public aware of alternative voting methods. Based on the knowledge that we vote in a mathematically undesirable way, it seems we should at least aim to change this in some aspects of our institutions. As Thomas Paine has said, a long habit of not thinking a thing wrong gives it a superficial appearance of being right. However, majority voting is not right at all. It is a pity the General Elections are not suited for a radical new system, but that does not mean there is no need to change anything at all.

8.2 Limitations and possible further research

The main limitation of this thesis is the fact that it is purely theoretical. More experimental applied research should be done in the Dutch system to conclude whether Majority Judgment is a feasible or non-feasible alternative to the current election system. As suggested, this could start with pollsters, possibly in cooperation with philosophical researchers.

Another limitation is the exclusion of the issue of voting for a coalition. It would be interesting to see how different voting methods could be used to express opinions on coalitions. Voters could then influence what parties govern together, or could support different combinations.

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