

Strategy and Manipulation in Medieval Elections

Sara L. Uckelman¹ & Joel Uckelman

Abstract

When developing electoral protocols, desiderata include a system which is transparent, non-manipulable, honest, and not open to strategizing. However, these desiderata are in tension with each other: Often, transparent electoral procedures are the least strategy resistant, and many honest procedures encourage manipulation. Thus, a balance between these different goals must be sought. In modern times, since the seminal result on vote manipulation, the Gibbard-Satterthwaite Theorem, much attention has been devoted to developing voting rules where manipulation is never in the best interest of the voters, or which are computationally too complex for the average bounded agent to be able to manipulate. In medieval times, such computational routes were generally not available, meaning that other constraints had to be put in place to discourage strategizing and manipulation. We discuss various voting rules and electoral procedures used in the Middle Ages in both ecclesiastical and secular context, highlighting some protocols with unique properties.

1 Introduction

There are many goals in developing electoral protocols, including a desire for a system which is transparent, in that it is clear what the rule or procedure to follow is; non-manipulable, in that it is not in a person's best interest to misrepresent their preferences; honest, in the sense that it elects the 'right' candidate²; and not open to strategizing, i.e., bribery or collusion. However, these desiderata are in tension with each other: Often, transparent electoral procedures are the least strategy resistant, and many honest procedures encourage manipulation. Since the seminal result on vote manipulation, the Gibbard-Satterthwaite Theorem [11, 38], much attention has been devoted to developing voting rules where manipulation is never in the best interest of the voters [9], or which are computationally too complex for the average bounded agent to be able to manipulate [2]. This focus on computational aspects of electoral methods is one of the hallmarks of modern studies on voting.

But pursuit of these goals is not restricted to modern times: Those devising medieval elections also sought transparency, non-manipulability, honesty, and strategyproofness in so far as these properties can be consistently expressed in a single procedure. However, given the lack of computational sophistication in the Middle Ages, alternate approaches were needed in order to promote honesty, discourage strategizing, etc. These methods can be classified as either external (constraints introduced outside of the electoral procedure, such as incentives for coming to consensus quickly) or internal (constraints introduced within the electoral procedure, such as voting rules which cannot be manipulated without adverse effects, or which are too difficult for the average bounded agent to manipulate). In this paper we discuss various voting rules and electoral procedures used in the Middle Ages in

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²In modern times, the 'right' candidate is going to be one satisfying some preference criteria; modern voting mechanisms are often intended to promote as winner a candidate who is acceptable to the widest range of people or who commands plurality support. In contrast, in medieval contexts, especially ecclesiastical ones, the 'right' candidate is identified with the one blessed by divine favor, chosen by God.

three different contexts (ecclesiastical, secular, and academic), focusing on ecclesiastical and secular elections as being the best represented in the medieval sources (with respect to manipulation and strategizing).

The plan of the paper is as follows. In the next section, we discuss the contexts in which elections and voting in the Middle Ages occurred. These can be divided into three main categories: ecclesiastical, secular, and academic. We also briefly comment on the availability of data for studying medieval elections and voting procedures. In §3 we discuss elections in ecclesiastical settings, that is, the election of popes, bishops, abbots, and abbesses, and in §4 we consider data from secular contexts, concentrating specifically on the development of ballot-based voting in England and Italy. We conclude in §5.

2 Election contexts and types

Elections in the Middle Ages were used for the same reasons that they are today: To select suitable candidate(s) for a particular office, duty, or obligation. Great importance was put on the suitability of the winner, thus the purity or canonicity of the electoral procedure was paramount.³ The electoral procedure should be reliable and not easily manipulable, and the electors should not be coerced in their votes. Ensuring that an election had these qualities could be done by both internal and external means. Externally, measures could be introduced which discouraged interference by means of social pressure, for example, the oath that electors in 12th century Pistoia were required to take, that they “would form no combinations, would not yield to any power outside the city, would neither take nor give any bribes or promises, and would make no oaths or agreements, in short, would do nothing to hamper in any way their action as free agents” [47, p. 10], or the procedural requirement in the statutes of Bologna and Sienna that “insisted that the election should follow immediately upon the choosing of the electors” [47, p. 12]. Other external pressures include the use of voting in seclusion, and the restriction of diet the longer it takes for consensus to be achieved [25].⁴ External measures against manipulation are still in practice today; e.g., vote buying is today illegal in political elections, both federally and in all 50 U.S. states [14], but enforcement is often difficult [15].

Internally, the complexity of the voting procedures in the electoral method could be increased. This approach is often found in secular contexts, where safe-guarding an election from bribery, collusion, etc., was often more important than that the election find the right (i.e., divinely chosen) candidate. For example, the main idea of Venice’s 1268 ordinance concerning the election of the Doge “seems to have been to introduce a system of election so complicated that all possibility of corruption should be eliminated. Between the choice by lot of the first thirty electors and the final choice of the Doge, by ballot, nine stages had to be accomplished” [47, p. 19, fn. 2]. This ordinance and the protocol it introduces are discussed in detail in [6, 18, 29], and a translation of the ordinance into English is given in the appendix of [6]. To examples like these we can draw a comparison with modern attempts to either decrease or remove the possibility of manipulation, by increasing the complexity of either the voting procedure or the method of aggregation [2].

³See, e.g., [3, p. 679; 4; 32, p. 208]. Despite this, elections were quite often not canonical, as Tillinghurst reports: “Aeneas had become cynical. . . he commented that in the years he had spent at the Curia, he had never observed such a thing as a canonical election” [42, p. 374].

⁴ Related to the issue of seclusion is the issue of private vs. public voting. On the one hand, the results of public votes are more difficult to fake. On the other hand, there are circumstances, such as when the electoral college had to live with each other after they had voted, where strong social pressure could be exerted on those who did not vote “correctly”, where private voting is preferable.

2.1 Contexts of elections

We can identify three primary contexts in which elections occurred and voting methods were used in the Middle Ages.⁵ These are:

- Ecclesiastical: the elections of popes, bishops, abbots, and abbesses.
- Secular: the election of town officials or parliamentary representatives, and the voting on legislation by these officials.
- Academic: the election of university officials, e.g., chancellors or student representatives.

Our focus in this paper will be electoral data from ecclesiastical and secular contexts, for reasons which we discuss in the next section. In these contexts, we can identify four categories of medieval electoral processes [47, pp. 6–7]:

1. Election by an external authority having no direct interest in the election.
2. Indirect election, where electors name other electors who then select or elect the officials
3. Election by lot.
4. Election by ballot.

Elections of the first and third types are generally computationally uninteresting; the first type corresponds to dictatorial voting rules, and the third type collapses to probability theory. Election by lot is, however, interesting from the point of view of manipulation, since it was often introduced to reduce the manipulability of the election. On the other hand, the selection and election methods of the second and fourth types are often relatively complex, or were designed to take into account multiple desiderata, as we’ll see below.

The academic context is tantalizing in that there are many oblique references to votes and elections (cf., e.g., [34]), but obtaining any detailed primary source discussing these has proved difficult. One exception is the regulations for examinations in the statutes of the theological faculty at Bologna, compiled in 1364 and based on the statutes of the University of Paris, now lost. First, the candidate is examined, and then the chancellor asks each of the masters present “to give his honest opinion both of the moral character of the candidate and of his fitness for the degree”. In the original statute, “the decision of the weightier—*major vel sanior*—element prevailed; according to a later recension of the statutes the voting was by ballot and three adverse votes could fail the candidate” [33, p. 18]. We will see more of the *maior et/vel sanior pars* below.

2.2 The scarcity of sources

There are many medieval reports of elections taking place, but unfortunately few records tell us by what rules or procedures these elections were conducted. Much of the data we have comes from ecclesiastical contexts, as popes, bishops, and abbots were elected on a regular basis (for example, during the 14th and 15th centuries, the Abbey of Battle elected an abbot on average every 14 years [10, pp. 66–67]). Given the role and power of the church, these elections were of great importance and were thus reported on widely. Unfortunately, the reports say little about procedure and concentrate more on the result and its consequences. There are many reasons for this, beyond the usual reason that not all medieval records have survived. One of these reasons is that the legitimacy of an election, at least in ecclesiastical contexts, did not lie so much in the electoral process used but in divine authority (we discuss this further below). That is, the goal was not so much to have an election which followed a particular rule as to have an election which (in the ecclesiastical context at least) reflected the will of God.

Relatedly, election was often not done by voting. The term *electio* was used in the Middle Ages in a broader sense than our modern ‘election’. It’s primary sense was ‘selection’

⁵We use the terms ‘Middle Ages’ and ‘medieval’ very loosely in this paper. The data that we draw from ranges from the 5th to 16th centuries.

or ‘choice’, and only secondarily ‘election’ in the modern sense. It was also used for military recruitment and enlistment, or for divine appointment, particularly in the election of Christians to salvation, but also in the context of papal elections [17, s.v. *electio*]. Thus, many records which purportedly discuss elections are not discussing elections of the type which interests us.

There was also little discussion in the Middle Ages about voting theory in the abstract; two exceptions to this are the works of Ramon Llull (1232 or 33–1315 or 16) and Nicholas of Cusa (1401–64). Ramon Llull (Catalan; *Raymundus Lullus* or *Lullius*, Latin; *Rámon Lull*, Spanish; *Raymond Lull* or *Lully*, English), born in Palma to a family of minor nobility, was a colorful and charismatic figure, whose works ranged from troubadour lyrics to theological apologetics, from what has been called the first novel written in a Romance language [45, p. 66] to the development of mechanical methods of reasoning [20, vol. 1, pp. 3–52]. Llull wrote three texts which deal with voting methods: *Artifitium electionis personarum* (‘The method of the election of persons’), *En qual manera Natana fo eleta a abadessa* (‘In which way that Natana was elected abdess’), and *De arte eleccionis* (‘On the method of election’).⁶ Editions of these three texts along with translations into English appear in [13], and in [24, 25], McLean et al. show that the methods Llull proposes are, depending on how they are interpreted, identical with either the Borda count or the Copeland rule. Nicholas of Cusa (Nicholaus Cusanus, Nicholas of Kues), whose interest in elections and voting theory is responsible for the preservation of Llull’s *De arte eleccionis* [13, §2], was involved in electoral disputes with Emperor Sigismund [27, 28, 42]. His *De concordantia catholica*, written while attending the Council of Basel from 1431 to 1434, “defends the rights of councils to elect popes, and it discusses voting procedures for electing a Holy Roman Emperor” with a goal towards preventing fraud and manipulation [25, p. 35]. As McLean et al. note, “Cusanus’ scheme is just the Borda count, giving 1 for a last place and so on up to n for a top place” [25, p. 36]. Unfortunately, we have little evidence that the relatively sophisticated theoretical methods developed by Llull and Cusanus were ever implemented.

3 Elections in ecclesiastical settings

In this section we discuss data drawn from the elections of popes, bishops, and heads of monastic institutes. In ideal circumstances, the election of all three types of officials required unanimous consent for a candidate to win [7, 25]. These elections were “conceived as a way to discover God’s will. It was guided by the unanimity rule, the only rule that could assure the participants that their decision was right” [7, p. 3]. However, most cases were not ideal: the electorate, being fallible humans, did not have direct access to the will of God, and furthermore, they were often driven by wholly different motivations, such as desire for political influence, knowledge of ecclesiastical favor or reward if their candidate was elected, etc. In such cases, reaching consensus was extremely difficult, if not impossible, resulting in schisms and impasses, and thus alternative methods had to be used [7, p. 4]. A concept introduced at a fairly early date was the idea of the *maior et sanior pars* of the electoral body, the ‘greater and wiser part’. The *maior et sanior* part may not necessarily be a numerical majority, but was understood as those electors whose votes carry more weight, because they were more likely to coincide with divine authority/will. There is a clear and interesting resemblance between the medieval notion of ecclesiastical elections as a truth-seeking mechanism and the notion of voting found in Condorcet’s jury theorem [19].

⁶Both *ars* and *artificium* have as their primary meaning ‘skill, craft, art’, and derivatively ‘trick, wile’ (as in modern ‘artifice’), ‘science, knowledge’, and ‘method, way’. We have chosen to translate the titles using ‘method’ as it does not carry some of the baggage that the more literal ‘art’ or ‘artifice’ have.

3.1 Elections of popes

The computational aspects of the elections of popes in the Middle Ages have been discussed in detail [7, 25]. Colomer and McLean [7] discuss the use of approval balloting and the qualified-majority rule in papal elections. The earliest introduction of a rule other than unanimity was a decree by Pope Simaccus in 498/9 which allowed that in case unanimity could not be reached and the previous pope had not nominated a successor, then the candidate with the support of the majority would win [7, p. 4]. This modification failed to prevent deadlock and dissension. The next major change in electoral procedure was the decree *Licet de evitanda* instituted by Pope Alexander III during the Third Lateran Council of 1179. This decree also support majority rule, but “identified the *cardinales* as the exclusive electors of the pope, incidentally assimilating the three orders of cardinals [bishops, priests, and deacons] into a single *collegium*” [37, p. 415], whereas previously the cardinal bishops had nominated the candidates and the priests and deacons were merely allowed to approve them [37, p. 414]. The first recorded application of this procedure was the election of Innocent III on 8 January 1198. Such a rule is quite robust: as Colomer and McLean note, “Caplin and Nalebuff have shown that the rule of 64 percent guarantees a single winner under conditions of concavity in voter preferences—meaning that, when more voters prefer intermediate candidates than the average of those favoring extremes, an unbeatable proposal exists, and no cycles are possible” [7, p. 10], and “thus did mathematical precision replace previous discussions about subjectively estimated qualities of candidates and voters” [7, p. 11]. Later, another modification of the majority rule was proposed, by Pierre d’Ailly in 1415, that for “the election to be valid, the elect would need to secure the votes of two-thirds of the cardinals and two-thirds of the deputies of the council” [36, p. 132].

Unfortunately, while majority rule is robust in terms of guaranteeing a winner, it is not efficient, as it can result in long periods of deadlock before a majority is reached; many 13th century papal elections took months, if not years. In the late 13th century, an additional electoral method was introduced. It is outlined in the *Ordinarium Sanctae Romanae Ecclesiae* by Jacobus Gaytanus. Each cardinal was allowed to nominate any number of candidates, and then the votes were compiled. This method corresponds to what is now called approval voting. Approval voting is a commonly used voting rule as it “tends to promote consensual, relatively high social-utility winners; it satisfies several relevant criteria, such as monotonicity; and it is relatively easy to implement” [7, p. 15] (cf. [23, p. 53]). However, as Colomer and McLean note, it leads to strange consequences when combined with the two-thirds majority requirement of the *Licet*. In particular, it does not guarantee a single winner. It is possible not only that *no* candidate receives two-thirds of the vote, but also that *all* candidates do (though the latter scenario is distinctly unlikely) [7, p. 16].

3.2 Elections of bishops

Many bishops not being elected until they were fairly old, the reign of a typical bishop could be quite short, no more than a few years. The number of bishoprics in medieval Europe varied over time, which makes estimating the number of such elections difficult; even so, over ten centuries there were many thousands of episcopal elections, providing us with a wealth of data. As in papal elections, while unanimity was desired, it was often unobtainable [1, p. 276]. In this section, we highlight three different trends in episcopal elections: election by *fiat*, election by lots, and dual postulation.

Election by *fiat* is an example of a dictatorial voting rule: one person (quite often the local king or emperor) made a nomination, and that candidate was elected. For example, “[o]ut of eighteen bishops elected during [Richard Lionheart’s] ten-year reign, fifteen were royal

familiares or members of families with ties to the royal household” [44, p. 519].⁷ Similarly, the local rulers, both temporal and non-, would exercise their power to overturn elections which yielded the ‘wrong’ winner [40, p. 576]. Such an election was not canonical, as in a canonical election, “the local ruler had a right to some role in it. . . but must not force his candidate on the clergy” [3, p. 679].

Election by lot was often favored because it took the elections out of the hands of the people and put it into the hands of God: God would ensure that the most suitable candidate was selected [31, pp. 268–69]. Such a method was transparent and supposedly honest, though external measures had to be implemented in order to reduce the chance of manipulation by a scurrilous lot-drawer. This method was used extensively in Novgorod from 1156 to 1471, when nine of the nineteen or twenty-one bishops and archbishops were elected by lots (*zherbi*) [31, pp. 252, 259]. Generally, three candidates were nominated, and then from these three candidates, the archbishop was chosen by lots [31, pp. 260–61].⁸

The third interesting method was the so-called ‘dual postulation’. In a text which has been incorrectly attributed to Ernoul and Bernard le Trésorier [8, p. 2], it is reported that

this is the way of elections in the land beyond the sea of patriarch, archbishop, bishop and abbots that they nominate two and present them to the king and the king takes one [8, p. 5].

Unfortunately, there is no discussion as to how the two nominations are agreed upon. Dual postulation seems to have been common between 1180 and 1191 [8, p. 19]. On the one hand, “dual postulation may have received theoretical support from an analogy with Byzantine practice. In Constantinople the patriarch was selected by the emperor from three candidates put forward by the Holy Synod” [8, p. 19]. But on the other hand, dual postulation was decried in the decretal *Cum terra, quae* issued by Pope Celestine between 15 April and 25 October 1191, as giving too much power to the patriarch or prince [8, p. 12].

We can understand dual postulation not so much as a method of election but as a method of resolving ties in the case of a disputed election, where the actual protocol did not result in a unique winner, either because it produced two candidates, or because it produced no candidate with sufficient votes (either a majority or unanimity, depending on the method) [8, pp. 18–19]. In such cases, Canon Law did not provide any tie-resolution procedure itself; often, the right of tie-breaking was given to the pope [1, pp. 277, 294]. There is an interesting similarity between dual postulation and the fair-division method of “cut and choose” [5, §1.2]. In dual postulation, the electoral body can put a lower bound on the unacceptability of the resulting choice (assuming, of course, that the external authority did not reject both candidates and demand someone else). However, the analogy is not complete: in cut and choose, a single, but heterogeneous, substance is wholly divided. In the nominating of two candidates, the electoral body is not dividing a single substance into two, but rather selecting a subset of a single substance (as we can think of the entire body of possible candidates) and creates a new, smaller substance that is then wholly divided. Additionally, instead of having two individual agents who receive the two pieces, we have on the one hand a set of agents (the electoral body) and on the other hand a single agent. Because the electoral

⁷See also [1, p. 293; 3, p. 676; 4, pp. 284–85, 288–89; 16, p. 225; 27, p. 317; 31, p. 254; 36, p. 136; 40, p. 579; 41, pp. 83–84, 97, 99; 43, p. 3; 46, p. 148] for examples of dictatorial episcopal elections. Such influence from outside sources was less common in diocesan elections [40, p. 576], but it also extended beyond the ecclesiastical sphere. In the sixteenth century, the citizens of York elected William Neleson, at the time a prisoner in the Fleet, as their mayor. Henry VIII was extremely displeased with their action, and “ordered John Doghson to be elected mayor at once, ‘as ye wold abyde our grete dyspleasor and answer therefore unto us at your uttermost peryll’” [39, p. 278].

⁸Election by lots was also used in secular contexts, as that method tended to promote consensus among the electors [30, pp. 30–31]. The use of election by lot goes back at least to ancient Athens; its use there is discussed in [23, ch. 1].

body themselves may not be in complete agreement as to the choice of candidates (some electors may agree grudgingly), a portion of the electoral body may end up feeling that the final candidate chosen is less than half of the pair. However, this portion will always be a minority; were it a majority, the less favored candidate would never have been put forward as a choice. While the analogy is not complete, it is as strong as that between cut and choose and the legislative method proposed by James Harrington (1611–77), which is cited by Brams and Taylor as the first example of cut and choose in the political arena [5, p. 12]. If we consider ecclesiastical elections to fall under politics, broadly speaking, the elections discussed above pre-date Harrington by nearly 500 years.

3.3 Elections of abbots and abbesses

The elections of abbots and abbesses did not differ much from the elections of popes [22, p. 392; 48, fn. 3], but here we have more detail about the specific electoral methods used. Lowe discusses different electoral methods used in 15th- and 16th-century Italy; the elections she studies

could be contested or uncontested; the votes could be cast in a secret ballot or be openly declared in chapter; abbesses could be elected by a simple majority or by a two-thirds majority; candidates could be voted on in turn by each voter or each voter could have only one vote to cast [22, pp. 392–393].

For example, at the end of the 16th century in the convent of San Zaccaria in Venice, thirty-four women took part in a secret-ballot approval vote, where the successful candidate for abbess had to have won two-thirds of the votes [22, p. 393]. A century earlier, a San Zaccaria convent ceremonial book describes the general electoral procedure. First, the prioress casts her vote in secret, and then

one after another all the remaining nuns were asked to cast their votes aloud so that all could hear. If a nun left the choice up to the chapter, another vote was added to the list of the candidate with the most votes. At the end, the candidate with the greatest number of votes was elected abbess [22, p. 399].

On this model, any number of candidates could be put forward, though “in the 1509 election . . . only two nuns were official candidates” [22, p. 399]. This voting method is a sequential variant of plurality, though it does differ from plurality in some respects. Most significantly, it is neither anonymous nor consistent. An anonymous rule is one where permuting the voters does not alter the result; a consistent rule is one where, if it is used by two sets of voters V_1, V_2 and each group elects the same winners, then $V_1 \cup V_2$ will elect the same winners. Both properties fail to obtain due to the manner in which abstentions are tallied.

First, we provide a counterexample for anonymity: Supposing we have three voters 1, 2, 3 and two candidates a, b , then there is a profile on which we can achieve each of the three possible outcomes (a wins, b wins, a and b tie) simply by permuting the voters:

	1	2	3			3	2	1			1	3	2
a	✓	✓		a				✓	a		✓		✓
b			✓	b		✓	✓		b			✓	✓

In all three examples, voter 2 abstains. If the voters cast their ballots in order from left to right, then in the first example candidate a leads b 1-0 when voter 2 abstains, which throws 2’s vote to candidate a , giving a a majority. In the second example (with the voting order reversed), candidate b leads 1-0 when voter 2 abstains, which instead throws 2’s vote to candidate b , giving b a majority. In the third example, a and b are tied 1-1 when voter 2

abstains. The text describing the voting rule does not specify what happens to abstentions in case of a tie at the time they are cast, but we can imagine several ways which this might have been handled: count abstentions in the face of ties for no one, or count them for everyone involved in the tie, or count them for whomever of the tied candidates the prioress voted for. If either of the former two methods is chosen, then a and b tie in the third example (otherwise, if 2's vote follows the prioress, then b wins).

Now, we give a counterexample for consistency: In the case where we have two voters favoring a , two favoring b , and two abstaining, it is possible to divide the voters into two groups so that a wins in both, but b wins when the two groups vote together:

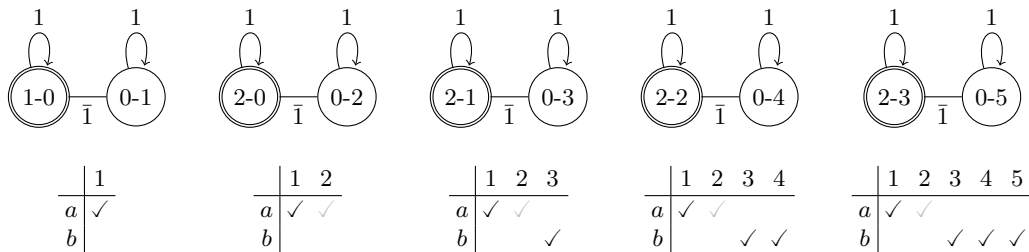
$$\begin{array}{c|ccc} & 1 & 2 & 3 \\ \hline a & \checkmark & \checkmark & \\ b & & & \checkmark \end{array} + \begin{array}{c|ccc} & 4 & 5 & 6 \\ \hline a & \checkmark & \checkmark & \\ b & & & \checkmark \end{array} = \begin{array}{c|cccccc} & 3 & 6 & 2 & 5 & 1 & 2 \\ \hline a & & & & & \checkmark & \checkmark \\ b & \checkmark & \checkmark & \checkmark & \checkmark & & \end{array}$$

a wins
 a wins
 b wins

The San Zaccaria rule also has the unusual property that voters have partial information about the running totals for each candidate at the time when they vote. Consider the following example, this time with five voters,

$$\begin{array}{c|ccccc} & 1 & 2 & 3 & 4 & 5 \\ \hline a & \checkmark & \checkmark & & & \\ b & & & \checkmark & \checkmark & \checkmark \end{array}$$

and observe what the voters believe is (epistemically) possible at each stage:



At each step, the prioress (voter 1) knows which world is actual (the double-circled one) by virtue of knowing her own vote, but no one else (indicated as $\bar{1}$) can distinguish the world where the prioress voted for a from the world where the prioress voted for b . This has several consequences, both general and specific: In the first three stages only the prioress knows which candidate is ahead. The second voter, should she abstain, will never know at the time when she cast her vote for whom she is voting, and the voters at large will not know which candidate is ahead until the fifth vote. In general, if we have a sequence of votes p, a_1, \dots, a_n (where p is the prioress and the a_i are abstentions) the soonest the voters at large could come to know which candidate is ahead is in the $(2n + 1)$ th state, in the case where voters $n + 1, \dots, 2n$ vote unanimously.

The unusual abstention mechanism, in combination with the sequential and public nature of voting, makes it possible for voters, especially those later in the voting order, to manipulate. In the previous example, a sixth voter would know that she is pivotal—she can cause a tie by voting for a , or cause b to win by either voting for b or abstaining. In this case, if 6 favors b , she need not reveal her preference unless she desires to do so. Similarly, a voter whose favored candidate is behind by more than one public vote and by more public votes than remain may also abstain, thereby concealing her preference for the losing candidate. Therefore, voters

later in the order can keep their preferences hidden if their favored candidate is either in the lead or hopelessly behind—and, in this latter effect, might also produce majorities for winners much larger than their actual support among the voters. This conflict-minimizing effect might be seen as an advantage in an abbey, where the voters will continue living together in close proximity after the election (cf. footnote 4).

4 Elections in secular contexts

In secular contexts, votes were used to elect officials to public office (e.g., sheriff, member of parliament, etc.), and to decide upon matters of policy. Quite often, the electoral procedures and voting methods used in these contexts are more sophisticated, and hence more interesting, than in the ecclesiastical contexts, in part because secular elections were not intended to reveal God’s will. While originally there was often great social burden or benefit in being elected to one of these offices (for example, in the early English parliamentary system, election to parliament was considered a burden [12, p. 456]), by the fifteenth century, however, it was quite desirable [35, p. 38]. In Italy, election to office was a mark of social status, and hence also more desirable than not [23, p. 52; 47, p. 6]. As a result, these elections were more often manipulated [35, pp. 41–42].

Secular elections faced many of the same issues as ecclesiastical elections, beyond potential for manipulation. Just as the college of cardinals in papal elections often became deadlocked because of the amalgamation of the three orders of cardinals into a single electoral body, so too were parliaments and governing bodies similarly divided, as their electoral body was taken from members of the three or (or four) estates, the nobility, the clergy, and the commoners (with the latter often further divided into the burgers, or bourgeoisie, and the peasants). The presence of electors from these very disparate backgrounds often made it very difficult to reach consensus, especially when a unanimous vote was required [21, pp. 135–136].⁹ For example, Lord comments that “Old writers jested that any law or act of the Cortes in Aragon was a miracle” [21, p. 137].

A number of different solutions were introduced to prevent such deadlock. A Hungarian statute introduced in 1495 specified that if parliament was divided, then the decision was to be made *per sententiam sanioris partis*, that is “of the wiser and more powerful part of the nation” [21, p. 137]. In parliaments divided between three or four estates, it was also possible to discriminate amongst the estates. In some cases, it could be agreed that unanimity in two of the three estates would be sufficient to counteract the dissenting third. Alternatively, the lowest estate, the commoners, could be bound by the unanimous opinion of the higher estates [21, p. 136]. Sometimes, however, unanimity was dropped and a majority vote of all the estates combined together was sufficient. As Lord notes, “This system, practiced, e.g., in Languedoc and sometimes in the French States-General, usually favored the Third Estate, as outnumbering all the rest. But occasionally it worked out the other way, as in Bohemia, where ultimately the towns were reduced to having only a single collective vote: i.e., for parliamentary decisions all the cities of the kingdom together counted for no more than one poor country squire” [21, p. 136]. Majority vote was used in Jewish councils (known as *kahals*) in medieval Germany, where the *parnas ha-hodhes* (chairman of the month) had the deciding vote [26, p. 51].

Various methods were also implemented to make the cost of influencing the result of an election prohibitive. The code of Vicenza for 1264 outlines election by ballot:

⁹Issues of taxation required unanimous agreement in Castile, the German Reichstag, and the Papal States. Issues of taxation, peace, and war in the Dutch Republic also required unanimity; almost all matters required unanimity in the Swiss Federal Diet. Unanimity was required in the noble estate in Catalonia and Valencia, and in all estates in Aragon [21, p. 137].

In the election of the Council of Elders (*Anziani*), the statute provides that there shall be twelve elders elected by two different processes. First, each of the masters of the eight guilds was to submit in writing to the Council of Forty the names of four good and true men from each guild, from whom eight, one from each guild, were to be chosen, “facto partito cum busolis ad ballotas.”¹⁰ Second, eight electors were to be chosen by the council by lot, two for each quarter; these electors selected four worthy men from each quarter, and finally of these that one from each quarter was to be elder, “qui plures ballotas habuerit. . . facto partito modo predicto in suprascripto consilio et Gastaldis” [47, p. 19–20].¹¹

This is an example of a procedure which maintains the integrity of the election by making the cost of bribery prohibitive: Suppose that the stages of this process are conducted in quick succession, so that there is no time between stages to suborn electors (cf. the statutes of Bologna and Sienna mentioned above in §2). Ensuring the election of a chosen individual to one of the quarter seats requires a majority (three) of the four electors; those electors are chosen by the eight from the previous stage, of which one would again need a majority (five). These eight are chosen by lot, two from each quarter of the city; so to buy these seats outright one would need to bribe all but three citizens, and even then one would have only four of the twelve seats on the council! The path via the guild seats is not much easier, as it would require the cooperation of seven of the eight guildmasters, each of whom would need to secure the cooperation of three of the four electors from his guild, for a total of 21 people to bribe.

A similarly structured system, which will have the same effects, can be found in Cambridge from 18 Edward III to 10 Elizabeth I and in Newcastle-upon-Tyne in 1345, where

the mayor and his “assessors” named one person, and the commonalty named another. These two elected twelve of the commonalty, and these twelve chose six more of the commonalty. The eighteen then elected the mayor and other officers.

At Newcastle-upon-Tyne. . . the mayor and the four bailiffs were to elect seven men, and these twelve were to choose four, who were to choose eight. The twelve (8 + 4) were to elect twelve others, and these twenty-four (12 + 12) were to elect the town officers [12, p. 457, fn. 1].

These are but a few examples of medieval electoral processes which were safe-guarded against manipulation and strategizing by increasing the actual, monetary cost of such manipulation, rather than the computational cost.

5 Conclusions

Medieval voting procedures are varied and ad hoc. While some theoreticians developed sophisticated voting rules that foreshadowed developments from many centuries later, most electoral protocols that were actually implemented in the Middle Ages were computationally very simple and not resistant to manipulation and bribery. Though the medievals were aware of the need to prevent undue interference in voting, they lacked the formal tools for studying voting procedures, so instead of making the procedures themselves resistant to tampering, they made it difficult to determine who the electors would be, or imposed external sanctions to prevent bribery. In ecclesiastical contexts, the notion of the purpose of the election—to determine which candidate had divine favor—differed from the modern one, that of finding a

¹⁰ “by partitionings done with ballot boxes”.

¹¹ “who may have the most ballots . . . by partitionings done in the aforesaid way inscribed by the council and Gastaldo.”

maximally acceptable winner. As a result, the emphasis was on the canonicity of an election rather than on desirable properties of the electoral method.

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Sara L. Uckelman and Joel Uckelman
 Institute for Logic, Language & Computation
 Universiteit van Amsterdam
 Science Park 904
 PO Box 94242
 1090GE Amsterdam
 The Netherlands
 Email: S.L.Uckelman@uva.nl, J.D.Uckelman@uva.nl