Voting On or About God



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By its very nature, religion is a difficult subject for theories of rational decision-making. One area that has been subjected to analysis in terms of political economy and social choice theory is the election of popes and the functioning of the papal autocracy (Colomer & McLean, 1998; see the survey in Ferrero, 2019). But the choice of god(s), the nature of God, and the doctrines regarding it—in a word, theology, which is supposedly the core business of religion—seem impervious to rational decision-making, whether individual or collective. In this study, we restrict ourselves to collective decision-making and examine a few historical instances in which such decision processes were apparently at work: theological disputations at a king's court, decisions on whether or not to adopt Christianity, and the working of the councils of the early Christian church. It will be seen that, remote as they are, these events can be interpreted in terms that are familiar enough to collective choice theory—hopefully to the benefit of both the said theory and our understanding of religious history.

¹ Manfred Holler has spent a good part of his research career applying social choice theory and game theory to unlikely subjects, with results that were both entertaining and illuminating. To the best of my knowledge he has never addressed voting about divinity, so this study may be an apt, if marginal, contribution to his line of research.

1 Theological Disputations

1.1 The Khazar Conversion Debate

Theological disputations summoned by a king, for the purpose of choosing a religion for the state, are not uncommon in history. An example involved a debate between a Chinese Buddhist monk and an Indian Buddhist monk summoned to the court of King Trisong Detsen of Tibet around the year 793 CE, upon which the king proclaimed the Indian variant of Buddhism as the official religion (Stein, 1972, 65–68; Norbu & Turnbull, 1972, 177). Buddhism had already begun to spread in the country since the seventh century, supported by various kings, but it was opposed by the traditional, shamanistic Bon religion supported by the aristocracy. Trisong Detsen was determined to promote Buddhism anyway so in his decision the Bon option was out of question. Hence the choice was between two options.

More interesting are disputations in which the range of choice included three or more options. The clearest example is provided by the Khazars, the only nation that was officially converted to Judaism in post-Biblical times.² The Khazars were a semi-nomadic Turkic people that in the seventh century CE established a major trading empire in the steppes north of the Caucasus from the Black Sea to the Caspian Sea; its independence was terminated in the late tenth century by Kievan Rus', which incorporated its territories. Given its geopolitical situation, Khazaria was in control of the major trading routes from Asia to Europe and for centuries functioned as a buffer state between the Byzantine Empire and both the nomads of the northern steppes and the Arab Caliphate. Unsurprisingly, both empires tried to draw Khazaria to their side and the Arabs fought several, ultimately unsuccessful wars to conquer it. Also unsurprisingly for a commercial hub on the Silk Road, Khazar cities were multiethnic and multi-religious, with the original Turkic paganism coexisting peacefully with Muslim, Christian and Jewish merchants; moreover, Jews from Byzantium came to settle in Khazaria in several waves, driven by the persecutions and attempts at forced conversion periodically unleashed by the Byzantine emperors. At some point, variously estimated from the 730s to the early 800s, the Khazar royalty and elite converted to Judaism, and the kingdom was later universally known to both Muslim and Hebrew sources for its Judaism-though the extent to which the conversion seeped down among the common people is debated. Religious pluralism and toleration, however, seem to have continued to prevail throughout the existence of the kingdom.

² Golden (2007) provides a comprehensive discussion of the sources for the conversion and its historical context; Khazanov (1994) provides the larger context of the religious conversions of Eurasian steppe societies. These studies, however, do mention the disputation but do not describe it. We rely on the account of the disputation contained in the so-called Khazar correspondence (Wikipedia 2022), an exchange of letters in Hebrew that occurred around 960 CE between Hasdai ibn Shaprut, an influential Jewish scholar, adviser and foreign minister of the caliph of Al-Andalus in Cordoba, and Joseph, the Khagan (i.e. king) of Khazaria at the time. The disputation is noted and discussed in the influential, if controversial, study by Koestler (1976, Chap. 2).

Since both the adjoining empires were symbols of ancient civilizations and high culture, and both had a meddlesome interest in things Kazhar, it is easy to see that the pagan Khazar elite must have felt a bit like a country mouse squeezed between two town mice; so adopting a world religion—as in many other peripheral societies—was a way for them to upgrade their status among the nations. It is also easy to see, however, that choosing either Christianity or Islam would have compromised Khazar independence and upset the balance of regional power, drawing the Khazars too close to one of the great contenders. Therefore, modern scholars emphasize a strategic motive for the choice of Judaism: keeping a symmetric distance from the two great powers, and at the same time playing safe because the Jews, uniquely among the monotheists, did not have a national state and hence could not be suspected of having ulterior motives beyond offering to share their religion. While this interpretation makes perfect sense, according to some of the sources the decision was made by arranging for a disputation, and this is interesting because it was structured as the search for a Condorcet winner.

As the story is told by King Joseph in the Khazar correspondence (Koestler, 1976, Chap. 2; Wikipedia, 2022), a God-fearing king arose, named Bulan, who "expelled the sorcerers and idolaters from the land". Following this, an angel appeared to him in his dreams, exhorting him to worship the only true God and promising that in return He would bless and multiply the king's offspring and make his kingdom last till the end of the world-a story obviously inspired by the Covenant between the Lord and Abraham in Genesis, implying that King Joseph claimed for his people the status of a chosen people even though not descended from Abraham. Even though King Bulan was willing to submit to the angel's bidding, however, this still left his choice open between the three Abrahamic religions. Upon hearing the news, the kings of the Byzantines and the Arabs sent envoys with great presents as well as some of their wise men to convert the king to their religion. Being wise, however, Bulan sent for "a learned Israelite" and then put the three sages together to discuss their doctrines. The outcome of this disputation, described below, was that the king decided for the religion of Israel; he then proceeded to have himself, his court, and "all his people" circumcised (although the Arabic sources maintain that most of the commoners did not convert) and sent for Jewish sages who would teach him the Law and establish the observances, Based on both Jewish and Arab sources, all this probably happened about 740 CE. Two generations later, i.e. about 800 CE, one of Bulan's grandsons, King Obadiah, strengthened the rule of the Law according to tradition, built synagogues and schools, and brought in Jewish scholars who explained to him the Bible, the Mishna, and the Talmud, and the order of divine services. Based on these and other concurring sources, modern scholars agree that the Khazar conversion was a three-step process: first, a generic decision against idolatry and in favor of some monotheism; second, Bulan's conversion to the basics of Judaism to the exclusion of the other monotheisms-perhaps implying only a rudimentary form of Judaism, relying on the written Torah alone and excluding all rabbinical literature and the observances derived from it, such as that of the Karaite sect; and third, a religious revival and the implementation of full-fledged Rabbinic Judaism under King Obadiah.

Let us now focus on how the disputation was resolved and yielded the king's conversion to Judaism. Predictably, in the first stage each sage refuted the opponents' arguments so they could not agree. The king sent them away and then reconvened them after three days, asking them again to argue with one another and come up with a response as to which religion was the best; predictably, again the debate got nowhere. To get out of the deadlock, Bulan then resorted to a device: he asked the Christian cleric which of the religions of the Jews and the Muslims was nearer the truth, and he answered that the Israelite religion was better. Turning to the Muslim sage, Bulan likewise asked him which of the religions of the Jews and the Christians was nearer the truth, and he answered that the Israelite religion was better. Based on these answers, the king chose Judaism as both the Christian and the Muslim had admitted its superiority as second-best. In effect, Bulan had asked both the Christian and the Muslim for a complete ordering of their preferences. Assuming that the sages voted sincerely—which seems reasonable in this case—the procedure amounts to following the Condorcet method: Judaism turns out to be the Condorcet winner because it is the candidate that beats every other candidate in pairwise contests. Table 1 reports the rankings of the candidate religions expressed by the three voters, with the most preferred candidate being given the highest score (3), and assuming that each voter would most prefer his own religion. In King Joseph's account, the Jewish sage was not asked for his complete ordering, but this is inconsequential as his preferences between the other two religions could not have affected the result; so in the first column, the Jew's scores are given for both possible rankings. The last column reports the total scores achieved by each religion, which shows that in this case the Condorcet winner is also the winner of a Borda count.

It may be that behind the sages' votes lay a paramount theological concern: Israel's religion was the first monotheism in history and was recognized by all the others as the fountainhead of monotheism, whereas the Christian religion was a corrupted descendant of it in Muslim eyes, and vice versa; so the votes just acknowledged this. Or it may be that a political preoccupation was paramount: Judaism at the time was not a contender for worldly power whereas Christianity and Islam were the backbones of the two major imperial adversaries; so each sage might have reasoned, if my religion cannot carry the day, let the Jews have it rather than my direct foe. Either way, the result does not change: the Condorcet method makes second preferences pivotal and resolves an otherwise insoluble decision problem. So if we believe this account (scholars now credit King Joseph's letter as authentic), King Bulan practically invented the Condorcet and/or the Borda method some five centuries before

Table 1 The Khazar conversion decision

Voters	Jew	Christian	Muslim	Total
Religions				
Judaism	3	2	2	7
Christianity	1 or 2	3	1	5 or 6
Islam	2 or 1	1	3	6 or 5

Ramon Llull and seven centuries before Nicholas of Cusa, who are generally recognized as the formal discoverers of these procedures—an interesting insight into the archaeology of social choice.

1.2 The Theological Debate at the Mongol Court

A more complex, if open-ended, example of theological disputation occurred at the Mongol court in 1254 and involved William of Rubruck, a Franciscan friar from the French Flanders who traveled as far as the capital of the Great Khan Möngke at Karakorum on a mission to convert the Mongols to Christianity. On his return, he wrote a detailed report in Latin for King Louis IX of France who had sponsored his mission (Jackson & Morgan, 1990), which is an invaluable early source of information about, among other things, the religions that thrived among the Mongols and other steppe peoples. These included traditional shamanism, Buddhism (William was the first western observer to describe it), Islam, and Christianity as represented by the Nestorian church, a sect declared heretical in the early fifth century and which achieved an extraordinary missionary expansion along the Silk Road and as far as China. Like other steppe societies before and after them, the Mongols were religiously tolerant and inclusive; William found representatives of all those religions all along his road and especially in and around the imperial court, where some highplaced officials, whether Mongols or members of other allied or subject peoples, were Muslims and others were Christians. The khans, however, may have had their own religious sympathies but were committed to the unity of their empire, and hence avoided being too closely identified with any one religion; rather, they were keen to have all the religious professionals pray for their well-being, thus securing to the state the greatest possible favor from Heaven. At their last interview, Möngke disclosed his mind to William, telling him that the Mongols believe that there is only one God, but "just as God has given the hand several fingers, so he has given mankind several paths. To you God has given the Scriptures and you Christians do not observe them", which William acknowledged, "whereas to us he has given soothsayers, and we do as they tell us and live in peace" (ibid, 236–237). After that William, to his regret, had no further occasion to expound the Christian faith to the khan. And he admits frankly that when the theological debate was over, no one present asked to become a Christian (ibid, 235). So his evangelizing mission ended in utter failure.

Even so, the khan did summon a theological disputation among all religious representatives present, even though it went nowhere—the khan and his advisers did not make any decision, as they probably never intended to. Following William's account in Chapter XXXIII (Jackson & Morgan, 1990, 229–235), all the groups were asked to hold a conference and, in view of that, to put down their doctrinal claims in writing so that the khan could make up his mind. The Nestorians wrote out a chronicle from the creation of the world to the Last Judgment, the last section of which contained "some faults" that William pointed out to them. William and his companions simply wrote down the Nicene Creed. Asked by William, the Nestorians

said they wanted to argue with the Muslims first but William advised against this, saying that in the debate they should seek alliance with the Muslims against the Buddhists because the former, like the Christians, believe in one God whereas the latter do not; the Nestorians agreed to this. Then William asked them whether they knew how idolatry had arisen in the world, which they did not know, so they asked William to explain these things first and then allow them to speak. William then proposed to rehearse: since the Buddhists deny the existence of God, he asked the Nestorians to prove that he does exist, but they showed to be incapable of proving anything and could only repeat what the Scriptures say, which was pointless since the Buddhists do not believe in them. So they agreed that William would be the first to confront the Buddhists while the Nestorians would step in only if he should be worsted.

On the day of the meeting a great crowd assembled, made up of supporters of all the contestants. The khan did not attend but sent three secretaries as umpires—a Christian, a Muslim, and a Buddhist, although apparently, the contestants themselves decided the agenda and the sequence of pairwise contests while the umpires presided over the fairness of the proceedings. So, to begin, William was confronted by a Buddhist from China, who asked him which question he wanted to debate first, the origin of the world or the fate of souls after death-this because, William tells us, those Buddhists had borrowed from "the Manichaean heresy" the belief in dualism between good and evil and in reincarnation. William countered that the discussion should instead start from the conception of God, and the umpires agreed. Then William stated the doctrine of the one and only God and his opponent replied that there is one supreme god in Heaven and countless many under him, just as there are many rulers on earth. William then laid out the doctrine of God as all-powerful, all-knowing, and all-good; his opponent denied that and asked, if your God is as you say, why has he created evil? At which William replied that the world is all good and it is not God who created evil, but managed to skirt the consequent logical question of where evil comes from and pushed the Buddhist back to his statement about a supreme god: was this god all-powerful? Reluctantly, the Buddhist answered that no god is all-powerful, at which the Muslims burst into laughter. Then William began to argue the unity of the divine essence and the Trinity but the Nestorians stopped him and sought to confront the Muslims. The latter, however, refused to argue and conceded that the Christians' religion and everything in the Gospels are true. At this point, the Nestorians had a long discussion with an old Uighur priest, expounding everything down to the coming of Christ in the Last Judgment and also explaining the Trinity to him and to the Muslims. "Everybody listened without challenging a single word" (ibid, 235). Thus ends William's rather elliptical account-a non-conclusion.

The foregoing account shows at various points that William judged the Nestorians' theology defective and their rhetorical skills inadequate. More generally, he took a dim view of the Nestorian priests (Jackson & Morgan, 1990, 163–164, 199). They are utterly ignorant; they have the Holy Scriptures in Syriac, a language they no longer understand, so they chant by rote, "and for this reason they are completely corrupt". They are drunkards and usurers, borrow customs from Islam, and not only permit but participate in sorcery and divination. A bishop visits them hardly once

in fifty years, on which occasion all the male children, even those in the cradle, are ordained priests. They engage in simony, levying fees for all the sacraments. They marry, and re-marry if widowed; hence they care for their wives and children, and consequently for making money, more than for spreading the faith. As a result, by their immorality and their greed, they rather alienate from the Christian religion the Mongols and the Buddhists, whose lives "are more blameless than their own". As Jackson and Morgan remark in their Introduction, this contrast highlights the "gulf between these eastern Christians, with their own tradition of eight centuries' standing, and Friar William, who represented the newly founded intellectual and evangelistic shock-troops of the Latin West" (ibid, 47). It is also clear from William's account that both the Muslims and the Buddhists saw William and the Nestorians as distinct groups. If so, we are entitled to analyze the disputation as a four-way affair, which reveals the complete preference orderings of four voters over four religions, here called Roman (church), Nestorian (church), Islam, and Buddhism, Even though no actual "winner" was proclaimed to crown the disputation, looking for an implicit Condorcet winner (and, subordinately, for a Borda winner) may be a useful exercise to perform once the preference orderings are laid out—one which may even suggest, albeit speculatively, a reason why no winner was in fact proclaimed.

The preference orderings that we can reconstruct from William's account are laid out in Table 2. Beginning with William, he is a Latin churchman with a missionary, not a political purpose. We have seen above that he is heavily critical of the Nestorians; nevertheless, they are Christians, albeit corrupt ones, so he would rank them next to the Roman church. As he himself tells the Nestorians, Islam comes third and Buddhism last. Turning to the Nestorians, there are two plausible versions of their ranking; in both Buddhism comes last as idolatry, but in the first version (N1) the Roman church comes before Islam while in the second (N2) the opposite is the case. The first version prioritizes the unity of Christianity above all else, while the second makes room for the nontrivial consideration that the Muslims, like the Nestorians, have long been acquainted with life at court and among the Mongols at large, so the two groups, albeit rival, must have developed some kind of mutual accommodation, whereas William was a moralizing outsider and the Roman church a foreign force with a potential for disrupting the other groups' easy life around the court (a life at which William looks askance). For the Muslims this last consideration would definitely take priority in their ranking, putting the Nestorian ahead of the Roman church and the latter, of course, ahead of Buddhism. Finally, the Buddhists would obviously rank the outsider (the Roman church) last, but they too have long since been around and must have developed a kind of live-and-let-live arrangement with the other two regulars around the court, and there is no knowing which of them should be felt closer. So we have two versions of the Buddhist ranking, with B1 ranking Nestorian above Islam (perhaps more naturally, since William repeatedly remarks that the Nestorians dabble in pagan practices but says nothing of the kind about the Muslims) and B2 the other way round.

Table 3 translates the preference rankings of Table 2 into numerical scores for each religion from each voter in decreasing order of preference, with 4 being the most preferred (the voter's own religion) and 1 being the least preferred. In keeping

Ranking	William	Nestorian 1	Nestorian 2	Muslim	Buddhist 1	Buddhist 2	
1st	Roman	Nestorian	Nestorian	Islam	Buddhism	Buddhism	
2nd	Nestorian	Roman	Islam	Nestorian	Nestorian	Islam	
3rd	Islam	Islam	Roman	Roman	Islam	Nestorian	
Last	Buddhism	Buddhism	Buddhism	Buddhism	Roman	Roman	

Table 2 The disputation at the Mongol court: preference orderings

with the discussion above, there are two columns for the Nestorians (N1 and N2) as well as two for the Buddhists (B1 and B2). The last four columns give the row totals (T) for each religion by each pair of (Nestorian, Buddhist) rankings, with the first subscript denoting the Nestorian column and the second denoting the Buddhist column used. For each (N, B) pair, the Condorcet winner (if one exists) can be found by comparing row with row, i.e. comparing every religion with every other religion pairwise and determining which candidate wins each pairwise contest. Since we have an even number of voters (four), a tie is possible. A Condorcet winner is a candidate that beats or ties with every other candidate in pairwise contests; if a tie occurs, we have a "weak" Condorcet winner. For both the pairs (N1, B1) and (N2, B1) the Condorcet winner is Nestorianism, which beats all other religions 3:1; thus, as long as the Buddhist ranking is B1, one or the other version of Nestorian preferences makes no difference. Things change somewhat, however, if the Buddhist ranking is B2. Buddhism here is what is called a Condorcet loser, i.e. a candidate that is defeated by every other candidate in pairwise contests, irrespective of the (N, B) pair chosen. Even so, the switch from B1 to B2 reverses the Buddhist preference between Nestorianism and Islam and strengthens the latter. As a consequence, in the pair (N1, B2) Nestorianism becomes a weak Condorcet winner as it beats Roman and Buddhism but ties with Islam (we assume that this result is still superior to Islam's, which now beats only Buddhism but ties with both Nestorianism and Roman-an even "weaker" Condorcet winner). Finally, and remarkably, in the pair (N2, B2) Islam comes out as a weak Condorcet winner on a par with Nestorianism: they both beat Roman and Buddhism and tie with each other. The total scores reported in the last four columns allow computation of the Borda count for each preference pair, where the Borda winner's score is typed in boldface. As with the Khazar debate, the Borda method here produces the same results as the Condorcet method: under (N1, B1), (N2, B1), and (N1, B2) the single winner is Nestorianism (in the last preference pair, the weak Condorcet winner translates into a lower score for Nestorianism – 12 as against 13), while in the last column (N2, B2) Nestorianism and Islam tie at a score of 12.

We have justified the alternative orderings for Nestorians and Buddhists as due to our insufficiently detailed information about their true preferences, on the assumption that they all voted sincerely. However, the switch from B1 to B2 could also be interpreted as the Buddhists' intentionally "burying" Nestorian under Islam, i.e. insincerely lowering Nestorian's ranking for the purpose of favoring Islam. Similarly, the switch from N1 to N2 could be interpreted as the Nestorians' intentionally

Voters	W	N1	N2	M	B1	B2	T ₁₁	T ₂₁	T ₁₂	T ₂₂
Religions										
Roman	4	3	2	2	1	1	10	9	10	9
Nestorian	3	4	4	3	3	2	13	13	12	12
Islam	2	2	3	4	2	3	10	11	11	12
Buddhism	1	1	1	1	4	4	7	7	7	7

Table 3 The disputation at the Mongol court: scores and Borda counts

Note. The last four columns give the total scores for each pair of (Nestorian, Buddhist) preferences. Thus e.g. T₁₂ is the total score for each religion under the preference pair (N1, B2)

"burying" Roman under Islam, i.e. insincerely lowering Roman's ranking for the purpose of favoring Islam. If *both* these switches occur simultaneously, the result is to promote Islam to the position of weak Condorcet co-winner (and Borda co-winner) with Nestorianism. These "buryings" would have occurred through the differential emphasis and doggedness with which the contestants would have argued with each other–something we cannot determine since, unfortunately, William is our only source and he does not provide enough detail for us to use as evidence of their behavior in the debate. Why would these players have done it, since the Buddhists gain nothing and the Nestorians actually slide from single winner to co-winner as a result? Clearly there must have been some "side payment" occurring outside of the disputation and involving some other dimension of the inter-group relationships at Karakorum. We must leave it there as a conjecture that cannot be substantiated, but it suffices to suggest that the strategic dimensions and the bargaining games involved might have been tangled and unpredictable enough for the khan and his umpires to find it wiser to wash their hands of the entire controversy.

2 Voting Over the Adoption of a New Religion

In the ancient polytheistic world, the worship of new gods often spread as private cults without involving collective decisions, but in many cases, the introduction of foreign gods required a formal decision by the state when it entailed a public festival and a new temple financed by public funds. Thus in the democratic Greek city-states—particularly in Athens, the best documented case—a vote was taken in the citizens' assembly over a new public cult, while in Rome a vote was taken by the senate (Ferrero, 2022, Chap. 2). In these religious systems, however, a new god might compete for funding with the traditional gods but there was never an issue that it could or should replace all the other gods as the exclusive religion.

Things changed with the introduction of monotheism, which is theologically exclusive by definition. Exclusive theology, however, is not the same as exclusive religious policy. The three great Persian empires (those of the Achaemenians, the Parthians, and the Sasanians), in all of which Zoroastrianism was the state religion,

never forced conversion on their subject peoples; the Sasanians even favored the establishment and spread of the Nestorian church as a pawn of imperial rivalry with the Greek Orthodox Church. The Arab conquerors of the seventh and eighth centuries set up the dhimmi system, whereby the "peoples of the Book" (i.e. Christians of every stripe and Jews), who constituted the vast majority of their new subjects, were allowed to retain their religion and laws as long as they did not proselytize and paid a head tax to their Muslim rulers-a policy later taken over by the Ottomans as the millet system. As a consequence, conversion to Islam was a long drawn-out and basically voluntary process, which arguably goes a long way toward explaining why Islam has remained a unitary, noncompetitive religion to this day (Ferrero, 2018). In stark contrast, forced conversion was the official policy of the Christian Roman Empire and was then extended to all the European nations and polities successively brought under Christian political control in the course of the Middle Ages. The model of missionary action followed by the church everywhere was a top-down process, where the mission aimed to convert the king, his family, and his nobility, and then the rest of the people would be carried along by hook or crook-the opposite of the bottom-up process that had marked the rise of Christianity in the empire.

However, there are hints that some collective decisions took place among the ruling elite. The Germanic chiefs and kings, beginning with the famous conversion of King Clovis of the Franks around 500 CE, were worried that their men might not follow them along if they converted, so they often convened a council of their warrior aristocracy (Ferrero, 2022, Chap. 5.2; Fletcher, 1997, Chaps. 1, 4). While we have no information about the proceedings of most of these councils, we do have some interesting details about the conversion of Edwin, the king of the Anglo-Saxon kingdom of Northumbria, who took baptism with his chief men in 627 CE under the influence of his Christian wife and a Roman priest. The story, as recounted in the eighth century by the great English church historian, Bede, gives some account of the procedure and motives of the decision; we are interested exclusively in the former, not in the latter. Edwin convened a council of his advisors and noblemen where the Roman priest explained the tenets of Christianity. Then Coifi, the pagan high priest in charge of the gods' temple and cult at court, declared that having been devoted to the gods all his life had brought him no tangible benefits, so turning to the new god might indeed be worthwhile. After some other councilor spoke in favor of the new religion, the king agreed to embrace Christianity and Coifi himself proceeded to destroy the idols and the temple forthwith.

The reasoning underlying Coifi's stance was spelled out in more detail on the opposite side of the conversion issue, in a letter that Bishop Daniel of Winchester wrote to the apostle of the continental Saxons, St Boniface, in the eighth century (Fletcher, 1997, 251–252). He argued that the pagans must be brought around by persuasion, not by force. If the pagan gods, he went on, were really as mighty, beneficent, and just as claimed, they would not only reward their worshipers but also smite their foes; but then, why have they spared the Christians who are wiping them off the map and smashing their idols? Likewise, while the Christians own fertile lands awash with wine, oil, and all kinds of riches, the pagans with their gods are being pushed back and left to rule over cold and miserable lands in northerly countries. While

Coifi's statement, as reported, sounds like circular reasoning—"I'm abandoning the old gods because they are abandoning me"—Daniel's argument provides an extended context for the progress of the new religion and the retreat of the old one in which each individual group's decision is taking place.

The same context, and the same implicit argument for conversion, may help us understand the conversion of Iceland. In Iceland, a commonwealth of free farmers led by local priest-chiefs, there was no king to convert, so the decision to adopt Christianity was made by democratic procedure—with a twist (Byock, 2001, 297— 301). All chiefs with their followers convened annually at a general assembly called Althing to decide about the law and the settlement of disputes. Some settlers arriving in the tenth century were Christians from the Viking colonies of the North Atlantic islands, and some Christian missionaries arrived from Norway at the urging of a Norwegian king who, however, had no formal authority over Iceland. So by the end of the century, the population had a mixed allegiance, with some people in between honoring both the Christian and the pagan gods. Matters came to a head at the Althing of the year 1000, where the two factions argued their respective cases and were, understandably, unable to reach a consensus decision, raising the specter of secession and violence. Then the Christian leader, in a manner typical of the Icelandic style of conflict resolution, asked the Speaker of the assembly-himself a pagan and a godhi (a priest of the pagan gods)-to arbitrate the dispute. The Speaker retired to ponder matters for an entire night sheltering "under his cloak"-possibly consulting his gods for an answer. The following morning, to the disappointment of his pagan faction, he pronounced that henceforth everyone would be Christian and must take baptism. To help people swallow his decision, he made some concessions, including that the exposure of unwanted babies continued to be permitted, and that sacrifice to the pagan gods was still allowed as long as it was done in private-but of course, once deprived of its public face, paganism's days were numbered. It seems a fair guess that, faced with two parties of approximately equal strength, the Speaker under his cloak just decided to follow the tide-more and more peoples are converting around the world, so how can we hold back forever?

Scanty as our information about these proceedings is, there may be a way of rationalizing our small sample of stories in social choice terms. Coifi's, Bishop Daniel's, and (conjecturally) Iceland's Speaker's reliance on the general progress of Christianization around them makes sense if each of them sees his individual decision as embedded in a slow-motion, collective decision about adoption of Christianity by a committee that stretches across the relevant space (here, Europe) and across time, and whose members increase with time as ever more countries join the decision chain. Each successive decision-maker looks back to the decisions taken by previous decision-makers in the sequence; he believes that the previous voters are no fools but, presumably, smarter than a decision made by tossing a coin would be, and thinks of himself as just as smart as the others were—i.e. as having the same, higher-than-50% probability of making the correct decision. If these assumptions are reasonable, then our "voters" are, unknowingly but correctly, applying Condorcet's jury theorem: if the voters' independent probabilities of being right are the same and greater than those of being wrong, the probability of the committee reaching a correct decision

increases with the size of the committee. Then it makes sense for an individual voter to look back and consider the number of countries that have already converted: the greater this number, the higher the probability that the voter will be making the right decision by joining them. Of course, there is no objective truth in this particular decision, but this way of thinking must have relieved those decision-makers of the anxiety inherent in a dilemma that, on "objective" grounds, was impossible to resolve: one would have had to rely on pure faith precisely when the faith was not there, a contradiction. In the circumstances, reliance on a worldwide Condorcet jury might well have been the most rational way to save the day.

3 Voting About God in Early Church Councils

As is well known, beginning with the council of Nicaea in 325 CE, the newly legalized Christian church agonized for centuries over arcane theological issues in a series of councils which defined the mainline theology and consequently identified the losers, who were branded as heretics and often due for a grim fate. Most historians, however, have until recently focused on the leading figures of the debates, on their theology and their politics. Taking a novel approach, MacMullen (2006) read the acta, or minutes of the meetings, that have survived from all the church councils whose date and site can be located-some 250 for the two and a quarter centuries between Nicaea and the council of Constantinople of 553 – with a focus on the mass of ordinary bishops in attendance and on how the decisions were arrived at. Most of these councils were local assemblies or synods of bishops, but 25 were general gatherings summoned or authorized by the emperors, and five of these went down in church history as the "ecumenical" councils that enjoy doctrinal authority-even though the ecumenical label, which should have meant empire-wide, was often belied by the unequal and selective attendance, the western church usually being scantily and poorly represented (ibid, 67–68). We now review the main lines of MacMullen's reconstruction of the workings of those 25 emperor-summoned councils with the aim of understanding, to the extent possible, how any decision at all could be made on such impossibly complex issues.

In these councils, the democratic element was real enough. In contrast to the secret ballot used by the Roman senate, the church of those days—born and grown originally as a Greek institution—always used open public voting, whether at councils, in episcopal elections, or in the election of abbots and abbesses of monasteries. At councils, bishops sometimes voted on issues or motions by raising and counting hands, like in Greek city assemblies, but more often by massed shouts—voting by acclamation. These votes did really count, embodying the power of the majority; but at the same time unanimity was sought and forced by threats if need be, especially in councils summoned by emperors. Emperors, starting from Constantine, wanted a united church that could lend divine legitimacy to their power, not one split between wrangling factions. Hence, standing up for the "wrong" cause meant, at best, loss of face, at worst, excommunication and exile; so most bishops in most councils

eventually signed up to the propositions endorsed by the majority. Nevertheless, minorities of recalcitrant bishops did show up and go down on record in councils of the earlier part of our period, for example, a minority of 10% at Nicaea (most of whom subsequently yielded to reason and signed up) or of 25% at Constantinople in 381 CE (who subsequently retired), while such minorities disappear from view in the later period (ibid, 99).

A "cognitive" element here enters the picture. How could it be that large majorities of large numbers of bishops in attendance (for the ecumenical councils, numbers of participants ranged from about 150 at Ephesus I and Constantinople I to some 350 at Chalcedon) could make up their minds and vote about theological intricacies of forbidding difficulty? MacMullen (ibid, 30-31) culled a sample of some 50 theological questions that were raised at these councils. These range from "Is Christ begotten the equal of God unbegotten?" to "Is God the Father before the Son's existence?", from "Is Christ a copy of the Father or an image?" to "Is God's substance increased or divided in begetting?", from "Is 'subject' (hypostasis) the same as 'subsistence' or 'person'?" to "Is there one hypostasis or are there three?", from "Is the Pneuma-Spirit the equal of Father and Son?" to "Is Mary the mother of God, or of Christ, or of Jesus?". A minority of the bishops were illiterate, even though they knew large sections of Scripture by heart. The majority, however, had enjoyed a better than average education, so they thought (often wrongly) that they could handle such arcane questions, and as a result the questions themselves multiplied over time down to the level of hair-splitting. Far from being academic disputes, however, the answers to such questions given at councils had the-often realized-potential of breaking off the church in different directions, as happened in the wake of Nicaea, Ephesus I, and Chalcedon among others. Such a threat could materialize especially because the councils' final reports, or synodal letters, were often read aloud before local congregations, involving masses of ordinary people in partisan struggles the merit of which they could hardly figure out. Sermons in the church were also widely used to stir up popular partisan excitement in the aftermath of councils.

This led to massive violence, the third element of the picture. MacMullen (ibid, 56) counts a staggering total of no less than 25,000 deaths over the period, for the most part not clergy but ordinary people, and almost all of them were victims not of legal executions but of extra-legal killings and street violence and the ensuing intervention of the army. This was accompanied by massive physical destruction of premises, generally by arson. The issues that were fought over in most cases were strictly theological, however hard this is to believe, and the violence often peaked at the election of bishops who were seen as the men of one or another theological faction. Hundreds of bishops were forced off their sees over the period (ibid, 59).

The upshot of this discussion is that theological debates in councils were deadly serious affairs, upon which ecclesiastical careers and even lives depended. In particular, the 25 emperor-summoned councils that are our focus were adversarial events in which withering accusations of blasphemy were freely thrown at opponents and passions were acted upon in the loudest voices to prevail. So, squeezed between the democratic power of numbers, imperial pressures for unity and conformity, intense theological passions, the impossibility of parsing abstruse questions in a manner

understandable to most minds, and the threat of violence, how could council participants ever arrive at any decision? First, voting blocs were organized: most suffragan bishops were happy to give their metropolitan bishops a blank check and shout in unison with them when required (ibid, 82–83). Second, as mentioned above, once it became clear who the winners were going to be, it was wise to establish one's name among the winners, which inflated the recorded majorities relative to the true ones. So the key to the final resolution was the initial gaining of a majority. This was clearly achieved long in advance behind closed doors by the imperial authorities who summoned some great councils, such as Chalcedon's in 451 CE (ibid, 94–95) or Constantinople's in 553 which was prepared and managed by Emperor Justinian himself (ibid, 111-112). Absent such official direction, however, fine theological distinctions and controversial arguments could only be brought before the general audience after a restricted specialist discussion had sorted them out into simplified phrases, at which point the council's leadership was able to manage them. "Deep matters should be left to deep thinkers, as most bishops were content to agree" (ibid, 101). One would think that theological matters should be decided upon on the basis of Scripture, in which the bishops were well versed. But the choice of Scripture alone as a foundation for belief had in the course of time become too dangerous, lest one should inadvertently find himself on the wrong side of a past dispute already settled at previous councils and suffer accordingly. Better to take the safer course of synodal certification: the appeal to interpretive authority as established by the "Fathers" (i.e. the winners of previous councils) as long as it was short and simple. Thus Nicaea was enthusiastically reaffirmed, and after that Ephesus I, and then Chalcedon, and so on and on: these represented the "democratic" sorting out of the best opinions by the best judges of the church-that is, sticking to orthodox continuity (ibid, 110-111).

Management, then, was the winning card (ibid, 98–99). The president, whose authority derived from the emperor or from established church procedures, could usually steer the proceedings toward the desired outcome: he drew up the agenda with attendant documents (often forged or doctored) and witnesses, could intervene at any time to bend a discussion in some chosen direction, could call on speakers known to be reliable, was free to change the subject at any awkward juncture in the discussion, and could frame a statement or question so as to dictate the council's response. So it was always for the president to define what was to be decided, whereas no proposals seem to have arisen from the floor of councils; the mass of bishops had only their shouts to rely on when they wished to oppose or change something. These shouts must have had formal authority since, according to the *acta*, they were so often reported to the higher authorities, and so presidents must have paid attention to them—which explains the dissident minorities reported above from many councils, while on other occasions prior planning and maneuvering of the numbers attending secured virtual unanimity of voters.

Looking at the above account from the point of view of social choice theory, there is no mystery to the historical fact of large, mostly incompetent assemblies deciding over issues about divinity that could defeat the best-trained philosophical minds, and which over time built up the theological dogma of mainline Christianity. In most of these debates, the alternative formulations that were or could be proposed as answers

to a given theological question were more than two; or-what comes down to the same thing-the current question was intertwined with other questions that had already been answered in previous councils, and answering the current question implied that these previous answers had now to be either upheld or rejected. Think only of the Christological issue that tore Nicaea apart, and whose resolution-the homoousios definition-reverberated through all successive debates. Even if we make the heroic assumption that each voter had a consistent and complete preference ordering among all the possible combinations of answers to all the questions involved, it is more than likely that no combination would defeat all the alternative combinations in pairwise contests-if only because certain things lie beyond the power of words to express. In other words, there would be no Condorcet winner and the majority outcome would depend on the sequence in which the alternatives are put to the vote. Alternatively, since here we have to do with sets of interconnected judgments of a "true or false" kind rather than preference orderings, it may be more accurate to see the problem as one of voting on a set of premises versus voting on the conclusion that is now under judgment: each premise commands a majority, but the majorities involved are distinct and do not translate into a majority on the conclusion that should logically follow from those premises. If so, we are faced with the "discursive paradox" in the aggregation of judgments discovered by List and Pettit (2002, 2004) which intersects, but does not entirely overlap, with the Condorcet paradox in the aggregation of preferences.

In either interpretation, a way out of the impasse is to violate one or another of the standard conditions of majority decision-making; specifically, that no one voter should be given special weight in the collective decision, and/or that majority rule should be used to decide on each of the interconnected questions. The first option amounts to implicitly appointing a dictator-naturally, the presiding person at the council-whose job it is to ensure that some collective "rationality" (as judged by the president himself) prevails in the end. The second option amounts to prioritizing some of the questions and letting the decisions on the other, subordinate questions be determined by the decisions on the prioritized questions, not by majority rule. We have seen both strategies at work in our councils: the president had extensive agendasetting and question-framing powers, by which he could usually ensure his preferred outcome by structuring the voting sequence in a certain way; and the decisions taken by previous councils on questions that could be argued to be logical premises to the question currently being decided were put above scrutiny by emphasizing the binding authority of the Fathers-as we have seen, to challenge an established dogma was to invite one's deposition, or worse. These strategies did not always work, nevertheless. Emperor Justinian summoned and personally presided over a small council at Constantinople in 532 to heal the festering rift between Chalcedonians and Monophysites, with only six bishops on each side; despite the small numbers, the bishops quarreled all the time and the emperor finally dismissed them in despair. Twenty years later, however, with the ecumenical council of Constantinople of 553, Justinian finally had his way: by writing a theological treatise to prepare for it, threatening or actually enforcing the deposition of Monophysite bishops, inviting only a handful of unruly Egyptians, pre-determining the sequence of topics for debate, and stage-managing the intervention of speakers, the emperor secured a well-behave

assembly that duly complied with his wishes (MacMullen, 2006, 107–112). Thus, through management from above and fencing around past decisions with anathema, were sown the seeds of the doctrine and practice of infallibility of ecumenical councils that would define the Catholic Church to this day.

4 Conclusion

We have examined three types of collective decisions about theological matters as exemplified by historical cases: theological disputations among representatives of several religions, each trying to entice a sovereign to embrace his own faith; councils convened by several Germanic peoples to decide whether to switch from paganism to Christianity; and councils convened by the early Christian church to decide its official doctrine on complex, difficult questions about the Trinity, the nature of Christ, and more. The available surviving evidence is unfortunately too scanty and lacking in relevant detail to permit anything like firm conclusions, but it is sufficient to suggest that some important concepts and results in social choice theory can be used to shed some light on those remote events. The Condorcet winner and Borda winner, Condorcet's jury theorem, and the Condorcet paradox all can be seen to play a role in those decision processes, unbeknown to the participants in each case. If these modern, sophisticated voting models do turn out to be applicable, this is good news for both historians, who may thus avail themselves of new tools to help their understanding of events, and economists and social choice scholars, who may thus pride themselves on yet another example of relevance of their tools to the real world. In particular, choice in religious matters, a topic seemingly impervious to rational choice, may after all prove within reach of scientific analysis–something worthy of further research.

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