ten fail to cooperate, and that ethnically diverse countries or regions may have problems as a result.[115] If a religion provided a highly developed set of shared social norms, then its benefits would only be fully realized when those norms really were shared among the population. It was only later, after the state had taken a greater role in defining the common educational culture, that European states tentatively opened their career paths to people of different religions. The United States, of course, was the first and most important country to take this new path.

The public sphere and its private support

Print religion did not just shift the balance of power between rulers and peoples. It also changed the way that people in the West thought about politics. It is central to our ideas that politics is not simply a clash of interests, but a debate between different sides which put forward arguments before the public. This state of affairs does not just come about by chance. In the 1950s, the social theorist Jürgen Habermas described the historical emergence of a "public sphere," a place of free, rational communication between equals, where people could debate politics and policy. Habermas thought that England was the paradigm case for the development of the public sphere, and – simplifying a lot – that it arrived in the 18th century coffee house, where Enlightenment ideas were debated without respect to the participants' wealth or noble titles. But recent historians have pushed its development back in time, to early modern England. The earliest public debates were on matters of religion, between puritans, conformists and Catholics in the fifteenth and sixteenth centuries. Practice came before theory: at this period, the official line was that public discussion of religion or politics was dangerous, inappropriate and illegal, and, at least in public, most people agreed. But the printing press made it easier to make one's point before a wide audience, and the state found itself inexorably drawn into the very arguments it condemned. In the 1530s, Henry VIII organized the first ever state propaganda campaign in print, on the subject

of his divorce and the reformation of the church. In 1588, an anonymous pamphleteer calling himself Martin Marprelate launched a scurrilous, satirical and funny attack on the church hierarchy. As well as trying to hunt him down – his printer was caught and hanged – the Elizabethan government hired hack writers to respond in kind, leading to a surge of "anti-Martinist" satire.[116] Martin himself was clear that the pen was mightier than the sword. As he told the bishops in his final tract:

> "[O]ne sound syllogism... brought in for the proof of their unlawful callings shall more dismay, and sooner induce, me to give over my course than a thousand warrants, a thousand pursuivants, a thousand threats and a thousand racks.... *But what get they by their tyranny, seeing it is truth and not violence that most uphold their places?...* [T]hey have ever shunned to maintain their cause either by open disputation or by any other sound conference or writing... *if they refuse, who seeth not therein a secret implying, and a close granting, of the desperateness and misery of their cause...*" [my italics][117]

Why would the state need to justify itself like this, rather than simply imposing its will by force? The first reason is simply the way political authority works. Rulers are obeyed not because they are physically stronger, but because everyone under them expects everyone else to obey, which makes it dangerous to be the one person who doesn't. This is a coordination game: anyone can be ruler, just so long as people think he is. Rulers are therefore always concerned to maintain their legitimacy, that is, to control what people think and say about who should rule and how. *

This universal problem bit particularly hard in early modern Europe. The state was extremely constrained by both technology and institutions – so constrained that in some senses we are barely beginning to speak of "states" at this time. Orders travelled slowly

*You will have noticed that this contradicts the argument above, that collective action problems mean states do not need to bother with exerting ideological control. Both arguments hold as "ideal types": when political change is a collective action problem, the powers that be are safe; when it is a pure coordination problem, they need to worry. The interaction between these two aspects depends on historical specifics.

from the centre (the "court") to localities (the "country"), and reports travelled equally slowly back the other way. There were no national-level standing armies or police forces; the force of the ruler depended on those of his subjects. There was nothing like a modern bureaucracy, with its carefully specified written rules describing who is authorized to do what, to whom, when: instead there was still a largely hereditary local nobility, side by side with a growing "court" officialdom where powers might be very broadly granted, and very imperfectly controlled by a weak, corruptible legal system. Inevitably, officials on the ground, especially at a distance from the centre, had great leeway to make decisions. And since the economy and society was still largely rural, it was the localities that mattered. This situation had three consequences. First, the vast majority of governance took place at local level; second, the relationship between centre and localities was key to politics; and third, this relationship was guided by broad principles and ideas more than by specific commands. At this period, then, any coherent national policy had to be created by broad agreement on ideas, not by handing regulations down the organizational change. Religion and religious preaching was a way to get that broad agreement. At the local level, too, ideas were central to social order: the priest or minister worked hand in hand with the magistrate. This is why everyone in the sixteenth and seventeenth century agrees with the truism "no bishop, no king".

Potentially, the printing press could allow more centralized production of ideas. In England under Edward VI, and again under Elizabeth, a standardized Book of Homilies was printed, from which sermons could be read out by preachers. But the press did not solve the centre's fundamental problem of monitoring. Preachers, even if carefully selected, might not conform to the centre's orders. As Archbishop Sandys wrote pessimistically to Lord Burghley, "Such as preached discreetly the last year now labour by railing to feed the fancies of the people." In December 1620, preachers were banned from discussing the "Spanish match", the highly controversial proposed marriage be-

tween Prince Charles and Infanta Anna Maria of Spain; to get round this, they preached sermons about the sheep murrain of Edward VI, which had been caused by scabbed sheep imported from Spain. Simultaneously, print was making it much easier to issue public statements about the scope, limits and legitimacy of rule. Since print was transforming religion, and religious organization was the basis of power, it is not surprising that the first debates are about religious rule. In the 1560s, the "vestiarian controversy" erupted about the appropriate garments for a priest. Behind this symbolic issue lay the question of the Crown's authority to determine what went on in church. A series of pamphlet debates split the church, and led to the origin of English Presbyterianism. In 1580s, after the discovery of the *classis* movement – a kind of parallel, Presbyterian church government – Martin Marprelate launched his squibs. The emerging Puritan movement gained an identity and ideological self-consciousness, partly from the attacks of its opponents.[118]

The printing press had both direct and indirect effects. Print, and print religion, drove levels of literacy up, as it became economically more useful and religiously more vital for salvation. In turn, literate subjects exchanged news in private manuscript letters, where one could express opinions that were risky to put out in print (though people were still careful, expecting that their letters could be intercepted and read). From this, in the seventeenth century, there emerged a market for newsletters. Professional writers would copy out letters to multiple recipients, with different letters providing news for different shades of opinion, from puritan to conformist. This embryonic form of journalism would blossom during the English Civil War, when censorship was relaxed and all sides in the conflict printed "mercuries" mixing news and satire. Public argument had become part of politics.[119]

Another aspect of public debate was the sermon. In early seventeenth-century England, Puritans had stepped aside from the national church; congregations would hire their own lecturers to preach sermons, if the local minister proved inadequate or not to

their liking. The typical content was not political in the sense we think of it now: it was about sin and personal regeneration. Sermons given at St Paul's Cross in London inveighed on the city's activities, including drinking, gaming, theft, murder, atheism, Catholicism, usury and whoring. But politics inevitably came in as part of the effort to reform society. Preachers indiscriminately attacked the sins of both rich and poor: "Livest thou by bribery, extortion, oppression, false weights in they shop, balance in thy warehouse", thundered Thomas Hopkins in 1615, while Richard Jeffery took on "bribe-taking magistrates", "illiterate, soul-starving ministers", "money-mongers", "corrupt officers" and "brothel haunters". The form of Puritan lectureships was surprisingly democratic. New lecturers would be elected by the parish vestry, sometimes after preaching trial sermons; in the Westminster Debate of 1644, Puritans argued from scripture that church leaders ought to be chosen by their congregations. Preachers were expected to "stir up" magistrates and congregations; in 1640, Puritan preachers mobilized to return a Godly parliament.[120]

Histories of the public sphere tend to focus on the emergence of new kinds of public speech. But the debate which is central to Habermas' ideal of democracy requires rational listeners, perhaps even more than rational speech. Why does debate makes a difference? Obviously, because it changes people's minds. For this to happen, a listener must have a clear sense of the beliefs to which he is committed; must understand that the evidence or argument he has heard is incompatible with some of these beliefs; and must revise them accordingly. Now, as we discussed above, the clear possession of a well-defined set of beliefs is itself a cultural achievement. This is part of the *private infrastructure of public reason*: a set of social and psychological conditions, developed and practiced in private, which enable the public sphere to function. To get a sense for how debate works without this infrastructure, listen to an argument between schoolchildren, the kind that is simply a struggle conducted in words: ideas are changed for a momentary advantage, invective works as well as logic, and people

take positions, not because they sincerely believe them, but to demonstrate loyalty to the majority or to the powerful. In fact, this kind of degraded public debate is present in many societies (and, needless to say, sometimes in our own).

In this period, print religion was instrumental in developing the private infrastructure of public reason. Puritan forms of argument, first developed in the context of Biblical scholarship, would be put to secular use during the civil war. Pamphlets would reproduce each other's words in order to reply to them, using textual devices such as enumerated rebuttal lists, and different fonts to separate argument from counter-argument. At the same time, the Puritan practice of choosing one's own preachers gained a political aspect, and those who favoured this religious organization became the Independent faction in the Civil War, opposed to both Presbyterians and Episcopalians.[121]

Individual inwardness and bible-reading was a deeper layer of privacy within the privacy of the household, but it too could relate to the public realm. The private infrastructure of public reason's most basic form is literacy, and this had already reached high levels in seventeenth-century England: male literacy was 70% in London, and after the Civil War and Interregnum it was 40% in the country as a whole. Literacy alone could dramatically expand the horizons of ordinary people, from their locality to the nation. Diary-keeping, another Puritan practice, dealt not only with religious topics. People kept news-diaries, recording what they had heard or read elsewhere. This enabled them to place their local concerns in a national perspective. It also provided them with a personal record of history, at a time when public sources of contemporary history were much harder to come by. Diarists would not just copy the news, but summarize and comment on its significance, forming their views over time. In this way, an audience was developing, which was able and willing to follow an argument. The intense self-examination practiced by deeply religious people was also likely, though not certain, to make it harder to practice hypocrisy and bad faith.[122]

A second part of public reason's infrastructure is a sense of shared interest, of being part of a common body. This ensures that participants in an argument agree on some basic presuppositions: even though some policy may benefit me personally, I must argue why it is good for "us".[123] In England, Protestant preachers and writers served to develop a missionary sense of nationhood, making explicit parallels between England and Biblical Israel. This was compatible with a sense of international solidarity among Protestants. It could even be linked to it: for instance, an on-going political controversy of the early seventeenth century was the popular demand for the English state to intervene in support of other Protestants, such as the French Huguenots or the exiled Elector of Bohemia. Puritan preachers were aware of the connection between religious awakening and political wokeness. The great Protestant preacher and martyr Hugh Latimer said: "note that our saviour biddeth us to say 'us'". John Ward, preaching to the House of Commons in 1645: "Private persons are self-centered like clods of the earth,... but public persons are turned into other men, and have a public spirit." Another famous Civil War sermon, *Meroz Cursed*, was explicitly anti-elitist: "The Lamb's followers and servants are often the poor and off-scouring of the world... When the mighty of the world do oppose the Lord, God's meanest servants must not be afraid to oppose the mighty."[124]

I have focused on England, which is the paradigm case for the early public sphere. The same things were happening elsewhere in Europe and America, with large variations, depending on the relation between print religion and the state. The French Huguenots never came to terms with the French state, which in the end remained an ally of Catholicism. But in exile after the Revocation of the Edict of Nantes, Huguenots contributed vastly to the journalistic culture of Europe. Their newspapers, mostly published in Amsterdam, were read even by Louis XIV himself, and were reprinted (and often pirated) all over Europe, helping to create an early European public sphere. Governments throughout the continent decried them in public, and simultaneously tried

very hard to influence them in private, rather like politicians with social media today. The same Huguenot journalists also developed the form of the monthly political periodical – a hugely popular form in the eighteenth century, and an ancestor of today's current affairs magazines – and wrote contemporary history, often compiled from their own newspapers.[125]

In New England, the early development of journalism was religiously motivated: unusual happenings were the signs of God working in the world or of his wrath with society. Increase Mather, the puritan leader, has a claim to be the first great American journalist. He wrote indiscriminately on what we would now call tabloid and broadsheet topics: on the one hand, executions, crimes, earthquakes and witchcraft; on the other, contemporary political events, including King Philip's War with the Native Americans. Both kinds of story were placed in the framework of God's providence. The puritan style of reporting carried over into the first "true" American newspapers in the eighteenth century.[126]

Did print religion play a causal role in the creation of Western politics? That would be hard to tell. (We would have to imagine Europe with the printing press but without the religious changes that grew from it, which is hard.) The public sphere developed later in areas which had the printing press technology but lacked print religion, like China, Japan and Korea, or where print religion was more under command of the state, like much of Catholic Europe. Looking across countries, there is also strong evidence that missionary protestantism, which educated people in order to bring them to the bible, led to democracy. I only make a weaker claim: the form of politics we have was marked at its beginnings by religious concerns. These marks remained, whether in religious or secularized forms. Interviewed in prison at the start of the twentieth century, the militant suffragette Mrs Sparboro described her state of mind in religious language: "I feel so well. I eat, drink and sleep well. I think to myself, perhaps it is because my conscience is clear that I feel so happy.... Be still and serve – that is what

I am doing."[127]

The effect on science

The relationship between print religion and science is complex. We should get rid of one misconception straight away: there was never a straightforward conflict between science and religion. In time, scientific discoveries would pose deep challenges to orthodox theology, but in the seventeenth century, print religion was present at science's birth, and often acted as a midwife.[128]

First, there was an overlap of *personnel*. Clergy, both Protestant and Catholic, were often among the early scientists, before this became a specialized profession in its own right, even before the word "scientist" became commonplace. In the Invisible College, the informal London grouping of thinkers who started to meet for scientific discussions in 1645, and who formed the embryo of the Royal Society, 9 out of 10 members were Puritans – as their critics were keen to point out at the Restoration. Protestants were overrepresented among early scientists, and this bias continued through the nineteenth century.[129]

Print religion also provided early scientific research with *motivations*. Studying the world was part of natural religion, the counterpart to the revealed religion of the Bible. By learning about the world, it was thought, people would naturally gain evidences of the existence of God, and a deeper understanding of His nature and relationship to humanity. In a pre-Darwinian world in which the only explanation of creation's extraordinary complexity was the existence of a superhuman designer, this made complete sense. As Edward Gibbon put it in the eighteenth century:

> ... the enthusiast who entered the dome of St. Sophia might be tempted to suppose that it was the residence, or even the workmanship, of the Deity. Yet how dull is the artifice, how insignificant is the labour, if it be compared with the formation of the vilest insect that crawls upon the surface