From Agora to Algorithm: Reinventing the Public Square in the Digital Age

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Abstract: This article examines whether algorithmic mediation of public discourse represents an evolution or rupture in the history of democratic spaces. Through historical analysis spanning the Athenian Agora to Westminster Parliament, it identifies three core democratic functions of transparency, access, and collective reasoning that persisted across successive adaptations in public squares. While each transformation altered institutional form, these spaces maintained visible, accessible mechanisms for deliberation amongst citizenries. Algorithmic systems, by contrast, fundamentally break this continuity. Unlike earlier mediations that preserved democratic principles while changing their expression, platform algorithms actively undermine these democratic functions. Furthermore, these systems are opaque, fragment collective reasoning through filter bubbles, and prioritise engagement over deliberative quality and facts. Examining recent parliamentary inquiries in Australia and the UK, the article argues that Westminster systems face distinctive challenges in reasserting democratic sovereignty. It concludes by proposing algorithmic sovereignty, democratic digital innovation with systems structuring public discourse, and cross-collaboration as essential for preserving the agora's enduring principles in the digital age.

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INTRODUCTION

From the Athenian Agora to Westminster's debating chamber, democratic life has always depended on shared public spaces. These arenas of deliberation were never neutral: they promised openness and equality, yet were continually shaped by exclusion, hierarchy, and power. Each adaptation, the early democratic practice in Athens, the oratory and spectacle of the Forum, the deliberation and sacralisation on the Church parvis, the commercial sociability and discourse of the coffeehouse, and the institutionalisation of Westminster, preserved the political value of public spaces and whilst refracting these principles through the structures and imperatives of its particular historical moment.

Contemporary democratic discourse, however, increasingly unfolds within digital platforms governed not by civic norms but by algorithmic systems. This transformation represents the most significant challenge to democratic governance since the rise of mass media. Where citizens once assembled in face-to-face forums for deliberative exchange, political discourse now operates through opaque mechanisms of algorithmic mediation. The shift is fundamentally political in character, raising urgent questions concerning the viability of democratic deliberation under conditions of algorithmic control.

This paper interrogates whether the digital transformation of public discourse constitutes an evolution within, or a rupture from, the historical trajectory of democratic spaces. The analysis advanced here contends that algorithmic mediation represents a fundamental discontinuity with democratic tradition. In contrast to earlier adaptations, which transformed institutional form whilst preserving core democratic functions, algorithmic systems actively erode the conditions enabling democratic discourse through mechanisms of opacity, fragmentation, and behavioural manipulation. The House of Lords' Select Committee on Artificial Intelligence noted concerns with algorithms in the form of filter bubbles, describing how

> …social media is increasingly feeding us information which aligns with our preconceived notions of the world, and closing us off from information which contradicts that world view…[2]

[2] House of Lords Select Committee on Artificial Intelligence, AI in the UK: Ready, Willing and Able? London: UK Parliament, 2018, p. 38. Accessed at: https://publications.parliament.uk/pa/ld201719/ldselect/ldai/100/100.pdf.

Similar concerns underpin the UK's *Online Safety Act 2023*, which establishes mechanisms for democratic accountability over algorithmic systems by granting OFCOM powers to 'observe the carrying out of empirical tests' and inspect how algorithms process data.[3]

Parliamentary institutions face a particular paradox: to engage citizens who increasingly inhabit algorithmic spaces, legislatures must also adapt digital innovations to protect their democratic processes. The issue is concerning as these online platforms filter, amplify, and distort the very communications they aim to facilitate. Understanding whether algorithms represent continuity or rupture is therefore essential for determining appropriate parliamentary responses.

This paper traces the history of democratic spaces, examines how algorithmic mediation breaks with this tradition, and explores how Westminster systems might preserve democratic sovereignty in the digital age.

THE AGORA: FUNCTIONS AND PRINCIPLES

The Foundational Democratic Space

The Athenian agora emerged in the 6th century BC not as a single architectural achievement but as an evolving democratic institution that fundamentally transformed the relationship between citizens and governance in ancient Greece.[4] Ober identifies this as the original epistemic democracy, a system for aggregating distributed knowledge through public deliberation[5] and functioned as 'a place where formal and informal, public and private blended all together'.[6] This fusion established three essential democratic functions that would persist (albeit with varying degrees of universality) through subsequent historical adaptations: accessibility, transparency of decision-making, and collective reasoning.

[3] UK Parliament, Online Safety Act 2023. London: The Stationery Office, 2023. Accessed at: https://www.legislation.gov.uk/ukpga/2023/50/enacted.

[4] The earliest physical structures of the Athenian agora - notably the Altar of the Twelve Gods, situated at its northern apex - date to approximately 520 BCE, with a recognisably democratic social order beginning to coalesce around 500 BCE; Martin Zerlang, The Agora (Routledge, 2013), p. 46 (citing Gottesman, Politics and the Street in Democratic Athens, 2014, p. 30), doi:10.4324/9781003335825-8.

[5] Josiah Ober, Democracy and Knowledge: Innovation and Learning in Classical Athens, pp.101-118. Princeton, NJ: Princeton University Press, 2008.

[6] Paul Millett, 'Encounters in the Agora', in Paul Cartledge, Paul Millett and Sitta von Reden (eds), *Kosmos: Essays in Order, Conflict, and Community in Classical Athens*. Cambridge, UK: Cambridge University Press, 1998, p215. Alternatively, to signal layered attribution, see Kittler, *Historical Metamorphosis*, p.3, citing Millett, 'Encounters in the Agora', p.215.

First, the agora served as the primary mechanism for access to information and participation, addressing what would later be theorised as barriers to democratic inclusion. Athens was a city dominated by information where it was 'impossible for a person moving within such a milieu to avoid finding things out'.[7] Political debates would occur in this centralised location, whilst being accessible to the citizenry. Unlike what Noble identifies as 'redlining' in algorithmic systems,[8] the agora's accessibility operated through visible, correctable mechanisms. The practice of rotational leadership by lot (*kleros*) ensured that ordinary citizens could hold office alongside richer elites in Athenian society, preventing what Zuboff calls 'asymmetries of knowledge'[9] from concentrating power. Furthermore, the introduction of remuneration (*misthos*) for assembly attendance and jury service enabled economically disadvantaged citizens to participate despite foregone wages from their respective trades.[10] Xenophon's commentary illuminates why these particular reforms defined Athenian democracy: 'And where the officials are chosen among those who fulfil the requirements of the laws, the constitution is an aristocracy; where rateable property is the qualification for office, you have a plutocracy; where all are eligible, a democracy'[11]

Second, the way the agora was built made everything visible and transparent. Pasquale later contrasted this openness to the hidden nature of today's algorithmic 'black boxes'[12]. This visibility was not merely procedural but epistemological. Citizens assembled to examine proposed legislation displayed on whitened boards before the memorial to the Eponymous Heroes.[13] They could physically observe the Bouleuterion's proceedings, watch laws being inscribed on stone, and witness the actual counting of votes. Archaeological evidence confirmed multiple structures supporting civic discourse in the view of thousands: the Bouleuterion where the council met, the Tholos housing executive committees, and the Royal

[7] Sian Lewis, News and Society in the Greek Polis. Chapel Hill, NC: University of North Carolina Press, 1996, p. 22.

[8] Safiya Umoja Noble, Algorithms of Oppression: How Search Engines Reinforce Racism. New York, NY: NYU Press, 2018. P.33

[9] Shoshana Zuboff, The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power. New York, NY: PublicAffairs, 2019.

[10] Ober, Mass and Elite in Democratic Athens, pp. 54-56, 95-97.

[11] Xenophon, Memorabilia. Oeconomicus. Symposium. Apology (E. C. Marchant, Trans.). Cambridge, MA: Harvard University Press, 1923, p. 345.

[12] See Frank Pasquale, *The Black Box Society: The Secret Algorithms That Control Money and Information*. Cambridge, MA: Harvard University Press, 2015, on algorithmic opacity and the democratic risks of proprietary decision-making systems.

[13] Demosthenes, Private Orations (A. T. Murray, Trans.). Cambridge, MA: Harvard University Press, 1939, 24.23

Stoa where legal proceedings occurred were all centrally situated.[14] These institutional spaces facilitated what Habermas later theorised as the formation of public opinion through 'free discussion (*lexis*) among peer citizens',[15] enabling citizens to understand not just outcomes but the reasoning process itself.

Third, the agora operated as a marketplace wherein commercial and political interests inevitably intersected for collective deliberation. As Zerlang notes,

> *In the colonnades of the stoa around the agora, people exchanged goods and rumours. Trading and talking met in the word for conversation: agoreuein.*[16]

This facilitated what Habermas would retrospectively describe as approaching an 'ideal speech situation', though as Ober notes, this operated through competitive display of ideas rather than pure consensus-seeking. Unlike algorithmic systems that Tufekci demonstrates amplify extreme positions for engagement, Athenian rhetoric required speakers to appeal to the collective judgment of physically present citizens who would directly experience the consequences of decisions.[17]

Contemporary scholarship demonstrates, however, that the Athenian Agora was never purely unmediated. Democratic practice relied upon forms of representation, with citizens acting synecdochically or being represented through orators.[18] This suggests that mediation and collective reasoning were intrinsic to democratic practice from its inception. These representational forms, moreover, operated within broader networks of informal political communication. Sociological analysis challenges the conventional view of Athenian direct democracy, demonstrating instead that 'the individual voter was tugged by multiple influences

[14] Kittler, Historical Metamorphosis, p. 34.

[15] Jürgen Habermas, The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society. Cambridge, UK: Polity Press, 1989, p. 3.

[16] Martin Zerlang, Writing the City Square: On the History and the Histories of City Squares. Abingdon, UK: Routledge, 2023, p. 47.

[17] Tufekci, Z. 'Twitter and tear gas: The power and fragility of networked protest.', 2017, New Haven, CT: Yale University Press. Retrieved from https://research.ebsco.com/linkprocessor/plink?id=0ff43879-ea5f-3f9b-9a35-6d29b053d3bf

[18] Daniela Cammack, 'Representation in Ancient Greek Democracy', *History of Political Thought* XLII(4), Winter 2021, pp. 9-12. Available at SSRN: https://ssrn.com/abstract=4141685

– family, religion, class, associations, and individual interests, and that these allegiances were made manifest to him by interpersonal communication'.[19]

Athenian democracy remained embedded within networks of persuasion and influence. These representational and social dynamics complicate the myth of unmediated democracy whilst sharpening the contrast with contemporary digital public spheres. Whereas ancient mediation operated through visible, participatory, and accountable mechanisms in the observable physical space of the agora – algorithmic mediation functions through opaque, automated systems driven solely by commercial imperatives.

The Tension Between Ideals and Reality of Democratic Space

Aristotle articulated an idealised vision of citizenship in *Politics*, defining it by the capacity to participate in deliberative and judicial functions of the polis. Yet this normative framework existed in persistent tension with Athenian political reality.[20] The Agora's dual nature as both marketplace and political forum exemplified this contradiction. While serving as a setting for civic administration, justice, and athletic displays,[21] the Agora simultaneously functioned as a commercial space where traders sold goods, labourers sought employment, gamblers wagered, and prostitutes solicited clients.[22] These commercial and social activities intersected continuously with political deliberation within the same physical space.

Aristotle's response to this problem was telling: He proposed separating the 'free agora' (*agora eleuthera*) for political discourse from the 'necessary agora' (*anagkaia agora*) for commerce.[23]Athens, however, never implemented this separation, suggesting that the entanglement of economic and political life proved more fundamental than philosophers

[19] Warren Breed and Sally M. Seeman, 'Indirect Democracy and Social Process in Periclean Athens'. Social Science Quarterly 52(3) 1971, p. 645.

[20] Aristotle's definition of citizenship is set out in Politics, 3.1275b. For the tension between this normative ideal and Athenian political reality, see Cammack, 'Representation in Ancient Greek Democracy' pp. 33-41.

[21] John M. Camp, The Athenian Agora: Excavations in the Heart of Classical Athens. London, UK: Thames and Hudson, 1992, pp. 38-42; Homer A. Thompson and R. E. Wycherley, The Agora of Athens: The History, Shape and Uses of an Ancient City Center. Princeton, NJ: American School of Classical Studies at Athens, 1972, pp. 1-12.

[22] Paul Millett, 'Encounters in the Agora', in Paul Cartledge, Paul Millett and Sitta von Reden (eds), Kosmos: Essays in Order, Conflict, and Community in Classical Athens. Cambridge, UK: Cambridge University Press, 1998, p. 215.

[23] Kittler, Historical Metamorphosis, p. 41.

acknowledged. The city instead developed alternative mechanisms to manage the tension between private interest and democratic participation.

These institutional innovations sought to ensure governance remained transparent and accessible despite the marketplace's influence. The system of *kleros* for many offices, combined with strict term limits and collective decision-making in councils, prevented governance from becoming the exclusive domain of a political elite. Rather than concentrating expertise within a permanent administrative class, mandatory civic service distributed political knowledge across the citizenry, as individuals cycled through various offices throughout their lifetimes.[24]This rotation ensured that ordinary citizens gained firsthand experience in deliberation and administration, thereby creating distributed civic competence across the body politic.

ADAPTIVE CONTINUITY: PUBLIC SQUARES ACROSS TWO MILLENIA

The Roman Forum: Oratory, Justice, And Spectacle

The Roman Forum, emerging in the 7th century BC from a marshy valley between the Palatine and Capitoline hills, represented the most direct although imperfect successor to the Athenian Agora as a civic and political centre in ancient Rome. By the Republican period, it had become the symbolic and practical heart of Roman public life: an open plaza surrounded by the Curia (Senate House), the Rostra (speaker's platform), temples, and basilicas that hosted legal and commercial proceedings.[25]

Citizens gathered here to vote, hear orators, and witness triumphal processions, making the Forum a space where politics, religion, and commerce were inseparably entwined and viewable to the mass of its citizens. Oratory performance modelled an ethics and deliberation for the citizenship, masses and elite alike. The Roman assemblies (*comitia*) met for deliberation through public meetings for speech before voting (*contiones*), with citizens organising themselves into voting blocks.[26] Consequence of the collective reasoning of the citizens could also be expressed through the role of the Tribune of the Plebs. This position held a level of

[24] Kittler, Historical Metamorphosis, pp. 417-420.

[25] Tom Holland, Rubicon: The Last Years of the Roman Republic. London, UK: Abacus, 2003, pp. 76-80, 209.

[26] Ursula Hall, 'Voting Procedure in Roman Assemblies'. Historia: Zeitschrift für Alte Geschichte 13(3) 1964, pp. 267-306.

magistracy and power where they could access the Senate floor and veto legislation on behalf of the citizens.[27]

As in Athens, the Forum embodied a stronger tension between the ideal of civic deliberation and the realities of power and spectacle. Cicero's orations against Catiline,[28] delivered from the Rostra itself, exemplifies the Forum's visible role as a stage for rational persuasion and public accountability.

What distinguished the Forum from the Agora was its monumentalisation and institutional layering. The construction of basilicas created permanent venues for legal cases, while temples like that of Saturn housed the state treasury, binding religion, finance, and governance into the same space.[29] The Forum was not merely a gathering place but an architectural embodiment of Rome's civic order, where the boundaries between sacred and secular, political and economic, were deliberately blurred.

The Roman Forum therefore represents an interesting step in the evolution of public spaces: preserving the Agora's functions of deliberation, access, and visibility, but refracting them through structures of a republic increasingly dominated by elites. Its legacy was to institutionalise the public sphere within monumental architecture and formalised procedures, a legacy that, after the collapse of Rome, would be inherited and reshaped by the medieval Church.

Medieval Europe: Church And State – Pews and Parvis Squares

After the collapse of Roman civic institutions, the locus of public life in Europe shifted into new spaces. In the medieval city, it was the Church. The medieval parvis represents infrastructure becoming inseparable from power as the Church did not merely host public discourse but fundamentally structured it. Through its buildings, rituals, and squares, the agora-principle of communal deliberation was continued. Cathedrals and parish churches were not only centres of worship but also arenas of communication and governance. Sermons could double as

[27] Sara Elise Phang (ed.), Conflict in Ancient Greece and Rome: The Definitive Political, Social, and Military Encyclopedia, Vols. 1-3. Santa Barbara, CA: Bloomsbury Publishing USA, 2016, pp. 2147-2150.

[28] Marcus Tullius Cicero, The Orations of Cicero Against Catiline (C. D. Yonge, Trans.). London, UK: George Bell & Sons, 1903, p. 305. The Orations are four speeches given in 63 BC by Marcus Tullius Cicero, exposing the Catilinarian conspiracy, a plot to overthrow the Roman republic involving Lucius Sergius Catilina.

[29] Amy Russell, 'The Politics of Public Space in Republican Rome', in *The Politics of Public Space in Republican Rome*. Cambridge: Cambridge University Press, 2016, pp. 42–47. https://doi.org/10.1017/CBO9781139629041.005

political commentary, royal edicts were proclaimed from church steps, and parish assemblies deliberated on matters of taxation, charity, and local regulation. By contrast, in London, with its more fragmented parochial system, construction was managed at the parish level by churchwardens and wealthy families, creating a more decentralised but equally political form of governance.[30]

The church square (the parvis) often functioned as the medieval equivalent of the Agora or Forum: a space where townspeople gathered for access to markets, festivals, and announcements, but also for protests and revolts.[31] The blending of sacred and secular authority meant that public deliberation and visibility of decision-making was mediated through religious ritual and hierarchy, foreshadowing later struggles over the separation of church and state.

Where algorithmic platforms extract data from users, the Church extracted tithes and obedience through transparent theological frameworks. Yet unlike platform algorithms that operate through opaque moderation, ecclesiastical mediation remained physically visible and doctrinally explicit. Parishioners understood the logic of divine authority even if they could not challenge it, unlike algorithmic authority that remains inscrutable even to its creators.

Thus, the medieval Church provided continuity of democratic spaces: It preserved the idea of an accessible centralised, visible forum where community life was negotiated and deliberated on, even as it refracted that ideal through the lens of theology and hierarchy. In this sense, the Church acted as both a guardian and a gatekeeper of civic deliberation, preparing the ground for the more secularised public spheres of the Renaissance and, eventually, the London coffeehouse.

London Coffeehouses: Caffeine and Consensus

The London coffeehouse of the late seventeenth and early eighteenth centuries represented a further adaptation of the agora-principle, this time within the emerging commercial and parliamentary culture of England. Between 1680 and 1730, coffeehouses multiplied into hundreds across the city, functioning as visible ‘little communities’ that fostered rational-critical debate.[32] Contemporary observers described them as the place of rendezvous to all

[30] Gabriel Byng, 'The Architecture of Politics and the Politics of Architecture: A Comparative Approach to Parish Church Building and Civic Government in Late-Medieval Europe'. Comparative Studies in Society and History 66(2) 2024, pp. 392-416.

[31] 'Introduction: The Material Culture of Public Space in Early Modern Europe'. Urban History 52(1) 2025, pp. 6-12.

[32] Brian Cowan, The Social Life of Coffee: The Emergence of the British Coffeehouse, p.106. New Haven, CT: Yale University Press, 2005;

that live near it, explicitly likening them to neighbourhoods of civic exchange (notably science and politics).

The coffeehouse network anticipated what would later be called 'platform ready' information systems as spaces designed for rapid information circulation. Unlike the medieval parvis, which anchored civic life in a single, central square adjoining the church, the coffeehouse dispersed the forum's functions into a network of small, enclosed interiors. The coffeehouse was modest, voluntary, yet commercial. Entry cost a penny, and deliberation on contemporary social issues unfolded in dozens of scattered rooms across the city. These spaces performed the same civic work of accessing information, ensuring debate, and forming collective reasoning, although broken up into hundreds of mini-indoor 'public squares.'

Yet coffeehouses inverted the logic of what would be later termed 'filter bubbles.' Rather than algorithmically sorting people into homogeneous groups, they brought diverse strangers together through what Habermas celebrated as 'promiscuous sociability.' As with the Athenian Agora, the normative ideal collided with the social reality of its time regarding equal access. As Cowan summarises, for Habermas the coffeehouse

> '…was a place in which rational debates on diverse matters, ranging from literary worth to high politics, could be carried out in a sober and rational way among equals. It was a place where right reason, and not social rank, was supposed to determine who won and who lost in debate.'[33]

The tension between idealised rational discourse and the realities of commerce, partisanship, and financial speculation echoed the contradictions of earlier civic spaces, public interest versus private interest.

The penny admission created what Napoli would recognise as a 'commercial media system,' but one that generated revenue from fostering deliberation rather than algorithms that contain modulating affects for engagement.[34] What distinguished the coffeehouse, however, was its integration of print culture with face-to-face discussion. Some establishments featured pulpits from which news was read aloud, creating a synergy between the public square in the mediated form of print and that in the physical form of the new urban structure. This fusion of

[33] Brian Cowan, 'The Rise of the Coffeehouse Reconsidered'. The Historical Journal 47(1) March 2004, p. 24.

[34] Philip M. Napoli, 'Measuring Media Impact: An Overview of the Field'. Norman Lear Center, USC Annenberg School for Communication and Journalism, 2014, pp. 16-18. Accessed at: https://learcenter.org/pdf/measuringmedia.pdf.

mediated and direct communication foreshadowed the later institutionalisation of debate within Westminster itself, and anticipates the dilemmas of today's digital platforms, where mediated and immediate forms of discourse are once again inseparably entwined. The integration of print media prefigured networked information systems, but maintained what algorithms destroy: exposure to opposing views that actually reduced rather than increased polarisation.

Westminster Evolution: Institutional Mechanisms

If the coffeehouse represented the informal sociability of the public sphere, Westminster Parliament embodied its formal institutionalisation, carrying the agora-principle into the structures of representative government. Westminster's formalisation of democratic procedure offers a historical precedent for resisting what might be called ‘algocratic rule’. Rather than relying on physical proximity in a central square, Westminster democracy operates through elected representatives, committee systems, and parliamentary rules that sought to preserve the core functions of information circulation, deliberation, and accountability.

The transition from direct to representative democracy addressed the scale problem limiting ancient democracy to small city-states, yet this introduced new challenges in sustaining citizen-representative connections. By codifying debate rules, establishing Hansard, and creating committee structures, Parliament created governance mechanisms that preserved democratic functions despite increasing scale and complexity. Westminster's innovation lay in translating informal agora practices into codified procedures: deliberation protected by parliamentary privilege, debate made visible through Hansard[35], and law-making structured by formal stages of bills. These mechanisms sought to guarantee transparency and accountability despite the physical distance between citizens and their representatives, even as they risked insulating parliamentary debate from wider public scrutiny.

The evolution from coffeehouse to Parliament parallels a move from contested to cooperative responsibility. Yet Westminster achieved this through transparent institutional evolution rather than the ‘black box’ governance found in contemporary platform regulation.[36] As with earlier civic spaces, however, the ideal collided with reality. Westminster's procedures safeguarded deliberation through privilege and ritual, but they also insulated it from citizens

[35] Stephen Farrell and Jennifer Vice, The History of Hansard. London: House of Lords Library, 2014. Accessed at: https://www.parliament.uk/globalassets/documents/lords-library/History-of-Hansard.pdf. The Wilkes affair of 1771 forced Parliament to tolerate press coverage, and Hansard subsequently emerged in the early nineteenth century as the recognised record of parliamentary debates.

[36] Pasquale, The Black Box Society.

for centuries: Debates were closed to public reporting until the late eighteenth century, and representation itself was restricted by property qualifications and opinion on 'rotten boroughs.' Reform movements from the seventeenth century through the Chartists pressed Parliament to expand the franchise and open debates.[37]

The Westminster model thus carried the agora-principle into institutional form, but translated it into the structures of representative government, stabilising debate within enduring procedures while concentrating authority in elected elites. Its legacy was not only to entrench democratic deliberation at home but also to export its model across the globe, where it became the template for representative institutions from Canada to India. Yet it also exposed the perennial problem of distance between citizens and their representatives, a problem inverted in the digital age, where the immediacy of mass participation once again unsettles the balance between openness and order.

Same Game, New Platforms

Across radical transformations of form, certain democratic principles have persisted. Each historical transformation preserved what Ober identifies as democracy's 'epistemic functions'[38] while adapting institutional forms. First, transparency remains essential whether through the public display of laws in Athens, the sermonising of the medieval church square, open discussion in coffeehouses, or the parliamentary reporting of Westminster. Second, access to these spaces and access to accurate information has always been a prerequisite for meaningful participation, though the mechanisms have shifted from physical presence to print media to then broadcast communications. Third, the requirement for collective reasoning endures, whether through direct deliberation in the agora, consensus amongst parishioners, structured debate in coffeehouses, or formal parliamentary procedures that adapt the functions and principles of transparency, access, and collective reasoning through open deliberation.

The pattern reveals continuous evolution: Athens's direct democracy became Rome's republican representation; medieval sacred authority transformed into coffeehouse secular reasoning; informal coffeehouse debate crystallised into Westminster procedure. Throughout,

[37] Malcolm Chase, Chartism: A New History. Manchester, UK: Manchester University Press, 2007; Philip Salmon, 'English Reform Legislation', in D. R. Fisher (ed.), The History of Parliament: The House of Commons, 1820-1832. Cambridge, UK: Cambridge University Press, 2009. Accessed at: https://www.historyofparliamentonline.org/volume/1820-1832/survey/ix-english-reform-legislation.

[38] Ober, Democracy and Knowledge, p. 17

transparency, access, and collective reasoning persisted as organising principles. Each historical adaptation has attempted to continue the functions of the agora while tolerating the commercial and private interests that interfere with it. Athens sought to separate commerce from politics, albeit unsuccessfully. The medieval church limited participation through hierarchy and would endure riot. London coffeehouses embraced commercial society as the basis of sociability and civic participation. The institution of Westminster sought to regulate the relationship between public and private interest through procedural frameworks. This persistent challenge suggests that economic interests and political life are more deeply intertwined than classical democratic theory acknowledged. However, the digital age introduces a force that actively undermines the functions of the agora: the algorithm.

THE ALGORITHMIC RUPTURE: BREAKING THE DEMOCRATIC CHAIN

Nature of the Rupture: Ctrl-Alt-Democracy

The transition from physical and print-based public spheres to algorithmically mediated digital spaces represent not merely another technological evolution but a fundamental rupture in democratic continuity. Algorithmic mediation breaks this pattern. As Zuboff argues, surveillance capitalism does not evolve from laissez-faire market capitalism but ruptures it through 'unprecedented' extraction of human behaviour for predictive products.[39] Similarly, algorithmic mediation does not adapt democratic functions but inverts them: Transparency becomes opacity, access becomes segregation, reasoning becomes amplification.[40] Unlike previous adaptations that preserved core democratic functions while transforming their institutional expression, algorithmic systems introduce mechanisms that actively undermine the principles identified in the historical analysis above.

This is not merely another 'mediation' but what Bucher calls an 'algorithmic imaginary',[41] a fundamentally different logic that replaces democratic deliberation with behavioural prediction and modification. Evidence presented to the Joint Select Committee on Social Media

[39] Shoshana Zuboff, The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power. New York, NY: PublicAffairs, 2019, pp. 15-16.

[40] On algorithmic opacity, see Frank Pasquale, The Black Box Society: The Secret Algorithms That Control Money and Information. Cambridge, MA: Harvard University Press, 2015; on algorithmic segregation and restricted access, see Safiya Umoja Noble, Algorithms of Oppression: How Search Engines Reinforce Racism. New York, NY: NYU Press, 2018; on amplification of misinformation over reasoned argument, see Soroush Vosoughi, Deb Roy and Sinan Aral, 'The Spread of True and False News Online'. Science 359(6380) 2018, pp. 1146-1151.

[41] Taina Bucher, If...Then: Algorithmic Power and Politics. Oxford, UK: Oxford University Press, 2018, pp. 113-115.

and Australian Society demonstrates this structural divergence. Graham discussed that platforms 'prioritise and recommend content that elicits strong reactions and gets user attention rather than content that is high quality or factually sound,' with research confirming that 'content expressing fear, outrage and division just gets more clicks, shares and comments'.[42]

This engagement-maximisation imperative inverts the democratic functions preserved across successive adaptations of the agora. Where physical public spaces maintained forums for opposing viewpoints and deliberation grounded in reasoned argument, algorithmic systems actively suppress such discourse in favour of emotional activation. The structural logic is clear: Platforms profit from sustained attention, not from deliberative quality or factual accuracy. Emotionally charged, divisive content consistently receives greater algorithmic amplification than nuanced or factual discourse, directly contradicting the democratic requirements for rational-critical debate and epistemic receptiveness that characterised earlier public spheres.

Opacity Versus Transparency

The first fundamental break occurs in the principle of transparency. Every earlier adaptation of the agora preserved some form of visible decision-making, from public assemblies in Athens to the published debates of Westminster. Algorithmically mediated systems, by contrast, operate in ways that are largely hidden from public scrutiny. As Pasquale demonstrates, scholars and regulators have identified the opacity of algorithmic operations as a central concern.[43] Meaningful oversight requires access to technical and operational data that platforms generally withhold. This lack of transparency is not only a matter of technical complexity but also reflects established practices of corporate secrecy, often justified in terms of intellectual property and competitive advantage. Unlike earlier forms of mediated communication, where information eventually entered the public domain, algorithmic processes frequently remain inaccessible to those affected by their outcomes.

The Filter Bubble Phenomenon

Where earlier public spheres wrestled with balancing diversity of opinion with social cohesion, algorithmically mediated platforms introduce a new form of fragmentation. Instead of citizens

[42] Commonwealth of Australia, Joint Select Committee on Social Media and Australian Society: Final Report. Canberra: Parliament of Australia, 2024, p. 41.

[43] Pasquale, The Black Box Society.

actively choosing to gather with like-minded peers, ranking and recommendation systems now generate what Pariser terms 'filter bubbles'[44]: informational environments primarily produced by ranking algorithms engaged in passive personalisation without any active choice on our part. This passive construction distinguishes algorithmic fragmentation from historical self-selection into ideological or social groups.

Empirical research has highlighted the consequences of this shift. One large-scale study found that increased Facebook use was associated with both greater diversity of sources and simultaneous drift toward more partisan outlets, producing long-term ideological segregation.[45] Research into ideological segregation on Facebook reveals a further dimension of algorithmic rupture. González-Bailón et al. found that the platform is substantially segregated along ideological lines, with an asymmetric echo chamber occupied predominantly by conservative users and that content flagged as disinformation by Facebook's own fact-checkers disproportionately clustered within that space.[46]

Such algorithmic segregation undermines a core democratic requirement already recognised in classical thought:

> *For it is the function of the same faculty to see both the true and the false, and what is persuasive about each side.*[47]

Without exposure to opposing viewpoints, citizens risk losing the capacity for collective reasoning that has historically defined democratic deliberation over two millennia.

The Algorithmic Architecture of Democratic Disruption

Algorithmic mediation disrupts democracy across several interlinked dimensions. First, it accelerates misinformation spread. Whereas rumours or partisan presses once spread within natural limits, platforms now optimise for engagement, making falsehoods more viral than truth. Empirical studies show that false news on Twitter is 70% more likely to be shared and

[44] Eli Pariser, The Filter Bubble: What the Internet Is Hiding from You. New York, NY: Penguin Press, 2011.

[45] Eytan Bakshy, Solomon Messing and Lada A. Adamic, 'Exposure to Ideologically Diverse News and Opinion on Facebook'. Science 348(6239) 2015, pp. 1130-1132.

[46] González-Bailón, S., Lazer, D., Barberá, P., Zhang, M., Allcott, H., Brown, T., … & et al. (2023). Asymmetric ideological segregation in exposure to political news on Facebook. Science, 381, 392–398. https://doi.org/10.1126/science.ade7138

[47] Aristotle, The 'Art' of Rhetoric (J. H. Freese, Trans.). Cambridge, MA: Harvard University Press, 1926, 1355a.

travels six times faster than accurate reports.[48] Because platforms profit from clicks and shares, misinformation is not merely tolerated but structurally advantaged, a dynamic exploited by political actors who deliberately 'flood the zone' with emotionally charged falsehoods.[49]

Second, as Zuboff demonstrates, these systems invert democratic agency. Instead of citizens consciously forming preferences, platforms extract behavioural data and infer 'preferences' through predictive models. This reduces citizens to data points, shifting power from deliberation to unconscious pattern recognition. [50]

Third, the attention economy undermines democratic discourse's temporal conditions. This dynamic is not limited to opaque background processes. Documented instances of deliberate algorithmic adjustment on major platforms reveal how owners can directly configure recommendation systems to enhance the visibility of particular political actors, raising fundamental questions about the integrity of algorithmically mediated public discourse.[51]

Fourth, increasing algorithmic governance and automated decision making displaces human judgment and transparency, creating asymmetries of power and eroding accountability.[52]

Finally, these dynamics are intensified by information power consolidation. A handful of platforms now control primary channels of political communication, collapsing the separation between information provision and political authority that earlier democracies sought to preserve.

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[48] Peter Dizikes, 'Study: On Twitter, False News Travels Faster Than True Stories'. MIT News, 8 March 2018. Accessed at: https://news.mit.edu/2018/study-twitter-false-news-travels-faster-true-stories-0308; Soroush Vosoughi, Deb Roy and Sinan Aral, 'The Spread of True and False News Online'. Science 359(6380) 2018, pp. 1146-1151.

[49] Sean Illing, ''Flood the Zone with Shit': How Misinformation Overwhelmed Our Democracy'. Vox, 16 January 2020. Accessed at: https://www.vox.com/policy-and-politics/2020/1/16/20991816/impeachment-trial-trump-bannon-misinformation. The article traces the phrase to Steve Bannon, former chief strategist to Donald Trump, who described overwhelming the media ecosystem with contradictory or false narratives as a deliberate political tactic. Illing situates this strategy within a broader discussion of information saturation and the vulnerability of democratic discourse to manipulation.

[50] Zuboff, The Age of Surveillance Capitalism, pp. 18.

[51] Jennifer L. Davis and Timothy Graham, 'Emotional Consequences and Attention Rewards: The Social Effects of Ratings on Reddit'. Information, Communication & Society 24(5) 2021, pp. 649-666.

[52] Rob Kitchin, 'Thinking Critically About and Researching Algorithms'. Information, Communication & Society 20(1) 2017, pp. 14-29.

Recognising this rupture is the first step towards response. Just as earlier democracies developed institutional safeguards to preserve deliberation at scale, new mechanisms are needed to restore transparency, accurate information, and citizen agency in digital contexts.

PRESERVING PARLIAMENTARY SOVEREIGNTY IN THE DIGITAL AGE

The Westminster Response

The historical analysis reveals that democratic spaces survived radical transformations by preserving core functions through new institutional forms. Today's algorithmic mediation represents not evolution but rupture, extracting rather than enabling democratic participation. Westminster systems face distinctive challenges in addressing algorithmic disruption, given their reliance on representative mechanisms and institutional precedent. Westminster systems cannot simply regulate platforms as if they were newspapers or broadcasters. Recent inquiries have urged regulators to mandate transparency reports akin to the EU's Digital Services Act, yet such measures expose a deeper mismatch: Parliamentary deliberation moves slowly, while algorithmic systems evolve continuously and across borders. Traditional tools of committees, inquiries, and legislation struggle against platforms that exist everywhere and nowhere, forcing a reconceptualisation of sovereignty as one node in a wider network of governance.

Legislatures at multiple levels have begun to grapple with this reality. In the United Kingdom, the House of Lords Select Committee on Artificial Intelligence stressed the need for intelligibility and transparency, warning against opaque systems in 'significant and sensitive areas of life.' It highlighted risks of data monopolies, algorithmic bias, and concentrated corporate power, recommending proactive oversight to align AI with democratic values.[53]

In Australia, the Joint Select Committee on Social Media and Australian Society underscored the democratic risks of recommender systems, misinformation, and the erosion of public-interest journalism. It called for stronger transparency obligations, protections against harmful content, and measures to support independent media.[54] At the state level, the South Australian Parliament's Select Committee on Artificial Intelligence has likewise examined

[53] House of Lords Select Committee, AI in the UK.

[54] Commonwealth of Australia, Joint Select Committee on Social Media and Australian Society: Final Report. Canberra: Parliament of Australia, 2024. Accessed at: https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Social_Media_and_Australian_Society/SocialMedia/Final_report.

misinformation, online harms, and algorithmic opacity, emphasising digital literacy and community resilience as essential democratic safeguards.[55]

The *Parliament of Australia's Digital Strategy 2023-2027* has a layered approach and roadmap of modernising and delivering digitally accessible services 'ensuring that the ICT estate of the parliament is prepared to realise future benefits using technology such as generative AI, data analytics and sharing, and citizen development is paramount'.[56]

Taken together, these interventions show that algorithmic mediation is not an abstract concern, and the digital age is weaving itself into our institutions. Legislatures are actively seeking to reclaim visibility, accountability, and trust in the digital public sphere, echoing the ancient recognition that democratic spaces must be structured to ensure both transparency and responsibility.

Parliamentary Adaptations in the Algorithmic Age

The challenge is not adapting existing democratic mechanisms but creating algorithmic resistance in institutions to restore transparency, access, and collective reasoning in digital contexts. Westminster parliaments have begun exploring multiple strategies with evolving in the digital age. Some initiatives focus on increasing digital literacy modules as democratic infrastructure, complementing programs such as the Australian eSafety Commissioner's resources, which teach citizens to recognise filter bubbles, bots, and engagement-driven amplification.[57]

The UK Parliament's e-petition system represents an attempt to adapt traditional parliamentary mechanisms to digital contexts while being mindful of algorithmic mediation. By hosting petitions on official parliament servers rather than commercial platforms, the system

[55] Parliament of South Australia, Select Committee on Artificial Intelligence, Report. Parliament of South Australia, 2023. Accessed at: https://www.parliament.sa.gov.au/en/Committees/Committees-Detail.

[56] Parliament of Australia, Digital Strategy 2023-2027. Canberra: Department of Parliamentary Services, 2023, p. 12. Accessed at:https://www.aph.gov.au/About_Parliament/Parliamentary_departments/Department_of_Parliamentary_Services/Publications/Digital_strategies.

[57] House of Commons Library, 'Preventing Misinformation and Disinformation in Online Filter Bubbles: UK Parliament'. 2024. Accessed at: https://commonslibrary.parliament.uk/research-briefings/cdp-2024-0003/.

maintains direct channels of communication between citizens and representatives with clear accountability timelines.[58]

Others pursue legislative innovation through transparency mandates. The European Commission's *Digital Services Act 2022* requires disclosure of recommender system parameters,[59] while Australian proposals call for independent audits of algorithms (Australian Competition and Consumer Commission, 2019, 2024). However, machine learning's opacity and complexity make meaningful accountability elusive.

Parliaments are testing institutional innovations like hybrid deliberative forums. The Scottish Citizens' Assembly on climate change combined stratified selection, structured deliberation, and purpose-built digital platforms to resist echo chambers and prioritise evidence over virality.[60]

A further avenue links competition and democracy. The Australian Competition and Consumer Commission's 2019 Digital Platforms Inquiry tied market concentration to democratic harms, [61] while the News Media Bargaining Code (Treasury Laws Amendment, 2021) sought to preserve independent journalism as a counterweight to the power potential of algorithmic curation.[62]

These initiatives illustrate growing recognition that parliaments are currently exploring innovation across education, legislation, deliberation, regulation, and oversight to reassert democratic sovereignty in the algorithmic age where misinformation is rapid and collective reasoning is instead becoming increasingly polarised.

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[58] UK Parliament, 'E-petitions'. 2025. Accessed at: https://www.parliament.uk/get-involved/sign-a-petition/e-petitions/.

[59] European Commission, Digital Services Act: Regulation (EU) 2022/2065. Brussels, Belgium: Official Journal of the European Union, 2022. Accessed at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022R2065.

[60] Scotland's Climate Assembly, *Scotland's Climate Assembly: Recommendations for Action*. Edinburgh: Scotland's Climate Assembly, 2021. Archived at: https://webarchive.nrscotland.gov.uk/20220321134004/https://www.climateassembly.scot/full-report

[61] Australian Competition and Consumer Commission, Digital Platforms Inquiry: Final Report, pp. 345-350. Canberra: Commonwealth of Australia, 2019. Accessed at: https://www.accc.gov.au/publications/digital-platforms-inquiry-final-report; Australian Competition and Consumer Commission, Digital Platform Services Inquiry: Interim Report. Canberra: Commonwealth of Australia, 2024. Accessed at: https://www.accc.gov.au/about-us/publications/serial-publications/digital-platform-services-inquiry-2020-25-reports/digital-platform-services-inquiry-interim-report-september-2024.

[62] Treasury Laws Amendment (News Media and Digital Platforms Mandatory Bargaining Code) Act 2021 (Cth). Canberra: Federal Register of Legislation, 2021. Accessed at: https://www.legislation.gov.au/C2021A00021/latest/text.

Future Directions: Algorithmic Sovereignty

The idea of algorithmic sovereignty and the right of democratic communities to shape and control the algorithms that govern them, offers a framework for comprehensive response.[63] This entails more than regulating existing platforms, it requires building democratic alternatives. Just as public broadcasting in the twentieth century provided a counterweight to commercial media, public investment in democratic technologies may be necessary to create platforms designed around civic rather than commercial imperatives.[64]

Preserving parliamentary democracy in the digital age therefore demands more than incremental adaptation. It calls for reimagining digital innovation itself, recognising that algorithms now structure the very conditions of democratic discourse. Westminster systems, with their traditions of institutional evolution and pragmatic reform, are well placed to pioneer models that safeguard democratic values while embracing technological change, but only if they act with urgency equal to the scale of the challenge.

CONCLUSION

This study has traced democratic spaces from the Athenian agora to Westminster's chambers. Across these settings, democratic life has relied on places where information could circulate, arguments could be tested, and collective reasoning could take shape. Each transformation adapted these core functions to new conditions, showing democracy as a practice continually morphed by its environment.

Democratic practices have repeatedly been reshaped by new media and institutions. Medieval communes, early modern coffeehouses, and representative parliaments were all criticised in their time, yet each extended participation and deliberation in distinctive ways. The tension between commercial interests and public purposes has been a constant theme, managed with varying degrees of success. However, the digital age's introduction of social media and

[63] Paul Burgess, 'Algorithmic Augmentation of Democracy: Considering Whether Technology Can Enhance the Concepts of Democracy and the Rule of Law Through Four Hypotheticals'. AI & Society 37(1) 2022, pp. 97-112.

[64] BBC Research & Development, Responsible Machine Learning in the Public Interest. London: BBC, 2023. Accessed at: https://www.bbc.co.uk/rd/projects/responsible-machine-learning; Five Country Ministerial, Joint Statement on Algorithmic Transparency and Democratic Values. Canberra: Department of Home Affairs, 2023. Accessed at: https://www.homeaffairs.gov.au/about-us/our-portfolios/national-security/security-coordination/five-country-ministerial.

algorithms presents unique barriers to the transparency, access, and rational consensus of contemporary civic discourse.

The task ahead is not to be passive recipients to algorithmic systems but to ensure they support rather than undermine democratic functions.

So, what can parliaments do to reinvent the public square in the digital age? Three complementary approaches can be considered:

- maintaining close collaboration with Westminster counterparts regarding digital innovation,
- investing in digital infrastructure that prioritises access and transparency, and
- strengthening citizens' capacity to navigate and reach consensus in algorithmic environments through digital literacy in Westminster settings.

The agora was never flawless, yet it set enduring principles of open exchange and collective reasoning. The task today is to carry those principles into the parliament's digital sphere and fortify against the commodified social media algorithms that pose as the digital ‘public squares’ of the 21st century. What is at stake is not nostalgia or loss romanticising for past public squares, instead it is about sustaining the value of critical thought and debate in our democracies. The contest between engagement-driven platforms and democratic institutions will decide whether algorithms continue to fragment and profit the public sphere or parliaments innovate themselves digitally to fortify against this serious rupture.

Democracy survives by reinventing itself. Our moment is no different and the age of the algorithm is here to stay. The challenge is concerning, but the opportunity is real: to build digital architecture that serves citizens in authentic, civic engagement rather than capture and commodify them, ensuring our principles of the agora endure not only on earth, but also in the cloud.