

# An Informed Populace

*Electronics, Information, and the Development of American Republicanism*

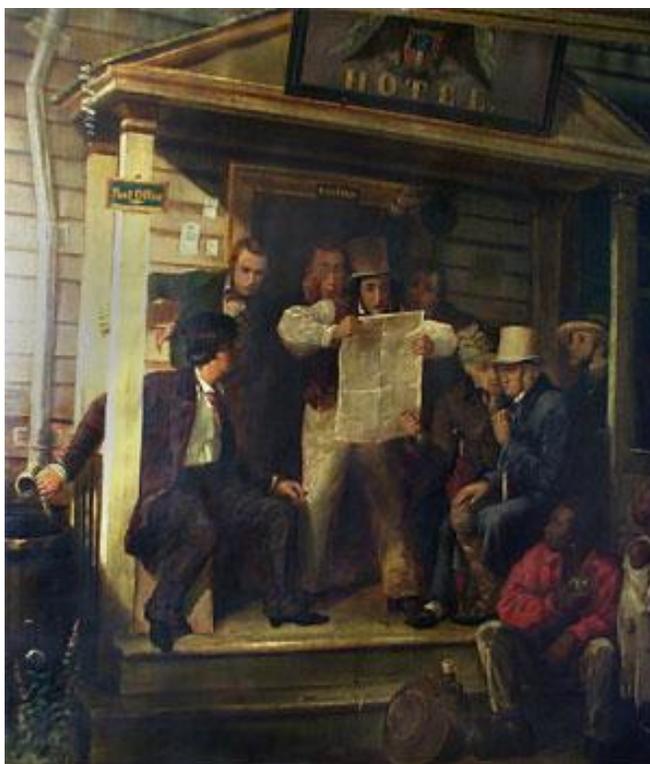
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## An Informed Populace

*Electronics, Information, and the Development of American Republicanism*



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## Abstract

Although the relationship between society and technology is difficult to delineate, American history abounds with examples of civil society and republicanism expanding in response to technological advancement. When technology facilitates information diffusion, power relationships across class lines subsequently shifts in a direction more consistent with republican ideals. If the increased reach of the late colonial print culture expanded political engagement beyond the established elite, then electronic developments in information transmission, most notably the telegraph, radio, and television, similarly transformed the American political experience despite social anxiety over potential misuse.

## Introduction

The social impact of electronics and electrical engineering extends beyond mere convenience and task simplification. For instance, the 1946 advent of ENIAC at the University of Pennsylvania can be viewed as the commencement of a new age in information technology. Momentary observation of contemporary culture reveals a striking diffusion of personal computing into our very conception of livelihood, as America's transition into the Information Age has incited myriad social changes. Among its many influences, however, its potentially revolutionary impact on the meaning of politics as a popular experience is often overlooked.

The intent of this paper is to trace changes in American political participation to communications technologies. More effective and more inclusive communication makes information accessible to a wider range of people. Gaining access to news and discourse, the American polity thus expands. This in turn engenders political mobilization among the newly enfranchised. In each case, power relationships shifted to benefit the individual citizen.

Historical examples appear almost immediately within the American democratic narrative. Eric Foner shows that the colonial print culture extended revolutionary discourse in America beyond the intellectual elite, thus inciting popular politics on a national level for the first time in Atlantic history. The advent of the telegraph, according to Richard Brown, aggrandized this print culture. Lawrence and Olivia Levine note that the even greater reach of radio similarly enhanced the vitality of American civil society during FDR's presidency. Sidney Kraus extensively explores the relationship between the television and the changed meaning of presidential politics, most explicitly demonstrated by the Nixon-Kennedy debates. Kennedy himself would later admit, "Every time scientists make a new invention, we politicians

have to invent new institutions to cope with it.”<sup>1</sup> When such inventions alter the flow of information, they transform the power relationships at the foundation of our political structure and social hierarchy.

My personal interest in this topic is rooted in broader, and somewhat more demanding, questions. Are we fundamentally better off with or without our electronic machines? Is there a causal relationship between technology and the health of civil society? While these questions continue to pique my intellect, they unfortunately, in all reason, cannot be unequivocally resolved. Nonetheless, as technology and engineering should invariably venture to enhance the human condition, these are questions that any aspiring engineer must stop to consider. With social change comes the threat of dystopia, and in the final section, I will briefly address such fears.

A final note: while researching for this paper, I was struck by the historical wealth of IEEE’s Region 2. Having lived since childhood in the heart of the Silicon Valley, it was all too natural to have always perceived my hometown as the default hub of information technology. Admittedly, it was not my original intention to write a local history of Region 2. But while examining Morse’s telephone transmission to Baltimore, or flipping through accounts of the Westinghouse radio experiments near Pittsburgh, or reviewing Zworykin’s work with RCA in Camden, I could not help but recognize the invaluable contributions of Region 2.<sup>2</sup> If information diffusion does serve as the basis of American republicanism, then Philadelphia’s role as the cradle of American democracy is neither a legacy of antiquity nor a historical fact, but rather an enduring tradition.

## Information and Republicanism

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<sup>1</sup> Gerald Benjamin, “Innovations in Telecommunications and Politics,” Proceedings of the Academy of Political Science: The Communications Revolution in Politics, 34:4 (1982): 3.

<sup>2</sup> George P. Oslin, The Story of Telecommunications (Macon, Georgia: Mercer University Press, 1992).

Literature concerning the very foundations of American democracy and republicanism abounds in discourse of information and print. Based on the relationship between information and republicanism, we come to understand the social ramifications of the American Revolution less as the overthrow of British despotism and more as the restructuring of the American social hierarchy. Given the elitist nature of colonial politics, and with the scores of uninformed and politically dormant colonials in mind, Gordon Wood stipulates that the revolutionary aspect of 1776 lies in a transformed social order and power structure.<sup>3</sup> Prior to 1776, the subset of white men who encompassed the social elite held exclusive privilege over national politics. Following 1776, the participatory group expanded to include colonial urban artisans, thus moving political agency in the direction of the individual citizen.

To the chagrin of many, Wood's discourse does not explicitly address the continued disenfranchisement of many social groups, most notably women, Native Americans, and slaves. But if we view society as a series of socioeconomic groups, each forming its own concentric circle around a central core in terms of political influence, then while 1776 failed to incorporate all groups, it nevertheless expanded the participatory group. Influence grew to include previously disenfranchised outside circles, thus expanding political participation. To Wood, this is social history at its finest – progression towards universal agency with republican ideals slowly permeating through society. And while the process was far from complete, it was nonetheless set into motion.

For this, we owe much thanks to Thomas Paine and his publication *Common Sense*. Eric Foner notes that while it was “an age of pamphleteering, *Common Sense* was unique in the extent

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<sup>3</sup> Gordon Wood, *The Radicalism of the American Revolution* (New York: Alfred A. Knopf, Inc., 1992).

of its readership.”<sup>4</sup> Foner attributes this to Paine himself, attributing its wide distribution to the fact that “his rhetoric was clear, simple, and straightforward; his arguments rooted in the common experiences of a mass readership.”<sup>5</sup> According to Foner, the social changes Wood observes stem from Paine’s capacity to transmit information to a larger audience. In particular, because he was able to provide information to a wider audience, “Paine helped to extend political discussion beyond the narrow confines of the eighteenth century’s ‘political nation’ (the classes actively involved in politics, to whom most previous political writing had been addressed).”<sup>6</sup> Essentially, Thomas Paine expanded the ranks of American civil society by providing information where it was previously unavailable – a service that mobilized colonial urban artisans.

Not only was the new urban polity suddenly exposed to national politics, they were also armed with the discourse of republicanism, and “republican equality now became a rallying cry for people in the aspiring middling ranks.”<sup>7</sup> With access to the same arguments used by the colonial elite in promoting revolution, they found themselves politicized and enfranchised with political agency previously unknown to them. If we view the importance of the revolution in terms of changing power relationships between American social classes, then it makes sense that “the politicization of the mass of Philadelphians – from the master craftsmen to a significant segment of the laborers and poor – was the most important development in Philadelphia’s political life in the decade before independence.”<sup>8</sup> By making information more accessible, Paine expanded readership, which by extension augmented colonial politicization. Although not a technological change, *Common Sense* nonetheless serves as a fundamental example of an

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<sup>4</sup> Eric Foner, *Tom Paine and Revolutionary America* (London: Oxford University Press, 1976) xi.

<sup>5</sup> Foner, *Tom Paine* xvi.

<sup>6</sup> Foner, *Tom Paine* xvi.

<sup>7</sup> Gordon Wood, *The American Revolution: A History* (New York: The Modern Library, 2002) 120.

<sup>8</sup> Foner, *Tom Paine*, 56.

instance where a revolution in information transmission transformed the social hierarchy and catalyzed the development of American republicanism.

The critical link between information and republicanism, then, is that increased access to the former allows for greater development of the latter. Developments in electronic communications, a different means of making information more accessible, therefore produce the same social consequences. From Foner, we witness the social impact of newly enlightened social classes and, as Wood reminds us, this transforms the dynamics of relationships across class lines. Electronic communication systems such as the telegraph, the radio, and the television facilitate the transmission of information to an ever-widening audience, thus further increasing the scope of political awareness and changing the power relationships between socioeconomic groups, and transforming the whole of society.

*The Telegraph and National Politics*

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With the advent and widespread implementation of telegraph lines, American print culture received a metaphorical shot in the arm. Samuel Morse supervised the first public telegraph transmission in 1844, successfully sending the prophetic words “What hath God Wrought!” from Washington to Baltimore. The joint inventions of telegraph code and hardware combined to generate the first electric transmission, which effectively toppled the barriers of time and space. Until then, various ingenious methods had been implemented in their attenuation, including relays and faster carriers such as pigeons. Morse’s transmission in 1844 marked a watershed moment in this progression, as communication was no longer limited by the speed of a human or animal carrier. The removal of this impediment diffused information in ways unprecedented, as “the telegraph annihilates distance and in some ways brings together a vast population at a single point,” thus inciting a new age in national politics.<sup>9</sup>

Where Thomas Paine brought down social elitism and erudition, the telegraph similarly removed the time barrier from national politics, and further attenuated geography. As Jill Lepore notes, the telegraph acted as a linguistically cohesive device, unifying the nation through common information.<sup>10</sup> Morse himself prophesized that through the telegraph “the whole surface of this country would be channeled for those nerves which are to diffuse, with the speed of thought, a knowledge of all that is occurring throughout the land.”<sup>11</sup> Henceforth, national politics would mean not only awareness and concern, but also swift notification of events and the ability to respond appropriately. Richard Brown comments that this “speed, penetration, and

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<sup>9</sup> Jill Lepore, *A is for American: Letters and other Characters in the Newly United States* (New York: Alfred A. Knopf, 2002) 146.

<sup>10</sup> Lepore, 10

<sup>11</sup> Lepore, 10

reach would become hallmarks of American information diffusion.”<sup>12</sup> Additionally, but the social prominence of print itself was magnified, as “the development of the telegraph had made print so swift, authoritative, and ubiquitous that it assumed a primary role.”<sup>13</sup> With communication from New York to California as feasible as communication from New York to Baltimore, the telegraph not only enhanced the speed and scale, but also the significance of news in an increasingly informed, and increasingly unified American society.

By the end of the Lincoln presidency, telegraph communication had become the primary basis for print. But however much an improvement, the system nevertheless remained far from ideal. In detailing the diffusion of news of the Lincoln assassination, Brown notes that “whereas most everyone in the great cities from Boston to San Francisco knew the basic facts long before noon on Saturday, at Chambersburg, Pennsylvania, less than one hundred miles northwest of Washington, Rachel Cormany, whose husband was off in the army, did not learn the news” until informed by a friend.<sup>14</sup> Whether the news would have reached her at all without the telegraph remains subject to conjecture. But while rough simultaneity had been achieved, and while information diffusion had permeated farther into society than ever before, the telegraph primarily benefited the literate inhabitants of urban centers, and room for improvement remained.

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<sup>12</sup> Richard Brown, Knowledge is Power: The Diffusion of Information in Early America, 1700-1865 (New York: Oxford University Press, 1989) 247.

<sup>13</sup> Brown, 247

<sup>14</sup> Brown, 263

*The Radio: Franklin Roosevelt and Fireside Chats*

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Such improvement soon arrived and could be witnessed through the social transformations initiated by radio communication. In Hadley Cantril and Gordon Allport's The Psychology of Radio they noted that "many of the trends that followed earlier inventions are being speeded and augmented by the radio."<sup>15</sup> Radio transmission not only "reaches a larger population of people at greater distances," but also simultaneously decreases "the time elapsing between an event of public and the popular response it arouses."<sup>16</sup> From this basis, Cantril and Allport eagerly designated radio as "the greatest single democratizing agent since the invention of printing."<sup>17</sup> Transmitting information available across vast distances and to a greater number of people, it served as a social equalizer, as "distinctions between rural and urban communities, men and women, age and youth, social classes, creeds, states, and nations are abolished."<sup>18</sup> Technology once again had attenuated restrictions on information access based on social and class distinctions.

Broadcast throughout his presidency, and covering almost every major policy issue, Franklin Roosevelt's Fireside Chats remain the most celebrated political implementation of radio transmission. For the first time, the President was compelled to communicate directly with the populace. And in the spirit of Thomas Paine, "FDR and his speechwriters worked diligently to make these speeches accessible and comprehensible to as large an audience as possible."<sup>19</sup> Politics, even technical issues as banking, were suddenly demystified. But more fascinating even than this, communication soon ensued in the opposite direction. Lawrence and Cornelia Levine

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<sup>15</sup> Hadley Cantril and Gordon V. Allport, The Psychology of the Radio (New York: Harper & Brothers Publishers, 1935) 19

<sup>16</sup> Cantril and Allport, 19.

<sup>17</sup> Cantril and Allport, 19.

<sup>18</sup> Cantril and Allport, 20.

<sup>19</sup> Lawrence W. Levine and Cornelia R. Levine, The People and the President: America's Conversation with FDR (Boston: Beacon Press, 2002) 15.

document a wave of correspondence from the full array of the American populace.<sup>20</sup> Responses to Roosevelt's Fireside Chats not only revealed the thoughts, hopes, and wishes of the American people, but also influenced executive decision. By Levine and Levine's account, "FDR especially valued these letters because ... personal mail from everyday folks, who tended to express their convictions honestly, constituted the 'most perfect index to the state of mind of the people.'"<sup>21</sup> Popular sentiment now directly influenced the decision-making process, as power continued to shift in the direction of the individual in response to technological innovation. "Radio inspired and encouraged this correspondence; it was one of the prime modern forces that helped to circumvent the structural barriers the Founders had erected to insulate the federal government from direct popular influence."<sup>22</sup> Individuals otherwise disconnected from the political process suddenly found agency to express their opinions directly to the American President. This transition, brought about by radio communication, completely altered the structure of political power, and strengthened the voice of the individual citizen.

The Fireside Chats not only informed the greatest mass and diversity of people to date, but also awakened their political consciousness. A sense of purpose and agency pervaded the populace in an otherwise downtrodden period of history. Roosevelt's radio speeches, which "helped make participants – even activists – out of his audience," played a pivotal role in this transformation.<sup>23</sup> The Head of State was now in direct communication with the citizen, who could in turn voice his personal response. National politics now reached out to the everyday American.

It is similarly important to note that, although mail responses required literacy, this was the first instance in which literacy was not a prerequisite in accessing the original information.

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<sup>20</sup> Levine and Levine

<sup>21</sup> Levine and Levine, 5.

<sup>22</sup> Levine and Levine, 4.

<sup>23</sup> Levine and Levine, 5.

Whereas all print requires the reader to be literate, the same is not true of radio waves. Therefore, at least in terms of accessing information, the paramount social partition eliminated was that of literacy. Frederick Douglass once explained that, “nearly all slaves were kept illiterate so that they could never acquire access to information.”<sup>24</sup> Until that point, because all information was invariably transmitted in print form, the ability to read presupposed any access to information; radio eliminated this prerequisite. Radio thus simultaneously undermined several different but related social differentiators, changing the social hierarchy of the American political landscape.

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<sup>24</sup> Brown, 283

*The Television and Presidential Politics: The Nixon – Kennedy Debates*

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If radio demystified national policy issues, television demystified the politicians themselves. The impact of the Nixon-Kennedy debates on the 1960 presidential election has been widely discussed. People often refer to the introduction of individual persona into the political scene, given the aftermath of pale and sickly Richard Nixon juxtaposed with a charismatic John F. Kennedy. A conscientious analyst might question such an assessment, as relevance of personality to political qualification is not easily seen. But as Elihu Katz and Jacob Freeman observe, such judgment is not as superficial as it seems. As a parallel, they offer the argument that “people are not so foolish as to equate an automobile with the designs of its body but, when mechanical sophistication is lacking, they use the body, and whatever other clues are available to them, as indices of the quality of the car.”<sup>25</sup> A televised debate reveals, among other things, a candidate’s conduct under pressure, analytical competence and rhetorical skill. The overarching trend of information diffusion initiating politicization remains.

With the new relevance of visual images, “television had become the third major participant in the debates.”<sup>26</sup> Vito Silvestri rationalizes this phenomenon under the argument that “visual evidence reaches audiences faster than verbal information.”<sup>27</sup> Rather than secondhand narratives, television provides “a moving visual panorama of political events.”<sup>28</sup> Whereas radio removed the prerequisite of literacy, television reduced the importance of language itself. People relate more profoundly to, and are more apt to remember, vivid images rather than human speech, no matter how eloquent or accessible. The lingering impact of television images of

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<sup>25</sup> Elihu Katz and Jacob Feldman, “The Debates in the Light of Research: A Survey of Surveys.” Kraus, *Televised Presidential Debates and Public Policy* (Hillsdale, New Jersey: Erlbaum Associates, 1988) 204

<sup>26</sup> Vito N. Silvestri, *Becoming JFK: A Profile in Communication* (Westport, Connecticut: Praeger Publishers, 2000) 131.

<sup>27</sup> Silvestri, 131

<sup>28</sup> Kraus, *Televised Presidential Debates and Public Policy* (Hillsdale, New Jersey: Erlbaum Associates, 1988), 208

American hostages during the Iranian hostage crisis and of American POW's in the streets of Mogadishu attests to this fact.

Prevalent interpretations hold that television benefited Kennedy and sank Nixon. A Des Moines newspaper, however, wrote the next morning that “the voters are the winners for having had a chance to make the kind of comparison that only this type of appearance permits.”<sup>29</sup> Such words carry greater weight when considered in the context of television's mobilizing impact. Inciting unprecedented popular excitement, television raised national awareness to a new level. Silvestri notes that “schoolchildren and townspeople viewed the event in cities and towns throughout the United States,” as people gathered in high school gymnasiums and community centers throughout the nation to witness the historic debates.<sup>30</sup> Interest in the debates was so extensive that, until 1996, “televised presidential debates occupied the attention of Americans more so than the new television entertainment season and the professional baseball playoffs.”<sup>31</sup> Capturing the attention of nearly the entire American population, television created a niche for presidential politics within popular culture.

The mobilizing nature of television can be further expanded to encompass not only enthusiasm, but also tangible and concrete changes in political protocol, as it diminished the role and influence of the political party. According to Sidney Kraus, individuals had previously depended on political parties for information on issues and candidates, creating a practice in which “voters were partisan ‘clones’.”<sup>32</sup> As Sidney Kraus points out, information from parties was largely a reflection of their existing political views, as it came from the same political party they already subscribed to. Popular opinion was therefore stagnant, creating a citizenry of

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<sup>29</sup> Kraus, *Televised*, 5. Originally from an editorial in the Des Moines Register.

<sup>30</sup> Silvestri, 129

<sup>31</sup> Kraus, *Televised*, 221. Explanations for low interest in 1996 cite its easy predictability (as early as Labor Day, as Clinton had already established a double-digit lead in the polls).

<sup>32</sup> Kraus, *Televised*, 207

political cogs. The decentralization of information, made possible by television transmission, removed these biased and overbearing information middlemen. And while radio and newspapers served as an alternate information source, their lesser appeal meant that, “radio and newspapers did not alter those views. Television did.”<sup>33</sup> In this context, television weakened the influence of the party and placed greater importance on the decisions of the individual. Concurrently, “television coverage encouraged candidates to build their own campaign organizations, bypassing political parties, and influencing public opinion. The new relationship between personal campaigning and the nomination process was so consequential that that state legislatures increased the number of presidential primaries from 17 in 1968 to 37 in 1980.”<sup>34</sup> Television shifted political power in the direction of the citizen by removing the party as a middle agent and linking the candidate directly to the people. The candidate now appealed not to his party but directly to society and, as a result, the populace gained greater authority in the very choice of the candidate. The power relationships had once again shifted, moving authority away from the party and towards the individual citizen. If the radio increased the importance of popular opinion, then television granted the populace greater control over the very choice of the president.

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<sup>33</sup> Kraus, Televised, 207

<sup>34</sup> Kraus, Televised, 221

Counterpoint: Technology and Visions of Dystopia

*Technology and an Atomized Society*

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While information is now more available than ever, a certain backlash has occurred due to the subsequent introduction of a possible new means of control. With commonplace adoption of new information sources comes a populace that believes itself to be informed, without recognizing the possible influence of what Ben Bagdikian terms “the media monopoly.”<sup>35</sup> Business clout therefore produces a new social barrier. But the control and biasing of information through media monopolization remain, at worst, a manipulation of existing societal trends facilitated by new technology.

A more disturbing foresight is the possible transformation of society itself in ways that undermine its core values. Jean Elshtain forewarns of an increasingly atomized society – one in which the ease of impersonal communication acts as an inhibitor to the daily personal civil discourse that the American democracy was founded upon. Elshtain exemplifies this trend through the in-home poll, initially hailed as a positive force in universal participation. Telepolling presents an impending crisis, as Elshtain believes that it eliminates the dynamic of face-to-face interaction, and the daily political discourse and debate. Instead of a truly informed public opinion, polls yield the opinion of individuals acting alone based on information garnered from one-way interaction (television or the internet, in the contemporary household).

While appearing democratic on the surface, a distinction must be drawn when “opinion can be registered ritualistically, so there is no need for debate with one’s fellow citizens on substantive questions”.<sup>36</sup> The result is “Plebiscitarianism,” which “is compatible with

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<sup>35</sup> Ben H. Bagdikian, The Media Monopoly (Boston: Beacon Press, 1983)

<sup>36</sup> Jean Bethke Elshtain, Democracy on Trial (New York: Basic Books, 1995) 29.

authoritarian politics carried out under the guise of, or with the connivance of, majority opinion” – something very different from republicanism.<sup>37</sup> In an atomized society, citizens do not interact, thus marginalizing political discourse. Citizens then vote impulsively under the collective influence of the same, centralized information sources. By Elshtain’s account, technology moves people out of city meeting places, which sequesters people within the confines of their homes and decreases the vitality of civil society. While Gary Nash describes urbanization as a crucible of political cohesion and mobilization, Elshtain forewarns that technology potentially incites the opposite phenomenon.<sup>38</sup> It is a vision reflected in John Kasson’s realization of a certain duality in that “new machinery and modes of communication enormously expanded the range of human perceptions, but they also threatened to dull the individual conscience and creative spirit.”<sup>39</sup> Therefore, while technology enhances the apparent role of the individual, his ability to make sound judgment comes under attack.

Historical precedents, however, contradict Elshtain’s atomization theory. We can also note that, following the death of Lincoln, a Mr. Don Avery in rural Pennsylvania waited until church meetings on Sunday to confirm the news, rather than merely accepting what he was told and coming to what would otherwise be a mechanically generated conclusion.<sup>40</sup> Levine and Levine give further examples of the perseverance of community, as “even when people listened alone [to the Fireside Chats], the experience could be a communal one.”<sup>41</sup> College students would walk past cars pulled over with their windows rolled down to hear Roosevelt. Fifteen different public theatres in Philadelphia carried the presidential addresses, and families would

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<sup>37</sup> Elshtain, 29

<sup>38</sup> Gary Nash, The Urban Crucible: Social Change, Political Consciousness, and the Origins of the American Revolution (Cambridge, Massachusetts: Harvard University Press, 1979).

<sup>39</sup> John F. Kasson, Civilizing the Machine: Technology and Republican Values in America, 1776 – 1900 (New York: Grossman Publishers, 1976) xiii.

<sup>40</sup> Brown

<sup>41</sup> Levine and Levine, 21

often gather to listen and react together. More empirically, Sidney Kraus mentions that “studies of the 1960 television debates, for example, suggest that these performances were responsible in the most direct way for lively spates of informal political discussion which undoubtedly would not otherwise have taken place.”<sup>42</sup> Continuity in personal contact and local debate appears unthreatened, and actually enhanced, by communication innovation. The trend therefore should not be seen as an increase in atomized and impulsive decisions, but an increased sense of purpose and agency, and thus, more active civil participation.

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<sup>42</sup> Philip E. Converse, “Information Flow and the Stability of Partisan Attitudes.” Angus Campbell et al, Elections and the Political Order (New York: Wiley, 1966) 154.

## Conclusion

According to John Adams, the foundation of American republicanism rests upon the notion that “liberty and knowledge are inseparable.” When social transformation results from technological innovation, however, debate ensues over the delicate counterbalance between societal benefits and the sobering potential for abuse and misuse. Erik Barnouw states that technology created a “wider dissemination of information and ideas,” but meanwhile “offered new possibilities for the centralization of influence and control.”<sup>43</sup> So which of the two is the prevailing character?

Ben Bagdikian likens the situation to nuclear proliferation, as “the ultimate effect of these new techniques will, like nuclear fission, depend not on any inherent evil or virtue in the physical process itself, but on the morality of the men who use it and the comprehension of its power by those most affected by it. Like nuclear weapons, it will test the ultimate humanism of civilization.”<sup>44</sup> The crux of dispute, then, revolves around which means of use dominates – the socially equalizing or the nefarious. This, however, resembles the longstanding Rousseau-Hobbes dichotomy over the nature of man as either inherently honorable or inherently corrupt, and I must concede that I am in no position to resolve any such debate.

We are left with historical instances in which new options emerged from the introduction of new information technologies, thus augmenting popular consciousness. As technology mitigated physiographic barriers, such as geography and time, and social barriers, such as social class and literacy, the position of the individual, and his ability to participate in national politics and to affect change, improved. In general, information diffusion increased political awareness,

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<sup>43</sup> Erik Barwouw, “Historical Survey of Communications Breakthroughs.” Gerald Benjamin, ed Proceedings of the Academy of Political Science: The Communications Revolution in Politics. 14

<sup>44</sup> Ben H. Bagdikian, The Information Machines: Their Impact on Men and the Media (New York: Harper and Row, 1971) 45.

mobilization, and agency, thus altering the social hierarchy to the advantage of the individual citizen. In addition, it seems reasonable to apply the same dystopic trepidations to the technologies that brought about the historical examples that this argument relies upon. Each brought about a new means of communication that more closely linked different segments of society, but simultaneously opened new possibilities for monopolistic abuse, atomization, and anarchy. And in all cases, the anticipated doomsday of republicanism was averted.

It is difficult to argue with the supposition that knowledge is power; such an axiom is obvious in its legitimacy. The preeminent facet of empowerment is the element of choice. Despite the potential threats posed by technological improvements, dystopic interpretations acknowledge the permanence of choice over the direction in which technology is used. The most reasonable assumption to take from this, then, is that technology has no inherent nature – it is, in itself, neither anathema nor panacea. Returning to Bagdikian’s comparison between nuclear arms and information technology, we quickly note a disparity between the two – whereas the social benefits of information technology easily appear, those of nuclear proliferation are highly questionable. Each might potentially drive its own set of undesirable social changes. If we must, however, we can take comfort in the realization that neither has occurred in the in the 59 years since Hiroshima or the 160 years since Morse’s transmission. Human sovereignty over the nature of the technology-society relationship remains an undeniable certainty.

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