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## **New Voices on the Net?**

### **The Digital Journalism Divide and the Costs of Network Exclusion<sup>1</sup>**

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#### **I. Introduction**

In the information society, diverse communities' capacity to tell their own stories is especially critical. The transformation of the Internet into the key platform for communication and journalism has created the illusion that barriers long faced by people of color in print and broadcast media will melt away. At same time, the election of Obama has created, for some, the illusion that the United States of America has entered a new, 'post-racial' era. However, having a Black man in the White House, however important a sign of progress, cannot alone erase the fact that race, class, and gender all continue to unjustly structure Americans' opportunities in every sphere of life. Race-based exclusion from full access to and participation in both old and new information and communications technologies (ICTs) remains entrenched.

Consider the most recent available U.S. Economic Census data on business ownership: at the time it was conducted, the overall U.S. population was about 13% Black, 13% Latino, 4% Asian and Pacific Islander, 1% American Indian, and 69% non-Hispanic white. However, non-Hispanic whites owned 90% of businesses in nearly every category, including the 'information

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<sup>1</sup> The Costs of Network Exclusion argument presented in this chapter owes a great deal to contributions made by Dr. Rahul Tongia, who is co-author of these thoughts.

industries:’ Radio Stations, TV Stations, and Newspaper Publishing (U.S. Census Bureau, 2006; and see Appendix, Figure 1). Whites continue to own 90% of all businesses, despite the fact that America will be majority ‘minority’ within a single generation (in 2042, according to the latest projections by the U.S. Census Bureau, 2009). Although the lack of diversity in media ownership reflects a wider pattern across all business sectors, the information industries are qualitatively different, and arguably more important, because of the central role they play in our democracy. The media are the soil in which civic discourse takes root, but the media also perpetuate inequality via a lack of representation - or a skewed and inaccurate representation - of the public.

In a provocative article for the *Nation*, written in 2008, Amy Alexander pointed to the continuing weight of race in the practices of American media, at a moment when new digital platforms were burgeoning yet the economy was hitting rock bottom. She wrote that “traditional news-delivery systems, while far from perfect, did provide access and influence to thousands of journalists of color. Yet the massive staff cuts at these traditional media outlets are disproportionately diminishing the ranks of journalists of color” (Alexander, 2008). She described, with cautious optimism, the growth of participation by people of color in the world of online media. We agree that this is a moment of considerable opportunity for people of color to tell their own stories and the stories of their communities, and to be included in the wider discourses of American life. Yet, the continued momentum of institutionally entrenched racism, crashing against the current realities of economic recession, creates serious tensions inside today’s media institutions. There are inclusionary and exclusionary pressures in play, and it is not at all clear which trend will win out. It is clear, however, that the outcome will have deep consequences for the democratic character of American society in the years ahead.

In this chapter, we review data that documents the long-term and persistent exclusion of

people of color in the U.S. from ownership of and employment in the news media. We find that people of color are chronically underrepresented as owners and professional journalists in every major communications platform: newspapers, commercial TV, commercial radio, public TV, public radio, and online. We then turn to the debates over the digital divide, and argue that the ability to participate in content production and distribution is increasingly a question of network access. In this light, we conclude with a reformulation of traditional paradigms for thinking about the 'digital divide,' reversing 'Metcalfe's Law' to concentrate not on the benefits of inclusion, but on the societal costs of consistent network exclusion along race (or other) lines.

## **II. Race, ownership, and employment in the U.S. media industries**

We begin with the by now well supported claim that where people of color own media firms and are employed by them as content producers inside an industry sector or network (network in the broadest sense, not in the narrower sense of a broadcast 'network' like ABC), they are likely to produce more and better content about their communities (Cottle, 2000). Journalists and editors play a special role in such networks – they are not simply members or participants, but they also act as network brokers or intermediaries between the dominant culture and the subaltern or minority culture, as mediated through the networks in which they participate. If people of color do not participate actively or in numbers roughly proportional to their geographic community's demographics (both as individuals, and as sometime brokers or representatives of their communities of racial and ethnic origin), then they, their communities, the quality of public discourse, and the broader public will all suffer. Let us be clear in our assumptions: it is certainly true that good content about diverse communities can be made by talented people of any background (think of the protean writer, director and producer, Norman Lear). Nor do we wish to endorse an essentialist view of racial or ethnic identities as fixed,

singular, homogenous, or static. Yet it is also true that stories told by those who have lived them carry an unmatched power to enlighten and inform. While there is no iron-clad rule that only Black writers write well about Black experiences, nor that minority ownership automatically translates into particular kinds of representation, it remains the case that scholarly research reveals strong correlations between media ownership, hiring practices, and content: media outlets owned or controlled by people of color are more likely to hire a greater number of people of color, and newsrooms with more people of color tend to run more stories about communities of color (Gandy, 1998; Jacobs, 2000).

The extent of minority media power varies across the different media industries and platforms - print, commercial broadcast, public broadcast, and online. In this section, we will explore the ways that ownership and employment of people of color differ between the leading American media institutions. For example, we imagine that people of color should be better represented, in terms of station control and employment, in public broadcasting than in print or in commercial broadcasting, since public broadcasting by nature has greater political oversight and, indeed, has a mandate to reflect racial diversity. We also expect online media to be the most diverse of all.

Just how underrepresented are people of color across the American media? What do the data say about their exclusion from networked communication? And what does this mean for American democracy?

### **A. Print**

The exclusion of people of color from the field of print journalism can only be described as chronic. With rare exceptions, both the numbers and proportions of print journalists of color are

declining, while people of color own just a handful of daily newspapers. Under these conditions, it should not be surprising that mass market newspapers in the United States have never given fair, accurate, or proportional coverage to people of color and their communities (Cottle, 2000; Wilson, 2000; Jacobs, 2000).

The best source of information on minority employment in the newspaper industry is the American Society of Newspaper Editors (ASNE), which has surveyed all U.S. newspapers about the number of women and people of color they employ, and in what jobs, since 1978 (See Appendix, Figure 2). ASNE's 2009 annual report tells us that, while in a more nearly equitable United States, minorities would be over 30% of the newspaper work force, they currently comprise just 13%, and this percentage continues to decrease (ASNE, 2009a). A look inside 'total minority employment' at the separate figures for Asian American, African American, Latino, and Native American newsroom employees tells an even more disturbing tale. There was a slightly rising percentage of Asian American journalists from 2.37% in 2002 to 3.22% in 2008, but this number has now begun to fall (to 3.18% in 2009). Meanwhile, the total number of Asian American newsroom employees peaked in 2007 at 1,764 and by 2009 dropped to 1,466 (out of a total of 46,670 newsroom employees). Black and Native American journalists are declining both in absolute numbers and in terms of their share of newsroom positions: the number of Black newsroom staff fell from a peak of 2,985 in 2005 to 2,412 in 2009, and dropped from 5.51% to 5.17% of all newsroom employees. Native American news staff fell from a peak of 313 in 2004 to 293 in 2009 (or just 0.63% of the total). Latino newsroom employees peaked in 2006 at 2,409, then fell to 2,087 (4.47% of the total) in 2009.

Perhaps the situation looks bad in this moment of crisis, but is improving over time? Over the long run, the percent minority employment is indeed trending upward, from about 4% in

1978 to about 13.5% today. However, long term, incremental gains in minority newspaper employment took 30 years to move just 10%, or about 3.3% per decade. It also must be noted that minority newspaper employment rates have begun to slip *downward* since their peak in 2006. The U.S. Census reports that "minorities, now roughly one-third of the U.S. population, are expected to become the majority in 2042, with the nation projected to be 54 percent minority in 2050" (U.S. Census, 2008). If the current rates of change hold, then by 2040 the newspaper work force will barely reach 25% minority employment against a 50% minority general population. ASNE President Charlotte Hall put it best: "The loss of journalists is a loss for democracy. The loss of people of color from our newsrooms is especially disturbing because our future depends on our ability to serve multicultural audiences" (ASNE, 2009b).

In terms of ownership, the most complete source of national statistics on newspaper publishers, the US Economic Census, tells us that 93.5% of newspaper owners are white, 3.2% Asian, 2.4% Black, 1.6% Hispanic, and 1% American Indian (Beresteanu and Ellickson, 2007). Sadly, against a general background of declining newspaper circulation, revenue, and employment, racial and gender diversity remain a distant ideal in the newspaper world.

It might be expected that the Old Boys' networks dominate print, the oldest form of media. How do commercial broadcast television and radio compare?

## **B. Commercial Broadcasters**

Our aim here is not to delve into the complex analysis of how commercial broadcast media appropriate representations of people of color and circulate them transnationally (Gray, 2005). We assign ourselves the much more mundane task of examining race based inequality in ownership of and employment in commercial radio and TV. A recent study of Federal

Communications Commission (FCC) data commissioned by the media policy advocacy group Free Press reveals that while people of color make up more than a third of the U.S. population, they own less than 8% of radio stations and only about 3% of TV stations (Turner and Cooper, 2007). Another study by one of the same authors notes that minority ownership of full-power commercial broadcast stations, both radio and television, was all but eliminated following the 1996 Telecommunication Act, which relaxed media consolidation limits (Turner, 2007). They also found that between 2006 and 2007, “African American-owned full power commercial TV stations decreased by nearly 60 percent, from 19 to 8, or from 1.4 percent to 0.6 percent of all stations,” and that “Latinos comprise 15 percent of the entire U.S. population, but only own a total of 17 stations, or 1.25 percent of all stations” (Turner and Cooper, 2007).

Another study, commissioned by the FCC, examined ownership data from 2002-2005. The authors found that, in 2005, minorities owned just 379 out of 14,015 radio stations and just 17 out of 1,778 television stations. In other words, the study found that people of color owned less than 3% of radio and less than 1% of TV broadcast licenses (Beresteanu and Ellickson, 2007; and see Appendix, Figure 3). National Telecommunications and Information Administration (NTIA) reports between 1990 and 1999 demonstrate that over the long run, ownership has stagnated: minorities held 2.9% of broadcast licenses in 1990, 3.0% in 1994, and 2.9% in 1998 (NTIA, 2000a). The Census Bureau’s 2002 Survey of Business Owners found that, of 20,093 non-internet Broadcasting firms, 16,698 were White owned, 1,219 were Hispanic or Latino owned, 1,207 were Black owned, 677 were Asian owned, just 123 were American Indian or Alaska Native owned, and *none* were owned by a Native Hawaiian or Other Pacific Islander (U.S. Census Bureau, 2006).

Employment diversity in commercial broadcasting is much closer to parity than ownership,

but still lacking. Data from the Radio-Television News Directors Association (RTNDA) show a slow increase from a 17% minority TV workforce in 1995 to about 24% in 2008, but during the same time period a decline in the radio workforce from 15% to 12% people of color (Papper, 2008). If we zoom out to a longer view, once again we find that the employment rates for people of color in commercial broadcasting do not even keep pace with changing demographics (Papper, 2008; and see Appendix, Figure 4). In sum, commercial broadcasters are certainly more diverse than newspapers, but they continue to systematically exclude people of color.

What of public broadcasters? Surely we can expect to find minority station control and employment diversity in public radio and television. After all, these are the media institutions explicitly charged with the mandate to inform, educate, and reflect the full diversity of ideas of the American people.

### **C. Public Broadcasters**

The Corporation for Public Broadcasting (CPB) designates a station ‘minority-controlled’ if “at least 50% of its full-time employees and 50 percent of its governing board are members of minority racial or ethnic groups” (CPB, 2007). Although it is a simplification, here we will take minority station control to be analogous to ownership in the commercial sector. In 2008, public radio had 71 minority controlled stations: 29 African American, 28 Native American, 10 Hispanic, and 4 Multicultural, out of about 700 public radio stations. This means that roughly 10% of public radio stations were minority controlled, far more than in the commercial radio sector but far less than demographic parity. Public TV, meanwhile, had just 6 minority-controlled stations (1 African American, 1 Hispanic, 1 Asian Pacific Islander, and 3 Multicultural) out of a total of 356, or about 1.7%. As we expected, people of color have a

greater ownership stake in our public broadcasting system than in commercial broadcasting, but there is still a long way to go.

The CPB has collected data on minority employment in public radio and television since 1978. These records mostly show a slow and steady increase in minority employment from 1978 (12.6% in radio, 13.9% in TV) to about 1998 (19.6% in radio, 18.8% in TV). This was followed by stagnation for most of the last decade, with the 2008 CPB report finding public radio minority employment at 19.8% and public TV minority employment at 19.4% (See Appendix, Figure 5). Inside the national public broadcasting organizations (CPB, PBS, and NPR), minorities are 29.8% of employees, a proportion that comes closer to parity with the general population than in any other sector of the media system (CPB, 2009).

Overall, then, public radio and TV stations do a better job of employee diversity than newspapers or commercial radio broadcasters, and are more or less on par with commercial television broadcasters. Nationwide, the management of the public broadcasting system better reflects the diversity of the American people than any other part of the media sector. However, people of color occupy only two thirds of the positions in local public broadcasting stations that they would were these stations to reflect the general population. If public broadcasters do not begin to increase minority employment and retention rates, they will fall further and further behind the nation's changing demographics. Given the ownership and employment situation, it is little surprise that public media content, while improving, still fails to reflect diverse racial and ethnic experiences and attract diverse audiences.

Now we turn to the innovative field of online media. If the boosters of digital diversity are correct, then the explosion of online content should take us beyond the outdated limitations of minority ownership and employment in legacy media. Since anyone can start their own blog, the

old problems of scarcity - limited spectrum, limited channels - should be over, and everyone's voice should have an equal chance to be heard.

#### **D. Digital Diversity?**

The first challenge to understanding diversity in online journalism is simply to describe what is happening with a fast-moving target like 'online journalism.' Of course the Internet is more accessible than any other medium, in the sense that the barriers to entry (setting up a blog or web page) are very low and anyone can "broadcast" whatever they like (we will return to questions of general internet access inequality in the following section). However, if we continue to focus on questions of ownership and employment diversity - for example, on who owns online publishing and broadcasting firms, or who makes a living creating online content - the evidence brings us back to the reality of racial disparity. The forces of structural racism that work to keep people of color underrepresented as owners and employees in the print, commercial broadcasting, and public media sectors, unsurprisingly, continue to operate in the relatively new field of online journalism.

That is not to say that new online media and journalism outlets provide no opportunities for people of color. Quite the contrary: the 2009 ASNE report, for example, counted online journalists employed by newspapers and found that nearly 19.6% were people of color (ASNE, 2009). By that measure, there is greater employment diversity in full-time online journalism than in print, but less than in broadcast TV. Another indicator of potential diversity among budding online journalists can be found in research revealing that people of color who are online are more likely to blog, have their own website, and have a digital video camera than non-Hispanic whites, across all age groups (Korzenny & Korzenny, 2008). On the other hand, few would argue with

the statement that online news is presently dominated by white, male, middle-class voices. We do not have a gold standard data source for Internet news diversity, but anecdotal evidence abounds: what proportion of ‘A-list’ political bloggers are people of color? Women of color? Or check <http://technorati.com/pop/blogs>; how many of the top 100 are not written by white males?

Several empirical studies support this anecdotal evidence; for example, a 2004 Pew survey noted that 77% of online content creators were white (Lenhart, Horrigan, and Fallows 2004). The U.S. Census Bureau (2006) found that people of color owned only 1,243 out of 12,158 (about 10.2%) of firms categorized as “Internet publishing and broadcasting.” The vast majority of these were single person businesses (reporting no employees); of the 1,770 internet publishing and broadcasting firms reporting employees, Whites owned 1,369 while people of color owned 125, or just 7% (U.S. Census Bureau, 2006). The same report found about 40,000 employees of Internet publishing and broadcasting, with fewer than 660 employed at minority-owned firms (Ibid.) Whites also owned 39,160 out of 46,859 firms categorized as “Internet service providers, web search portals, and data processing services.” The American Community Survey (2007) examines more recent employee data and also finds an almost two to one gender disparity in this sector. More recent data, from the U.S. Economic Census’ 2007 Survey of Business Owners, is not yet available but should be released in mid 2010.

We have demonstrated long term racial inequality in ownership and employment across every major media platform. Although ownership and employment in professional online journalism remains understudied, available evidence strongly suggests that the diversity metrics in this area are much like those in public radio: better than most of the media industry, but still far from parity with the nation’s population. People of color are severely underrepresented as owners of and paid reporters for online news firms. If the long term rate of change in this sector

mirrors that of any other part of our media system, online journalism will never reach full racial parity without a major intervention that breaks the norms of business as usual.

However, we would be remiss to conclude our discussion of online journalism here. Focusing only on incorporated firms and professional (employed) online journalists would fail to engage one of the most important transformations of the media sector: the explosion of popular participation in the production and circulation of online news. Whether framed as citizen's media (Rodriguez, 2001), citizen journalism (Outing, 2005; Burns, 2008; Rosen, 2008), grassroots media (Gillmor, 2006), participatory news (Deuze, Bruns, & Neuberger, 2007), mass self communication (Castells, 2007), user generated content (van Dijk, 2009; Thurman, 2008), free labor for the cultural economy (Terranova, 2004), or in any other terms, it is undeniable that nonprofessionals are participating on a vast scale in the production of online news and journalism. This activity, and its potential as a site for a radical shift toward the inclusion of voices of people of color, cannot be captured by statistics based on formal business ownership or paid employment. Instead, we must return to the debates over who, exactly, gets to participate in digital networks.

### **III. The Digital Divide and the Cost of Network Exclusion**

In the early years of the information revolution, Internet access inequality was framed by policymakers in terms of a growing digital divide, both domestically and internationally (NTIA, 1998, 1999). During this time, a few scholars focused attention on the relationship between race and internet access (Hoffman and Novak, 1998). However, the debate was largely drowned out by what appeared, at first blush, to be the steady diffusion of networked communication technology to all populations across lines of race, class, gender, and geography. Undeniably, the

Internet and mobile phones gained massive uptake in the first decade of the new millennium. In developed countries (OECD), for example, higher penetration rates have shifted the Internet user base from a highly educated, mostly male and young demographic, to one that now includes the majority of the population of the G-8 countries. A majority (greater than 50%) of women and people of color in all advanced economies became internet users. What looked like a closing gap between information haves and have-nots in the advanced economies found its parallel in transnational comparative perspective as computer use in developing countries soared. Indeed, Internet use in developing countries accelerated so rapidly that some believed the North-South gap might be closing as well. For example, in China the internet usage rate jumped from 1.7% to 19.0% between 2000 and 2008; in Brazil, the same rate climbed from 2.9% in 2000 to 35.2% in 2008 (ITU, 2008). The unprecedented rate of diffusion of mobile phones also raised hopes for an additional path to equitable network connectivity. For example, India jumped from 1.2% mobile penetration in 2002 to 20% in 2007 and is now adding between 7 and 9 million new subscriptions per month (ITU, 2008), and most African countries - long plagued by the lowest levels of ICT connectivity in the world - also displayed robust mobile growth.

Furthermore, the near-simultaneous collapse of the computer industry and the telecommunications industry at the start of the decade drowned a great deal of analytical attention to and policy regarding the topic. To non-experts in government and among funding agencies, the subject of the digital divide seemed to become less pressing than before. The domestic debate over the divide was further buried when the Bush Administration replaced the term 'digital divide' with 'digital inclusion,' published reports emphasizing how many Americans were online rather than how many were excluded, cut funds for programs aiming to increase Internet access among underserved populations, slashed community technology center

funding, and even deactivated the website [digitaldivide.gov](http://digitaldivide.gov) (Jaeger, et. al., 2005). Sensing the shift in the wind, industry support for digital divide research dried up, and innovations in industry increasingly focused on skimming the cream from wealthier markets and specialized products. This is not to say that moves away from the term were entirely ideologically driven. During the same time period, scholarly work emerged that questioned the original concept of a binary ‘divide;’ emphasized the multidimensional nature of ICT access, appropriation, and use; and argued that the notion of ‘divide’ was inherently misleading (DiMaggio and Hargittai, 2001). Scholars emphasized the need to reframe the digital divide as a complex phenomenon in which access to hardware and applications play an important role, but so do access to financial resources, knowledge, social networks, and formal Internet training (Norris, 2001; Warschauer, 2004; Wilson, Best, and Kleine, 2005). In light of these shifts, techno-determinist arguments were resurgent. Much of the popular press, and many policymakers, either ignored digital access inequality or assumed that the market left to its own devices would, in time, provide universal Internet access across the country and around the globe.

### **Access inequality, remixed?**

With the historic election of Obama to the presidency, coupled with the global financial collapse, a paradoxical paradigm shift took place. On the one hand, some imagined that Obama’s election ushered in a new, post-racial polity; at the same time, the massive failure of the financial markets and their regulators signaled a new willingness to discuss the possibility that markets, left to their own devices, do not necessarily produce optimal outcomes. In this context, it has become possible to ask again, as a matter of public policy, how people of color might be disproportionately impacted by the lack of oversight in areas like housing, health, and even

Internet access. In the academy and beyond, the broader question of global equality and inequality has once again returned full force. Issues of global wealth inequality, raised most dramatically at the turn of the millennium by the global justice movement, have been taken up by authors like Joseph Stiglitz (2002), David Held, and Ayse Kaya (2007), who point to evidence of growing inequality both within and between countries. Once-socialist economies like India and China have seen tremendous growth in GDP as they sprint up the capitalist road, but at the cost of spiraling income inequality where wealth distribution was formerly more egalitarian. Other scholars point to inter-country inequality, as between Africa at one extreme and North America on the other. These claims have been met by counterclaims that use other metrics to find decreasing inequality, or little change at all (Dowrick & Akmal, 2005). The point is that economic asymmetries are again, appropriately, on the intellectual and policy agenda. As before, it remains an empirical question to what extent these gaps are fed by ICTs – and to what extent they in turn feed ICT access gaps.

In the U.S., the most recent and extensive survey by the National Telecommunications and Information Administration (2010) finds continued growth in broadband access for all groups, with 68.7% of all households having computers and internet connections, and 63.5% with broadband connections at home. However, broadband access continues to be stratified by race, with 66% of White (Non-Hispanic) and 67% of Asian persons reporting broadband at home, compared to 46% of Black, 43% of American Indian, and 40% of Hispanic persons (see Appendix, Figure 6). The study also found that 84% of college-educated people above the age of 25 had broadband in the home, compared to just 28% of those with no high school diploma. The widest gap was based on family income: persons in households making under \$15,000 per year (in other words, homes supported by those with minimum wage or less-than-minimum wage

jobs, the underemployed, or the unemployed) reported just 29% broadband at home, compared to 70% of households making above \$50,000, 85% of those making above \$100,000, and 89% of those with incomes above \$150,000. In other words, middle class and upper middle class households are twice or even three times as likely to have broadband access as working poor households (Horrigan, 2008; NTIA, 2010).

Global figures of Internet inequality are much more stark. In 2008, the number of Internet users increased to about 1.5 billion, but this is still only about a quarter of the world's population. International Telecommunications Union (ITU) data show just 5.3% of the world's population with broadband subscriptions, and in 2007 "just over 10 percent of the world's population in developing countries were using the Internet, compared to close to 60 percent in the developed world" (ITU, 2008). Unsurprisingly, broadband Internet is concentrated almost exclusively in the world's wealthiest countries, or in the hands of local elites in major urban areas in middle income and poor countries. For example, the African continent has just 0.2 broadband subscribers per 100 people, compared to 3.4 in Asia, 4.2 in Brazil, 14 in the EU, and 21 in the USA (Ibid.). Developed countries are not immune to concerns about global network disparity: even the U.S. laments its steady fall in OECD measures of broadband access, from 4<sup>th</sup> to 15<sup>th</sup> in the world (OECD, 2009).

In addition, while basic access to computers and the Internet is widespread, if unequal, people's degree and kind of usage continues to be structured along existing lines of social inequality. Upper middle class kids tend to feel more empowered to engage in discourse and debate, and we know that race, class, and gender shape young people's use of the Internet in important ways (Hargittai, 2007; and see chapters by boyd and by Hargittai, this volume). Many have come to refer to these differences as the *participation gap* (Jenkins, 2006). The evidence is

fairly clear that basic access to a digital platform does not automatically result in one's becoming a content producer. We also know that corporate and state actors use complex data mining techniques to 'race' web users (Gandy, this volume). In the field of digital news, this 'informationalization of race' (Chow-White, 2008) may modify web users' Internet experience, as sites feed them different stories, advertisements, and links based on the location they have been assigned in a presumptive identity matrix. In addition, terms like 'access' and 'participation' are a constantly moving frontier because of technological innovation. At the turn of the last century, few imagined that having a telephone in the home was an essential public service. By 1950, household access to a telephone was considered a necessity for modern living, and the definition of 'access' changed accordingly. Public service commissions for cities, states and countries promulgated new regulations to make this once-new technological device commonplace. Today, the meaning of an 'essential service' is still defined in part by the technological frontier, and more and more voices insist that to be truly connected today, consumers and citizens must have 'access' to broadband. Since that is hardly the case in many parts of the world, the matter of network inclusion and exclusion again comes to the fore, in a kind of continuing fugue of technology and human 'necessity.'

In sum, then, the new digital media, while in many ways far more open than print and broadcast media, also continue to reflect structural access inequalities and to be marked by systematic network exclusion as well as by participation gaps along race, class, and gender lines, both domestically and internationally. What does pervasive network exclusion along race (or any other) lines mean for the future of U.S. democracy? In the following section, we draw on work by Wilson and Tongia in order to reframe the discussion about the 'digital divide' in terms of the formal costs of network exclusion.

### **Wilson-Tongia formulation**

The cost of excluding people of color from both legacy and new media networks can be evaluated by both inclusion and exclusion based models. Scholarly work on network structure and value tends to focus on the positive values associated with network inclusion. Perhaps the greatest, most cited example of a model of network inclusion is Metcalfe's Law. In contemporary discourse on the value of communication networks, Metcalfe's Law has become synonymous with connectivity, stating that as more people join a network, the value they add to the network increases exponentially, i.e., the value of the network is proportional to the square number of users. The underlying mathematics for Metcalfe's law is based on pairwise connections (e.g. telephony). If there are four people with telephones in a network, there could be a total of  $3 + 2 + 1 = 6$  links. The full math for Metcalfe's reasoning leads to the sum of all possible pairings between nodes, so the value of the network size  $n$  is  $\frac{(n)(n-1)}{2}$  which is often simplified as approaching  $n^2$ . With this model, one can evaluate the per-person value of inclusion in a network.

If we know the value of a network as per Metcalfe's Law, assuming each member is equal (a simplification that is likely to be untrue, but that is a matter for another text), we can calculate the value of inclusion per person. But what of the excluded? Intuitively, as a network grows in size and value, those outside the network face growing disparities. How do we measure these disparities? Using an inclusion-based model, one might decide that the cost of exclusion is simply the difference between the outsiders' value (=0) and the per person value of those included. For example, if Metcalfe's Law has a value approximating  $n^2$ , the per person value of inclusion simply approaches  $(n^2)/n = n$ . Thus, exclusion would lead to a disparity of  $n$  based on

the size of the network, which is the difference between the per person value of those inside ( $=n$ ) and those outside ( $=0$ ).

What inclusion-based models fail to capture, however, is that any network is of a finite size - if not in theory, then in practice. For example, if we state that our network size is 19, Metcalfe's Law finds a value proportional to  $19^2 = 361$ , and a per person included value of  $\sim 19$ . Thus, the cost of exclusion from our network with  $n=19$  is also 19 (the difference between 19 and zero, which is the value assigned to those not in the network). This formulation for calculating the cost of exclusion indicates the same cost regardless of whether the applicable population universe is 20 people or 200 people. However, the cost of exclusion should certainly be different if we have only one excluded person or 181! Therefore, we posit that the cost of exclusion should depend on the number (and/or proportion) of people excluded as well as the size of the network.

And so, we refer to the Wilson-Tongia formulation, which makes the costs of exclusion endogenous by taking the number of people excluded into account in the formulation:

<b>Equation 1:</b>	Existing Exclusion cost (i.e., disparity) formulations = per person included value	$\frac{[Network\ Value\ as\ per\ any\ Law]}{Members\ in\ the\ Network\ (=n)}$
<b>Equation 2:</b>	Proposed Exclusion Cost formulation = total network value divided by number of people excluded	$\frac{[Network\ Value\ as\ per\ any\ Law]}{Members\ outside\ the\ Network\ (=N - n)}$ <p style="text-align: center;">(Where N = total applicable population)</p>
<b>Inclusion-based Framing</b>		
<b>Exclusion-based Framing</b>		

If we compare the inclusion-based framing to the exclusion-based framing, the ratio of these two

formulations is the same for any network law, and equal to  $\frac{n}{N-n}$  where  $n$  is the people in the network, and  $N$  is the total applicable population size. We can recognize that this ratio is growing, and inclusion and exclusion formulations crossover (are equal) only at  $n = (0.5)(N)$ . This means that the costs as calculated by exclusion-based formulations become higher as a network (e.g., technology adoption) reaches half of the population (Tongia & Wilson, under review).

In other words, the greater the proportion of people in a population included within and enjoying the benefits of a network, the more quickly the costs of exclusion grow for those excluded from that network. The costs to those who are already in the network of excluding others from the network can also be calculated in this way. A critical issue before us is under what conditions, or in what sequence, do the costs of exclusion become most severe to the excluded (and how might we demonstrate the costs to the included)?

Wilson and Tongia have shown that the severity of exclusion costs shift depending in part on the proportion of the population included and excluded; on the differential quality of the 'new' network; and on the availability and relative quality of other networks (Tongia & Wilson, under review). Inclusion and exclusion based framings are similar in value up to a point – roughly half the population. *It is precisely when only a minority of the population is not in the network that the costs of exclusion rise dramatically.* When only a few people are members of a network, the exclusion is spread out amongst the majority of the population but the *advantage* is held by only a few. Once a network includes the majority of the population, the *disadvantage* is held only by a few. In logical terms, for  $n < 0.5N$ , the included have an advantage they share, while for  $n > 0.5N$ , the excluded have a disadvantage they share. In such a formulation, the lowest disparity between frameworks is when  $n = 0.5N$ . When only a small fraction of the

population is in the network, the median person in the population is excluded. Hence, inclusion is the exception, and not the norm. When the majority of the population is in the network, exclusion is the exception, and not the norm (Tongia & Wilson, under review).

This has profound implications for how we understand diversity and race-based exclusion in both legacy and new media networks. Globally, twice as many people on earth are excluded from the Internet as are included: 4+ billion versus 2 billion. Thus, worldwide, Internet access is an advantage held by a few. Domestically, however, Internet penetration has reached 70-75%, with broadband Internet penetration above 60% (NTIA, 2010). Internet access, and specifically broadband connectivity in the home, has thus moved from a competitive advantage to a competitive necessity. Furthermore, as more and more people move from dial-up to broadband, websites increasingly incorporate rich media content; data transfer during a given browsing session thus increases dramatically. Dial-up users have to wait longer and longer for page loads, rendering them worse off in an absolute sense, not just a relative sense, compared to broadband users (Tongia & Wilson, under review). The costs of network exclusion – the disadvantages already faced by those excluded from the network (primarily people of color and low income people) - will only continue to rise.

We have tried, briefly, to reframe the question of the digital divide around a new model of the costs of network exclusion within a single network scenario. In reality, network inclusion and exclusion is far more complex. Manuel Castells, in his latest book, draws our attention to the power that privileged information intermediaries wield in the network society, either by operating within a single network or as agents who switch network flows (including news or other information) between complementary networks (Castells, 2009). Our aim has simply been to frame the issues of racial exclusion, diversity, and the digital divide in network terms; we

believe in this way they gain analytic depth and introduce a set of concepts and theories not typically included in these discussions. This is a small step in trying to open up the discourse. We encourage scholars, policymakers, and activists to focus greater attention on how all forms of network exclusion impose increasing costs both on the excluded and on those inside the network.

#### IV. Conclusions

We began this chapter by examining the undeniable evidence that people of color remain excluded from ownership and employment across all aspects of our media system. Our key findings are summarized in the following table:

#### Media Ownership and Employment Diversity Across Platforms

<b>Platform</b>	<b>Ownership (% people of color)</b>
online	? (10.2% all firms / 7.1% firms with employees) <sup>1</sup>
public radio	10% <sup>2</sup>
print	8.3% <sup>1</sup>
commercial radio	2.7% <sup>3</sup>
public tv	1.7% <sup>2</sup>
commercial tv	0.96% <sup>3</sup>
<b>Platform</b>	<b>Employment (% people of color)</b>
national public broadcasting	29.8% <sup>2</sup>
commercial tv	23.6% <sup>4</sup>
public radio	19.8% <sup>2</sup>
online	? (19.6% of online newspaper staff) <sup>1</sup>
public tv	19.4% <sup>2</sup>
print	13.4% <sup>5</sup>
commercial radio	11.8% <sup>4</sup>

Sources: 1. U.S. Census Bureau, 2006; 2. CPB, 2009; 3. FCC (In Beresteanu & Ellickson, 2007); 4. RTNDA (In Papper, 2008); 5. ASNE, 2009a.

In terms of media ownership diversity, we found that both commercial and public television have the lowest rates of control by people of color (1% and 2%, respectively), while print (8%) and public radio (10%) have the highest rates, with inconclusive data about online media (but online news ownership by people of color may be similar to public radio at 7-10%). Employment figures showed the national public broadcasting organizations substantially ahead of everyone else (29%), followed by commercial TV (24%), public radio (20%), and public TV (19%). Online media employment metrics are spotty, but one indicator suggests that about 20% of online news employees are people of color, while print (13%) and commercial radio (8%) are last in line. Thus, despite slow, long-term progress, our media system remains largely unreflective of the diversity of our body politic. To put it bluntly: America will be majority 'minority' within a generation, but at this rate, the American mediascape will never look like the American public.

We have a plethora of new media platforms and endlessly proliferating applications, but the hard fact remains: an increasingly multiracial and multicultural society requires not only multiple channels, but truly diverse ownership, employment, participation, and content. The new media tools are full of potential for diverse voices to be heard, but the realization of this potential will be neither easy nor automatic. Access inequalities still prohibit many sectors of the population from participating, including many people of color. Information industry insiders are tempted to rely on their existing social networks to recruit talent, and outsiders are likely to become cynical or discouraged. To be fully connected increasingly requires broadband access, and therefore disparities in broadband network access will become increasingly problematic in the U.S. as penetration passes 50% in most parts of the country. As the Wilson-Tongia

formulation demonstrates, the costs of network exclusion increase as networks grow to include more than 50% of the population. These costs are not trivial, and they continue to rise as more and more essential services for citizenship - including the tools for media discourse - migrate from the traditional world of 'brick and mortar' to the online universe.

To realize the promises and reap the benefits of a deepened democracy hinted at in Obama's election, we badly need to transform our media system to better reflect the diversity of our society and polity. We need an 'information revolution' that is not merely technical and commercial, but that also brings more and more people greater opportunities to create their own stories and gain access to the information they need to lead fuller, more meaningful and productive lives as citizens of multiple communities. One can easily embrace the slogan "change we can believe in," but how can we believe in a media system that so consistently fails to reflect the changes in who we really are as a people? The costs of continued exclusion will be borne most heavily by the excluded, who are most likely to be people of color and low income people. Yet all of us suffer if the stories of the least powerful and the least visible of our citizens are excluded from the national discourse. American democracy can only reach its full potential when all people have their voices heard and their full creativity acknowledged.

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## Appendix

**Figure 1: Business Ownership by Race and Ethnicity**

NAICS	Name	Percent				
		Hispanic	White	Black	AmInd	Asian
22	Utilities	0.85	96.79	1.13	0.89	1.44
23	Construction	3.57	97.15	1.24	0.68	1.04
31-33	Manufacturing	3.57	94.57	0.72	0.48	4.09
42	Wholesale Trade	3.84	91.40	0.60	0.25	7.57
44-45	Retail Trade	3.60	89.55	1.22	0.42	8.58
48-49	Transportation & Warehousing	5.60	94.07	2.99	0.54	2.10
51	Information	2.82	93.04	2.07	0.40	4.33
515112	Radio Stations	3.71	93.29	4.35	0.17	2.27
515120	TV Stations	6.04	89.11	4.89	0.00	6.03
511110	Newspaper Publishers	1.58	93.50	2.44	1.00	3.24
52	Finance and Insurance	3.03	95.39	1.70	0.38	2.54
53	Real Estate, Rental, Leasing	2.40	94.90	1.04	0.26	3.56
54	Prof., Scientific, Tech. Svcs.	2.77	93.57	1.57	0.47	4.29
55	Mgmt. of Companies					
56	Admin. Support & Waste	1.36	95.74	1.03	0.38	2.76
	Mgmt. & Remediation Svcs.	5.50	93.27	3.38	0.63	2.61
61	Educational Services	3.55	90.60	3.10	0.65	5.25
62	Health Care & Social Assist.	4.14	85.88	4.14	0.44	9.20
71	Arts, Entertainment, Recreation	2.13	95.13	2.33	0.34	2.069
81	Other Services (except public)	5.11	89.07	2.28	0.45	8.16
	All Non-Farm Businesses	3.85	91.32	1.82	0.47	6.21

Source: 2002 US Economic Census, cited in Beresteanu and Ellickson, 2007

**Figure 2: Minority employment in daily newspapers, 1978-2009**

Minority employment in daily newspapers Projections based on responses to annual employment census (numbers rounded)			
	Total Work Force	Minorities In Work Force	% Minorities In Work Force
1978	43,000	1,700	3.95
1979	45,000	1,900	4.22
1980	47,000	2,300	4.89
1981	45,500	2,400	5.27
1982	49,000	2,700	5.51
1983	50,000	2,800	5.60
1984	50,400	2,900	5.75
1985	53,800	3,100	5.76
1986	54,000	3,400	6.30
1987	54,700	3,600	6.56
1988	55,300	3,900	7.02
1989	56,200	4,200	7.54
1990	56,900	4,500	7.86
1991	55,700	4,900	8.72
1992	54,500	5,100	9.39
1993	53,600	5,500	10.25
1994	53,700	5,600	10.49
1995	53,800	5,900	10.91
1996	55,000	6,100	11.02
1997	54,000	6,100	11.35
1998	54,700	6,300	11.46
1999	55,100	6,400	11.55
2000	56,200	6,700	11.85
2001	56,400	6,600	11.64
2002	54,400	6,600	12.07
2003	54,700	6,900	12.53
2004	54,200	7,000	12.95
2005	54,100	7,300	13.42
2006	53,600	7,400	13.73
2007	55,000	7,400	13.43
2008	52,600	7,100	13.52
2009	46,700	6,300	13.41

Source: ASNE, 2010

**Figure 3: Media Ownership by Race and Gender (FCC Data)**

Year	Platform	Number of stations	Female owned	Minority owned	% Female owned	% Minority owned
2002	Radio	13,662	407	377	2.98	2.76
	TV	1,739	27	20	1.55	1.15
2003	Radio	13,696	382	391	2.79	2.85
	TV	1,749	28	16	1.60	0.91
2004	Radio	13,696	393	372	2.87	2.72
	TV	1,758	27	17	1.54	0.97
2005	Radio	14,015	384	379	2.74	2.70
	TV	1,778	27	17	1.52	0.96

Source: FCC data, cited in Beresteanu and Ellickson, 2007

**Figure 4: Broadcast News Work Force**

Broadcast News Television Workforce, 1995-2008

	2008	2007	2006	2005	2000	1995
Caucasian	76.3%	78.5%	77.8%	78.8%	79.0%	82.9%
African American	10.1	10.1	9.5	10.3	11.0	10.1
Hispanic	10.3	8.7	9.6	8.7	7.0	4.2
Asian American	2.7	2.3	2.7	1.9	3.0	2.2
Native American	0.5	0.4	0.5	0.3	<1.0	0.6

Broadcast News Radio Workforce, 1995-2008

	2008	2007	2006	2005	2000	1995
Caucasian	88.2%	93.8%	93.6%	92.1%	90%	85.3%
African American	7.8	3.3	2.5	0.7	5	5.7
Hispanic	3.6	0.7	1.9	6.0	3	7.5
Asian American	0.4	1.1	1.8	0.7	1	0.6
Native American	0	1.1	0.2	0.5	1	1.0

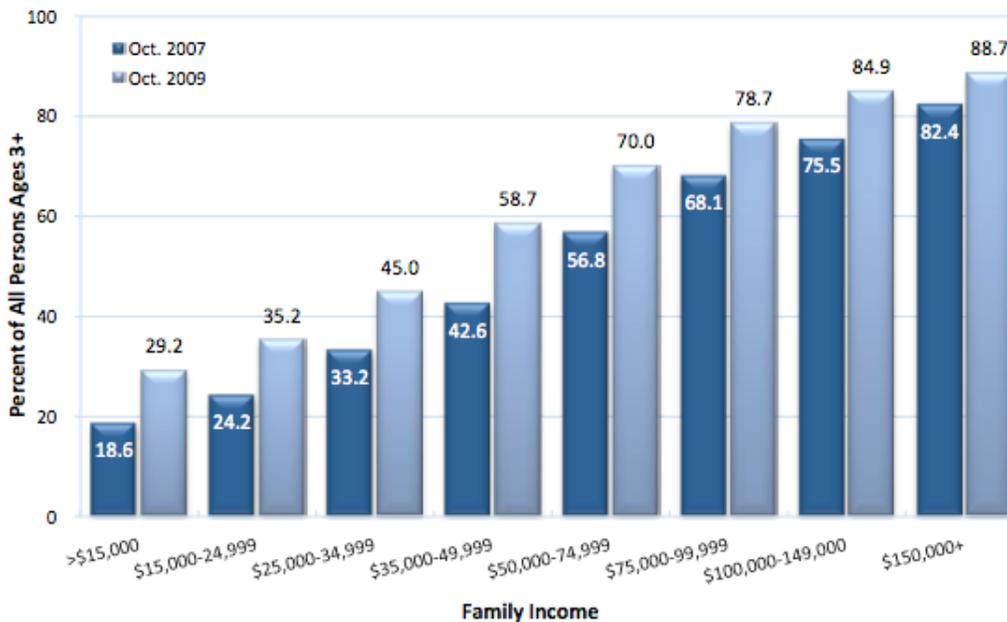
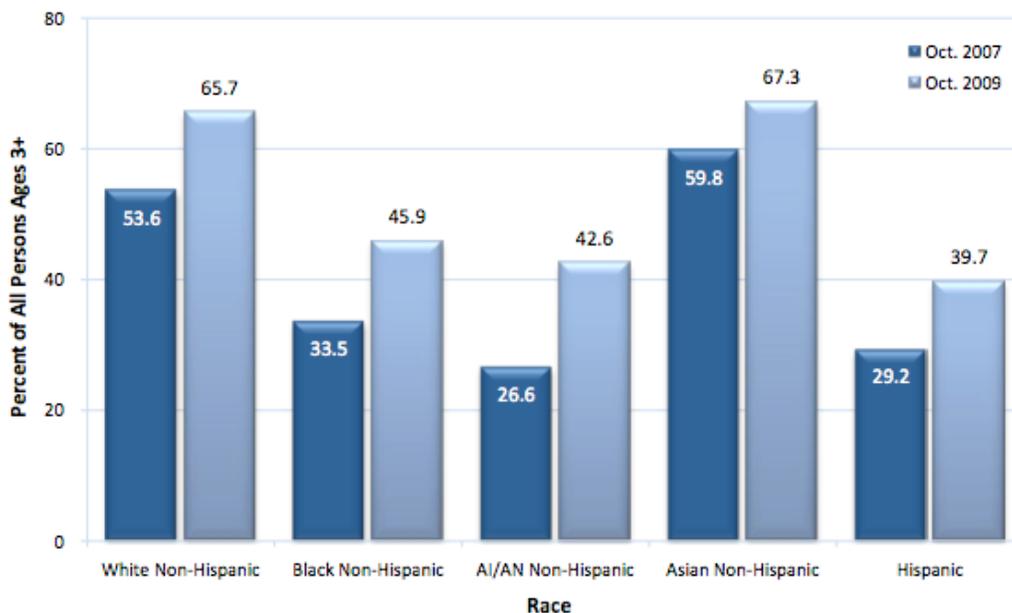
Source: RTNDA, 2008

**Figure 5: Public Broadcaster Station Employment 1978-2008**

Percent public radio minority employment	Percent public TV minority employment
1978: 12.6	1978: 13.9
1998: 19.6	1998: 18.8
2006: 20.4	2006: 18.7
2007: 19.9	2007: 19.2
2008: 19.8	2008: 19.4

Sources: CPB reports to Congress 1978-2008

**Figure 6: Persons using Broadband in the home, 2007-2009**



Source: NTIA, 2010