
Captions On, Off, on TV, Online: Accessibility and Search Engine Optimization in Online Closed Captioning

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Abstract

This article considers the current state of closed captioning for online videos, in the U.S. context. As media access is foundational to cultural citizenship, captions and similar accessibility features are essential to forming an inclusive participatory culture, online and off. Drawing on the history of television closed captioning and theatrical film captioning, it argues that captions and deafness have long been associated with the private, complicating their advancement under civil rights laws concerned with the public sphere and facilitating advancement through telecommunications laws and notions of consumer choice. This article cautions that such neoliberal solutions cannot be relied on to meet the needs—and civil rights—of deaf and hard-of-hearing Americans, and might in fact damage the coalitional identity politics on which civil rights for people with disabilities depend, unless such politics can be reinvigorated through emphasis on unification around shared goals.

Keywords

broadcasting, cultural citizenship, digital divide, disability, internet, participation

In celebration of the 70th anniversary of *The Wizard of Oz* (1939), Netflix announced that it would stream the film online, for free, on October 3, 2009. As a promotion of Netflix's streaming services, a new addition to its mail order DVD rental business, it

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was a bold move. An unexpected effect, however, was the outrage among deaf¹ and hard-of-hearing Americans, who protested the streaming video's lack of accessibility,² as it did not support any form of captioning. The National Association of the Deaf and spokesperson Marlee Matlin spread word of this decision, and NAD supporters sent thousands of letters and emails in the months before the free stream. Whether due to a lack of brains, heart, or courage, Netflix did not respond to this push for captioned streaming content.

Many advocates made the simple point that the film had been available on DVD, with closed captions, for years; the transition to a new media platform did not seem to justify the elimination of a feature on which many people relied. Yet, it was precisely this shift in media distribution technology that excluded deaf and hard-of-hearing Americans from Netflix's online videos. Though captions were possible—and in limited use—on Hulu.com's streaming content, Netflix's choice of streaming software (Microsoft Silverlight) did not support captions at that point in time.³ Earlier in 2009, Netflix attempted to explain why captions would not be available for roughly another year, as they needed "to figure out how to let individual viewers turn them on and off" (Hunt 2009). Though Netflix has implemented closed captioning in subsequent years, only 30% of its library is currently available with captions, with hopes to extend that number to 80% by the end of 2011 (Hunt 2011).

The case of Netflix, *The Wizard of Oz*, and the activism of deaf and hard-of-hearing Americans tells a familiar story. Having either neglected these audiences or dismissed them as too small to be of commercial importance, Netflix implemented an inaccessible technology. They faced criticism, then overhauled that technology to meet some of the needs of those who demanded captions, though it still has not reached parity with the services offered to hearing customers. This cycle, in which inaccessible technology is met with critique and then overhauled, has been critiqued for its redundancy and expense, both of which could be avoided if the needs of people with disabilities had been taken into account from the beginning of product development.⁴ The repetition of this cycle in new media and technologies indicates a pervasive unwillingness to consider people with disabilities as a central audience, or public, with a right to media access and choice. In addition, it indicates that the lessons of disability and accessibility do not automatically move forward with technological development; the Federal Communication Commission (FCC) has mandated closed-captioning of televised programs since 2006, but streaming video and related forms of multimedia web and mobile content emerged with no attention to captioning in either its technological or legal contexts.

In this article, I illustrate the tensions in the development of policies and technologies for online captioning in the United States, including disability civil rights, the public and private spheres, and the centrality of text-based search to our experiences of the internet. This article follows a number of critical disability studies historians in

highlighting the place of disability in existing histories (Longmore and Goldberger 2000) by foregrounding captioning in U.S. communications policies. Drawing on policy documents, press coverage, and a range of scholarship from disability and internet studies, as well as the history of closed captioning in film and television in the United States, I argue that the current growth of online captions, largely motivated by the neoliberal business imperatives of the contemporary digital media industry, offers to greatly expand the possibilities of participation for deaf and hard-of-hearing Americans, but also threatens to occur in their name while ignoring their specific needs and potentially damaging the coalitional politics that gave rise to the civil rights of people with disabilities.

Research on online captioning and other forms of accessibility expands work on media access, which has often focused on access to the means of production, the visibility of representations of particular identity groups, or socioeconomic conditions that prohibit access to media hardware or services. All of these strands rely on the premise that media can construct the cultural values and ideologies that will shape political action. The ability to participate culturally and civically is closely tied to the ability to use—consume, watch, make sense of—one's surrounding media environment. Without the tools, accommodations, or policies that enable people with disabilities to use media, people with disabilities are only partially invited to participate in a kind of semiotic democracy (Fiske 1987, 236) that informs the formation of political and cultural identities (Hartley 1999, 159). Furthermore, insofar as identities as media consumers may translate into citizen identities,⁵ the literal inability of some audiences to access media excludes them from notions of citizenship within a mediated public sphere in which political knowledge and participation increasingly occur through mediated forms (Hartley 1996). Media, including online media, play an important role in the creation of civic cultures through which individuals come to understand themselves as members of an identity group, nation, or international sphere and take political action (Dahlgren 2005; 2010). Crucially, this is as true of entertainment media as it is of news or educational media; popular texts connect the political to the narrative, or experiential, making political matters relevant to the audience and providing them the means by which to work through thorny political problems (Jones 2004; Zoonen 2004).

In addition to facilitating the formation of national political identities (Hartley 1999; Scannell 1989), online media in particular offer a space for the formation of supranational political publics capable of considering global challenges (Dahlgren 2005; Papacharissi 2002), such as pollution or human rights. As the ability to access a global media sphere is crucial to the integration of people with disabilities as members of increasingly networked cultural, economic, and political spheres, it is imperative to consider the intricacies of accessibility at the levels of national, international, industrial, and voluntary policies. Nationally, in the United States, captioning has been

regulated at the national level through civil rights and telecommunications laws. Internationally, the World Wide Web Consortium (W3C) publishes voluntary guidelines, which have been taken up as the basis of law to various degrees in several countries, the UN Convention on the Rights of Persons with Disabilities declares that barriers should be identified and reduced in all information and communication services, and the European Union expects to release a European Accessibility Act by the end of 2012. Industrially, the decisions of online giants such as Google can be seen as neoliberal policies, governmentality exercised on populations “through market imperatives” rather than at the level of the body (Grantham and Miller 2010, 175). By shaping norms of corporate behavior and consumer expectations outside of explicit political processes, industry decisions create the context in which national and international policies emerge. Finally, in terms of voluntary policy compliance, web developers and other content producers may choose to adhere to community standards, ethics, and accepted behaviors that in the case of elite web developers favor standards-compliant, accessible code (Kennedy 2010).

Often, these four levels of policy are tightly interwoven. Legal policy in one country may lead to the uptake of compliant industrial policies, the formation of similar policies in other nations, and increased voluntary uptake of accessible web development; the coming regulation of online companies operating in Ontario may have such an effect, as all companies with offices there may have to comply with accessibility law and thus shift their broader operations in favor of compliance (J. Clark, personal communication, 19 April 2011). This article highlights these intersections, complicating knowledge of digital media policy and refuting any lingering claims about a lawless, open online world.

Finally, media access and the policies through which it is, or is not, assured are of particular importance given contemporary theories of participatory culture in which digital media have been celebrated for breaking down distinctions between production and consumption, professional and amateur, cultural and political (Bruns 2008; Jenkins 2006). Despite potential benefits in such a culture, this transformational potential relies on access to technology. Without interrogating the role of ability in conferring such access on some, but not all, internet users, disability will persist as one of several possible “black holes of social exclusion” (Castells 2004, 68) both globally and within theorizations of digital media. Without questioning the policies surrounding access, online media is granted agency and its effects treated as inevitable. To take seriously the importance of cultural and political participation, online or off, requires attention to questions of access, identity, and civil rights, particularly in a political context in which neoliberalism remains in effect and global corporations exert significant influence on the possibilities and limitations of individuals’ media use and production.

I begin with an overview of the telecommunications and civil rights laws that govern the captioning of audiovisual media, highlighting the coalitional politics of the

disability rights movement. I then examine television and film captions in relation to the public sphere, civil rights, and spatial metaphors of the internet. Having established the historical trajectory, I turn to current online captioning initiatives. These projects have numerous goals, including the production of metadata for search engine optimization, and they do not clearly serve the needs of deaf and hard-of-hearing audiences. In fact, the neoliberalism inherent in allowing media access to be governed by the actions of corporations means that these initiatives may in fact threaten the coalitional politics that are central to disability civil rights.

Civil Rights and Telecommunications Law

Legally, online captioning is bundled with a host of other web accessibility concerns, including code elements, alternatives to mouse use, and aids for blind users. Only federal agencies and contractors covered by Section 508 of the Rehabilitation Act of 1973 (as amended in 1998) are explicitly required to provide captioned web video (U.S. Code 29 794d (1998) § 1194.22). The limited scope of Section 508 rests uneasily alongside persistent questions regarding the applicability of the Americans with Disabilities Act (ADA, 1990) to the internet.

The ADA adopted a civil rights framework to disability, prohibiting various forms of discrimination on the basis of disability and requiring the provision of necessary accommodations. In doing so, it upheld the coalitional identity politics of a disability rights movement that had been active since the 1970s. Like women's movements, the disability rights movement relied on consciousness raising in which individuals recognized themselves as part of a larger oppressed group, and began to take political action in order to address that oppression (Charlton 115). In the case of disability, sometimes the only shared characteristic was an experience of stigmatization on the basis of non-normative bodies (Garland Thomson 1997, 15), necessitating a coalitional model of civil rights activism.

This model was perhaps first seen in 1977's Section 504 sit-ins, across the country. Section 504 of the Rehabilitation Act of 1973 marked the first guarantee of civil rights to people with disabilities, but this policy was not enforced, leading most famously to a 60-day occupation of government buildings in San Francisco by disability rights protestors (Jaeger and Bowman 2008, 41). These sit-ins have been considered a turning point for the disability rights movement and the utility of the rights-based approach to disability policy because of the unification around "disability" rather than specific medical conditions, because of the coalitions with other social justice organizations, and because of its success in fostering a positive disability-based identity (Longmore 2000, 109-10). This coalitional identity enabled a rights-based politics that would increasingly characterize legal approaches to disability, most notably the ADA.

The potential applicability of the ADA to the internet arises from Title II, which requires government entities to provide "effective communication," and Title III,

which requires that places of “public accommodation” be accessible. Title II, applying to federal, state, and local government entities, would broaden the scope of accessible governmental online content beyond those entities covered by Section 508; however, the only enforcement mechanism of Title II is the right of a government employee or someone seeking services to sue, which has not proven sufficient to lead to broad compliance. Regarding Title III, which would apply beyond the government sector, a 1996 letter from the Department of Justice Civil Rights Division to Senator Tom Harkin (D-IA) indicated that the ADA should be interpreted to apply to covered the online activities of places of public accommodation (Patrick 1996). To date, this interpretation has not been tested in court. Civil rights lawsuits are the primary enforcement mechanism of the ADA, and those suits that have been brought are notable for their failure to set binding precedent regarding the ADA and the internet. *National Federation of the Blind vs. America Online (AOL)* (1999) was settled out of court when AOL agreed to make its services accessible to blind and visually impaired customers and, more recently, *National Federation of the Blind, National Federation of the Blind of California and Bruce F. Sexton vs. Target Corporation* (2007) was settled out of court when Target agreed to increase its accessibility and to pay court fees for the plaintiffs.

As much as the civil rights context of online captioning and other forms of web accessibility remains murky, the applicability of civil rights measures to film and television is partial at best. The first captioning requirements came with the ADA, which required that federally produced public service announcements be closed captioned. This provision did not mandate the degree of captioning that would ensure equality of media access; although 300 hours of broadcast and cable programs were captioned in 1988 (Strauss 2006, 219), this represented only a fraction of the television week, and despite growth, only 5% to 10% of cable programming was captioned by 1993 (Strauss 2006, 219). Without legal mandates for full captions, it is doubtful that deaf audiences’ access to television would allow them status as full cultural and political participants in society. Notably, however, the ADA did even less to ensure equality of media access for other types of disability; no effort was made to regulate the provision of audio description of television for blind and visually impaired audiences, for instance. Given the coalitional politics of disability civil rights, provisions to guarantee accessible media ought to span the accessibility needs of a range of constituencies; the practical and political difficulty of doing so may have led to relatively little movement on even relatively straightforward measures such as captioning.

Instead of moving through civil rights law, closed captioning grew through the Telecommunications Act of 1996, which mandated that all new video programs aired by television video programming providers (networks, cable operators) be captioned by the year 2006, with exemptions for content for which captioning would prove an undue burden. This section of the Telecommunications Act does not use the words “deaf” or “disability,” indicating its attempt to regulate captioning per se rather than take a broader stance on media accessibility for people with disabilities and its connection to civil rights and coalitional politics. In addition, it regulated manufacturers and

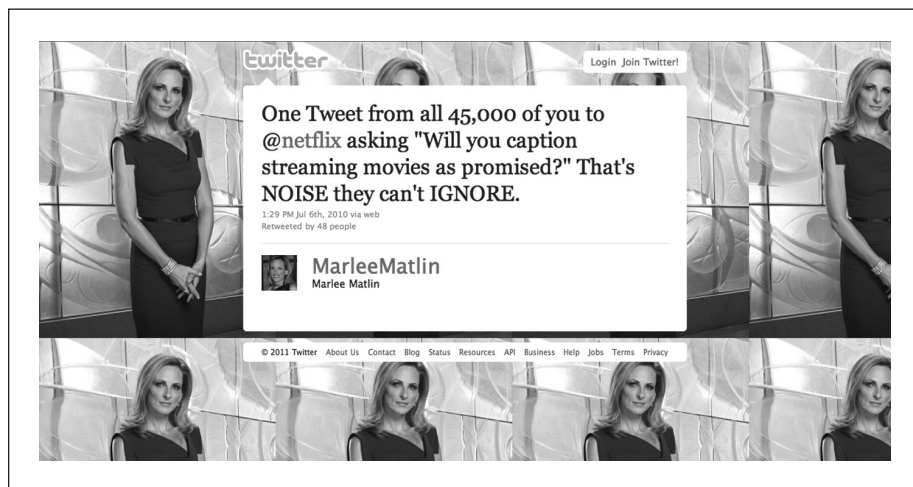


Figure 1. A representative tweet from Matlin, targeting Netflix

producers directly, with the FCC responsible for enforcement and no individual rights to sue.

Recently, however, captioning has reemerged as a matter of civil rights. Samuel Bagenstos, principal deputy assistant attorney general for civil rights at the Department of Justice, testified in the House of Representatives in 2010, stating that captioning and other forms of “access to the internet and emerging technologies is not simply a technical matter, but a fundamental issue of civil rights” (2010, 1). Then, on July 26, 2010, the twentieth anniversary of the ADA, the Department of Justice issued two Advanced Notices of Proposed Rulemaking (ANPRM). The first regarded potentially requiring closed captioning and audio description in movie theaters to aid deaf and blind audiences, respectively (Federal Register 2010-18335). The second was issued “in order to establish requirements for making the goods, services, facilities, privileges, accommodations, or advantages offered by public accommodations via the Internet, specifically at sites on the World Wide Web (Web), accessible to individuals with disabilities” (Federal Register 2010-18334 p 43460). The very first comment received from the public on the latter was, “I wish to see Netflix and Hulu to be fully captioned” (Mounts 2010).

A significant number of comments not only requested captioning but explicitly mentioned sites and services that provide entertainment content online. Given these comments, and the *Wizard of Oz* incident, it appears that captioning of multimedia entertainment content is of particular importance to deaf and hard-of-hearing Americans. Many complaints in the ANPRM comments recall advocate Marlee Matlin’s many Twitter posts over the past years, many of which explicitly name services, as seen in Figure 1. This push on the part of citizens and activists reaffirms the necessity of access to entertainment content as a component of full media access, which in turn

underlies full cultural and political participation. If media access and choice are important to the formation of identity and enactment of politics, accessibility must not be understood as a special provision, or a consumer option, but as a service that is fundamental to the civil rights of people with disabilities.

Although these developments suggest an interest in regulating online captioning and accessibility through civil rights measures, the expansion in the quantity of online captions looks likely to occur, once again, through telecommunications law. Just as “closed captions were not widely embraced by television producers nor audiences until they became required by law” (Ellis and Kent 2010, 138), online captions must have the force of law behind them in order to ensure their existence, quality, and availability for those who need them (Clark 2008), and those laws may regulate industry directly. Described in FCC Chairman Julius Genachowski’s statement as “the most significant disability law in two decades” (Genachowski 2010), the 21st Century Communications and Video Accessibility Act of 2010 (21CCVAA), was signed on October 21, 2010. Among other provisions, this law will require all television content produced with captions to retain them when distributed or streamed online and require mobile devices to develop support for closed-captioned video. Rep. Ed Markey (D-MA), a co-sponsor of the House legislation, wrote:

This comprehensive new legislation will update U.S. Communications law to ensure that people with disabilities can fully participate in—and contribute to—the virtual, texting, Skypeing, messaging, digital world we live in today (2010).

This expansion of access to digital and networked technologies met with broad support. The National Association of the Deaf and other member organizations of the Coalition of Organizations for Accessible Technology praised the passage of the legislation and thanked their members for their activism and support, and Matlin shared the news with her Twitter followers (Matlin 2010). Even industry representatives issued positive responses, rather than issuing warnings about rising costs or decreased innovation (Dudley 2010; Kirkpatrick 2010).

Such support of a law that is nearly guaranteed to increase costs and require significant work on the part of the government and the media and technology industries may seem surprising. But online, the specific structures and needs of digital media contribute to an environment in which captions are particularly valuable. Although television closed captions proved beneficial for audiences beyond the deaf and hard-of-hearing, including immigrants, children (Downey, 2008), and viewers of “ambient televisions” (McCarthy 2001), captions did not directly benefit television networks or producers. Film captions, similarly, look likely to entail significant expense on the part of theaters and studios, with financial benefits recouped only through slightly expanded audience numbers. Online, however, textual information drives search engines and classification schemes, structuring the very possibilities of the web. Captions, a textualization of video content, thus offer to become a jackpot of data that could enrich private

companies, become the basis on which advertising is sold, and further shape the kinds of content and experiences users encounter online.

This suggests that even as state measures regarding captioning grow, they do so in an environment fundamentally shaped by a neoliberal context in which the internet is a source of profit and a site of consumer choices. Insofar as the internet is a kind of public sphere, it is a commercialized one in which democratic behaviors exist alongside corporatized uses. Particularly as the internet is international, governed by international organizations in a neocorporatist model (McLaughlin and Pickard 2005), the actions of industry can exert as much, if not more, influence as national legal policy. If industry acts in ways that favor privatization, individualism, and consumer choice, its products must be questioned in terms of their larger effects on public goods, collectivism, and civic values (Giroux 2011).

The next section explores the relationship between closed captioning and disability in the public and private spheres. These concepts, and their spatialized metaphors, become intertwined online and potentially bring civil rights into ever more direct confrontation with neoliberal imperatives.

Captions at Home and in Public

Although film, television, and online captions are regulated quite differently, conceptions of the public and private spheres have played an important role in all three arenas. Historical treatment of disability has been focused on the individual and the private sphere, largely because of the invisibility of disability in public spaces that were not accessible. Looking at the history of film and television captioning in relation to the divide between public and private suggests that these historical assumptions about the spaces of disability continue to shape accessibility policies, particularly as they align with neoliberal imperatives regarding individualism.

The aborted test cases of Title III of the ADA demonstrate two metaphors for online accessibility, those of *mass media communication* and those of *place*. In the case of AOL, its online articles, links, and multimedia features are suggestive of mass media, while its interactive chat features and the prevalence of spatial metaphors in online contexts (Nakamura) suggest that it is a place, a destination. In the case of Target, its website may be easily compared to the experience of shopping via catalog (mass media) or in a physical store (place). These mixed metaphors trouble the translation of the ADA to the online world. The accessibility of mass media was only briefly touched on in the ADA, and has elsewhere been regulated in the piecemeal fashion described above, with media such as print and radio almost entirely unregulated. In contrast, the accessibility of the built environment, of places, was central to the ADA, making the spatial metaphor perhaps more powerful. Places of public accommodation listed in the ADA's definition included hotels, restaurants, places of exhibition, retail establishments, and service establishments such as banks or pharmacies, among other venues (U.S. Code 42 [1990], §12181). This would seem to indicate that an online retailer

could be required to make their online presence accessible, just as they have been required to include ramps and elevators in physical stores, drawing on a metaphor of place. However, embrace of a spatial metaphor brings with it challenges of its own.

Put simply, the inclusion of websites as *places of public* accommodation troubles the easy, and historically prevalent, associations of disability with the private sphere and privatized spaces. People with disabilities were historically absent from conceptions of the public sphere, due to the isolation of “shut-ins” in private homes, “invalids” at home or in hospitals, and institutionalized populations of the nineteenth and early twentieth centuries. Even public streets themselves excluded disability through the enactment of “ugly laws,” which barred the display of disability, diseases, or deformities in U.S. cities during the nineteenth and twentieth centuries (Schweik 2009, 3). These laws targeted begging, one of very few economic activities available to people with disabilities, furthering their dependence on family, state, and institutions and further removing them from standards of liberal, individual citizenship (Garland Thomson 1997, 47). Veterans were a notable exception, as their military service indicated their past standing as proper citizens, and their needs were among the first to be legally addressed (Jaeger and Bowman 2008, 32). Other people with disabilities, however, came to be associated with domesticity and, often, femininity, as they were excluded from the workforce, often home bound, under the care of female relatives or medical professionals, and conceptualized as deficient. Charity and medical models of disability, which understand disability as a private tragedy to be addressed through the charity of others and individualized medical treatment,⁶ worked to maintain the associations of disability with the private, often casting people with disabilities as pitiable patients set apart from the work, school, and other public contexts of American citizenship.

The private nature of disability in cultural attitudes matched nicely the idea of television as a domestic medium, integrated into the decor, family life, and cultural practices of midcentury American homes (Spigel 1992),⁷ facilitating the spread of televisual closed captioning. The first television captions in the United States were open captions produced by WGBH in the 1970s, explicitly as part of the public broadcasting station’s public service mission. This recalls a tradition of interpreting the public service mission as necessitating service to underserved populations (Aufderheide 1991). Such a civically-minded approach to captioning did not last, however, as the National Captioning Institute undertook closed captioning in the 1980s only when networks, or their advertisers, paid for the service, leading to slow growth. Later, the ADA mandated captioning of public service announcements, and the Telecommunications Act of 1996 mandated that all new programs be captioned by 2006; in both cases, *closed* captions were preferred. Closed captions, optional and invisible to those not seeking them out, acted as a private solution to the problems of disability, drawing on and perpetuating notions of disability as a private concern, with private solutions.

The private nature of television closed captioning led disability to remain conceptualized as an individual concern in relation to media, and to remain easily ignored by mainstream culture, technological innovation, and conceptions of the public. Closed captioning was, simply, a private option. Contrarily, the culture surrounding theatrical

film is largely public and shared, which worked against the integration of captioning. Rather than making closed captioning available as an optional component of mainstream programming, as in the case of television, film captioning has been undertaken under the auspices of separate and often educational institutions.

Though silent films were popular with deaf audiences, the introduction of sound posed a challenge (Downey 2008; Schuchman 1988). Following its inception at deaf educational institutions, the Captioned Films for the Deaf Program, which acquired film rights, provided open captioning (which is always visible) and distributed films to deaf schools and organizations, was made part of the Department of Health, Education, and Welfare in 1958. Its mission was to provide “enriched educational and cultural experiences through which deaf persons can be brought into better touch with the realities of their environment” (Public Law 85-905 [1958]). CFD moved to the Bureau of Education for the Handicapped in 1966 (renamed as Media Services and Captioned Films), and the first lesson guides were released in 1968 (Anon. 1977). Captioned films have been explicitly tied to educational goals, setting deaf Americans apart from a culture in which filmgoing was a public form of entertainment.

Although the ADA included places of exhibition in its list of public accommodations, it clarified that “movie theaters are not required to present open captioned films” (56 Fed Reg 35567 July 36, 1991). Thus, movie theaters were given a loophole; while some theaters provide special screenings that include open captioning, most do not. Currently, *Arizona ex rel. Goddard v. Harkins Amusement Centers* is moving through the courts, arguing that the ADA requires the provision of *closed* captioning options,⁸ with the exemption only applying to always-visible open captions. This claim, echoed in the film ANPRM mentioned above, has met with opposition from citizens who fear that such measures will ruin the filmgoing experience for hearing audiences. Some comments on the ANPRM assume that the rulemaking would require all films to display open captions at all times; a misapprehension, but an understandable one given the viewer’s likely experience with foreign-language subtitles and lack of experience with closed captions that can be turned on or off. Viewing a film with a subtitle or caption track does seem to be a different experience visually and semiotically than viewing without a track. Antje Ascheid suggests that “subtitling as a practice alters the nature of the medium into a hybrid form . . . adding the activity of reading to the cinematic experience” (1997, 33). She suggests that the addition of reading results in a degradation of the identification between spectator and screen, fundamentally altering the film.

In this fundamental transformation of the film-going experience, we may have found the key to understanding why film captions have lagged behind television closed captioning. Seeing a movie in a theater has been constructed as a fundamentally shared, mass, and public form of media consumption (Gomery 1992). Far from the domesticity of television, the theater is a public space that has not historically welcomed people with disabilities (as seen in the retro-fitting of many older theaters to comply with the ADA through the addition of elevators or ramps). In addition, films in mass theatrical release no longer include newsreels, and include

relatively few educational or documentary films. Popular film is largely understood as a realm of art or entertainment, not of information. The cinematic experience—public, shared, and pleasurable—worked against the implementation of captioning in any form.

In looking to television and film, it is clear that notions of the public and private spheres, public and private places, and assumptions about disability have affected the regulation and implementation of captions, and thus, potentially, the ability of deaf and hard-of-hearing Americans to take up positions as citizens in a mediated democracy. Online, the distinction between public and private is more difficult to make, because of the blending of public and private in its spatial metaphors. Websites are most often accessed by individuals acting alone, and often from private spaces. There is no sense that internet use is a public experience, such as seeing a film in a theater, but neither is it understood as solely domestic or private, like television viewing. Online, places of public accommodation are both public and private, both spaces and mass media, and the provision of accessible content falls into a complicated web of civil rights and telecommunications law, neoliberal corporate practices, and tensions among individual, market, and social benefits.

The Search for Captioning's Future

Although the national legal policies described above will undoubtedly shape the future of online captioning, so will corporate products and their nonprofit competitors. YouTube launched a pilot program to autocaption streaming videos in late 2009, and the Participatory Culture Foundation introduced the alpha version of its Universal Subtitles program in April 2010. Both projects attempted to simplify the process by which captions are added to digital video formats, but neither had the semiotic enfranchisement of deaf and hard-of-hearing users as its only goal. YouTube trumpeted that it was “making video accessible everywhere (web, mobile, TV) and to everyone (other countries, languages, alternative access modes)” (YouTube 2009). Universal Subtitles listed accessibility for deaf audiences as one benefit in its Frequently Asked Questions, alongside translation and the benefits of search engine optimization for video producers (Universal Subtitles n.d.). Thus, online captioning is caught up in debates about search algorithms, metadata, translation, and the ability of computers to “understand” multimedia content. I turn now to the specifics of this online context, and then address the nature of the neoliberal governance exercised by these and other online captioning initiatives.

Search engines increasingly define users' experiences of the internet, a common one-stop shop for finding information, entertainment, or other content. As John Battelle has argued, “search has become a universally understood method of navigating our information universe” (2005, 4) and it appears that Google in particular has come to dominate many Americans' use of the web (Vaidhyathan 2011). Increasingly, that which can be found via web search has come to stand in for that which is available, as search engines operate as a default portal through which we seek answers, access known content, and encounter the unexpected. Search engines “play a central

role in corralling and controlling” information (Halavais 2008, 1), but they are often trusted and accepted as neutral gateways rather than deeply understood or interrogated in light of their growing power.

Furthermore, companies in the search business rely on their ability to index and deliver information as a foundation for many other businesses, such as advertising, email, web video, document authoring, and other fields. In order to improve search results, thus building a customer base and providing additional added value in these secondary markets, search engines appear to be increasingly interested in harnessing the culturally or linguistically specific meanings of language. This recalls what Tim Berners-Lee has long called the “semantic web,” in which the Web’s ability to “understand” meaning grows exponentially, allowing for a more intuitive and less machine-driven mode of interaction with the web (Berners-Lee 1999). The semantic web would arise from the use of metadata—descriptive information about information—through which computers could learn to process relations between concepts and act in ways that respect those meaningful connections rather than relying on atomistic search terms (Berners-Lee 1999, 185). Siva Vaidhyanathan argues that this is the motivation of the Google Books project, which “wants to collect enough examples of grammar and diction in enough languages from enough places to generate the algorithms that can conduct natural-language searches” (2011, 23). Captions could easily become another source of such linguistic information, as they provide textualization of spoken language.

In addition, while text-based search works fairly well, search engines have no reliable means of accessing the meanings of images, videos, or audio files. Currently, in order to index and retrieve such information, search engines rely on metadata, which in turn must be produced by page authors who know the content “inside” of those multimedia containers. In a confluence of web accessibility and the need for metadata that elucidates multimedia content, the tags used to “read” images to blind and visually impaired users (<alt text>) are also used by search engines to index those images. These tags contain “alternative text,” a textual description of the image. The double utility of alternate text or long descriptions led usability expert Jakob Nielsen to claim that “search engines are essentially blind users” (1999, 303). Such a statement, however, conflates the limitations of search engines with sensory impairments at the expense of lived experiences of disability, enabling accessibility to serve as a route to success in the search market rather than as a means of meeting people’s needs. Coverage of accessibility in the field of search engine optimization continues to make this argument (Robertson 2010), embracing a neoliberal drive for profit that ignores the public interest at stake in media access.

Thus, it is crucial to consider to what degree online captioning will serve deaf and hard-of-hearing populations, and to what degree accessibility is serving as an “assistive pretext” to the development of online captions (Mills 2010, 39), shaping early implementations only to be later forgotten in favor of more commercially attractive uses of this technology. YouTube’s captioning innovations are particularly susceptible to this inquiry, being wholly owned by Google, and relying on Google Voice technology to transcribe audio content to text. Certainly, auto-captioning, implemented on a

large scale would be a goldmine of possible metadata. The largest obstacle to the success of this project is the unreliability of computerized speech-to-text technology. As an early example, a clip of PBS documentary *This Emotional Life*, watched with auto-captions on in November 2009, captioned "Asperger's syndrome" as "Mister Gerson." In early 2010, *PCWorld* evaluated the YouTube automated captions as "reasonably accurate, albeit with a few glitches" (Bertolucci 2010); of course, the perspective on these mistakes varies depending on the necessity of the caption track to one's understanding of the video's content, as seen in Figure 2.

An additional use of automated captions will be the automated translation and subtitling of online video in a foreign language. Here, it becomes important to note the differences between captions for the deaf (intralingual subtitles), which retain language but change format, and interlingual subtitles that are a form of translation between languages (De Linde and Kay 1999). Most importantly, an interlingual subtitled film does not textually indicate all ambient noises, whereas a film captioned for the deaf must translate all audio elements to text. The W3C explicitly differentiates captions for accessibility from subtitles, stating that captions "are similar to dialogue-only subtitles except captions convey not only the content of spoken dialogue, but also equivalents for non-dialogue audio information needed to understand the program content, including sound effects, music, laughter, speaker identification and location" (Caldwell et al. 2008). The auto-captions and even the user-generated captions supported by YouTube/Google and Universal Subtitles are thus, perhaps, not true intralingual subtitles (captions); they rarely include these nonverbal components, and in fact Universal Subtitles does not yet offer the capability of including such material. Thus, visual cues, movements, expressions, and sounds that add to the tone or plot may be left out of online captioning, leaving deaf and hard-of-hearing users with a somewhat impoverished version of the original.

Similarly, the interlingual subtitles created by automatically translating caption tracks are far from ideal. The text uploaded as a caption file, or created through Google Voice, is the same transcript that is used to automatically translate the video's content and produce interlingual subtitles. Translation, and the improvement of autotranslation to handle idioms, idiosyncracies, and natural language patterns, is a major goal for search engines and other online services looking to expand their global reach. However, Google's automated translation in search has shown mixed results in the fidelity and utility of translation. Google's translation services have been online since 2007, and an analysis of its results finds disintegration in the quality of search results with each automated translation of the query (Savoy and Dolamic 2009). Thus, it seems likely that translations produced from automatic captions will, at least in the near future, offer similarly mixed results. Furthermore, reliance on transcription for translation, though expedient, also threatens to perpetuate numerous imbalances of power along linguistic and ability lines. In the first case, direct translation of transcription elides the figures of speech, nuances, and questions of tone that are often so important to foreign-language translations of films and other media (Nornes 1999). And given the dominance of English on the web, automatic translations may reflect



Figure 2. Consecutive screengrabs from YouTube's "How to Caption" video, showing a poor autotranslation

this by working from English as a default, just as cinematic subtitles could be seen to reflect existing linguistic power imbalances (Shochat and Stam 1985).

The growth of online captioning outside of U.S. legal policy and in the service of metadata and translation, as well as deaf and hard-of-hearing audiences, demonstrates the neoliberal construction of the internet not as a democratic public sphere but as a privatized, market-driven space in which corporations take on roles otherwise filled by the state. Neither deaf nor international audiences are being well served by these error-ridden translations, but the production of some textualized content is better than having none for Google's corporate purposes. Insofar as projects such as YouTube's autocaptioning become *de facto* standards in this arena, they appear to do so at the expense of the public interest in media access, removing accessibility from a political context in which it can be contested as a matter of civil rights.

The rights of people with disabilities, a coalitional group with diverse needs, are ostensibly protected by the state; the enactment and enforcement of access measures through telecommunications law and corporate actions indicates an embrace of a neoliberal framework in which people with disabilities must act as "consumer-citizens" (Goggin and Newell 2003, 54), advocating on behalf of their civil rights by presenting themselves as consumers with rights to particular treatment by corporations.⁹ This neoliberal citizen-consumer is not fully one or the other, neither entirely a democratic animal nor a passive beneficiary of the economy. Rather, these are entrepreneurs of the self, described by Foucault in the early days of neoliberal policy; each individual produces himself or herself, consumption leading to the production of individual satisfaction (Foucault 2008, 226). The production of self through consumption is only possible in a thoroughly commodified culture typical of neoliberal societies, in which

there was an increased emphasis on individual solutions to socially produced problems, while at the same time market relations and the commanding institutions of capital were divorced from matters of politics, ethics, and responsibility. In these circumstances, notions of the public good, community, and the obligations of citizenship were replaced by the overburdened demands of individual responsibility and an utterly privatized ideal of freedom. (Giroux 2011, 9)

Concepts such as the public good, community, and citizenship are closely related to notions of equality. Without a framework such as this, neoliberal stabs at equality resemble the YouTube captioning project; this project is possibly well-intentioned and even capable of producing positive effects, but is also driven by corporate interest in profit and largely unaccountable to those it claims to serve.

This suggests that there is an inevitable conflict between neoliberal forms of governance, as seen in online captioning initiatives, and the coalitional forms of identity politics that have been central to the civil rights of people with disabilities. Individualization, privatization, and market segmentation are neoliberal values that may, in some cases, lead to improved access for some people with disabilities. They do not, however, encourage collective organizing, nor do they serve the public. Thus, we must ask what public values are eroded when neoliberal market-based solutions to

problems of media equality become standardized alongside legal approaches, and how we might preserve them.

Multiple Audiences and the Value of Coalitional Identity Politics

The benefits to search engines and other online businesses explored in the last section indicate that the needs of deaf and hard-of-hearing viewers are not necessarily the primary audience for online captioning, and may not be the primary beneficiaries; however, this does not mean that there are no benefits. The expansion of online captions may very well open doors for deaf and hard-of-hearing Americans, enabling greater self-representation, access to mainstream and user-generated media, and advancing media equity. These changes may be small in scale, or gradual, but it is encouraging to see increased attention to captions and accessibility in a variety of media in recent years. In fact, I share with Katie Ellis and Mike Kent a cautious optimism that “standards and accessibility will become increasingly important to the mainstream” (2010, 142) as mobile, gestural, and other interfaces reshape the embodied relationships between humans and networked technology.

The notion that accessible design may benefit the mainstream is known as “universal design.” Proponents of universal design argue that by beginning with the needs of people with disabilities during the design of new products and services, better results will be achieved for the population at large. This is also sometimes described as “universal usability,” in which there is a “focus on designing products so that they are usable by *the widest range* of people operating in the widest range of situations as is commercially practical (Vanderheiden 2000). From this perspective, the multiple benefits of online captioning may be a feature, rather than a bug, as online captions are also useful for users in diverse circumstances (such as watching web video on mute), foreign-language audiences, and potentially even people with slow connections for whom a transcript is more easily accessible than streaming video.

Accessibility for people with disabilities has often been promoted in terms of benefits to the mainstream (Asch 2001; Downey 2008). Campaigns for the installation of caption decoders in all television sets had relied on arguments framing captions as educational tools for children, illiterate Americans, and immigrants, in addition to deaf and hard-of-hearing audiences (Downey 2008, 233). Although these were legitimate benefits, there is a neoliberal focus on market forces at play when accessibility for people with disabilities is justified by reference to a nondisabled majority that represents a larger customer base. Advertising by the Electronics Industry Association, following legal requirements that all new televisions include decoders for closed captions, proclaimed that “Your Kid’s New Reading Tutor Just Arrived!” (Strauss 2006, 237). Such tactics suggest that people with disabilities are insufficiently powerful consumers within the market and simultaneously devalue the importance of the civil rights and needs of people with disabilities by prioritizing the options available to a

majority audience. Neoliberal solutions to problems of media access and equality offer themselves as expanded consumer choices, not as fundamental tools for the inclusion of citizens in mediated democracy.

Thus, the public value at stake is that of citizen equality. Theoretically, captioning and other forms of accessibility would contribute to equality of media access, of civil rights, and of opportunity for people with disabilities, which should result in more inclusive products, policies, and publics and should bolster a democratic society. Neoliberalism creates a world of individual responsibility for outcomes, with a corresponding degradation of public solutions to shared problems. Specifically, neoliberalism erodes identity politics as a vehicle for equality, isolating and segmenting individuals who might otherwise form potentially powerful interest groups in the public sphere.

The emphasis on captioning over other forms of web accessibility illustrates how identity politics may be damaged by neoliberal projects. Captioning is a form of textualization, a process that has become increasingly necessary with the rise of multimedia formats (Downey 2008, 5), and amplified by the need of online search engines to index textual descriptions of media content. Textualization is therefore valuable to the market; forms of accessible web development that do not lead to textualization, such as audio description of multimedia content for blind audiences, have received significantly less attention. In prioritizing a form of accessibility that has clear benefits for industry, the historically successful coalitional identity politics of disability are fractured. Disabilities are separated, individualized, and accessibility advances are made piece by piece depending on the needs of corporate actors.

To maintain the public value of equality, the very coalitional identity politics eroded by neoliberal solutions may become particularly necessary. As much as individualization has been a hallmark of neoliberal societies, removing impulses toward community or collectivism, neither can identity politics be sustained on the basis of innate similarity. Equality does not require uniformity. Coalitional identity politics that can incorporate individualism are built not on sameness but on the basis of shared goals. The disability rights movement is a particularly clear case of how identity politics may advance without sacrificing the individual needs and characteristics of their group members. Paul Longmore argues that disability rights movements have “simultaneously called for both equal rights and exceptional treatment,” as accommodation and support services will always be necessary to ensuring the inclusion of PWD in society at large (2000, 43). In fact, accommodation can be understood as a “mode of equality” (Jaeger and Bowman 2008, 63), and accommodation is endlessly variable depending on the needs of each individual who claims a disabled identity. Individual needs, the needs of groups (such as the deaf), and the needs of a cross-disability coalition all factor in to the civil rights of people with disabilities; accommodations at a job, captioning of multimedia forms, and recognition as a group protected from discrimination each have a role to play.

Coalitional identity politics struggle to represent the individual and the collective (Siebers 2008, 188), but in that struggle they offer resources for broader political

activism based on a diverse community and its partially shared goals. Paul Gilroy describes this as identity through solidarity, in which collective action stems from both connectedness and difference (1996). This opens the door to an expanded accessibility constituency, as individuals under neoliberalism may look to their goals regarding online media—access, personalization, flexibility, and ease of use—and see that they align with the needs of others, including people with disabilities, enabling coalitions to form. This recalls the premises of universal usability, in which advances for those with the most barriers to use benefit a range of users in a range of circumstances. More importantly, unlike neoliberal market solutions that isolate individuals and serve corporate needs before those of the public, coalitional politics such as those seen in the history of the movement for disability civil rights preserve the public value of equality and produce a communal voice with which to act in the political sphere. To the extent that captioning can be taken up not as a goal unto itself but as part of a larger project regarding web accessibility for a coalition of people with disabilities, neoliberal solutions can be challenged for their partial, divisive, and self-serving nature.

Throughout this article, I have critiqued recent innovations in online captioning through reference to the lessons of television and film captioning, the history of disability civil rights in a public sphere, and the particularities of the neoliberal online context regarding the value of text. I have not intended to condemn these innovations, but to caution that neoliberal solutions to problems of media access for people with disabilities threaten to replace civil rights with market interests, to create industry standards that fail to serve deaf and hard-of-hearing audiences and that may slow other measures, and to dissolve the coalitional identity politics of disability. Just as media “diversity” has shifted from connotations of racial justice to a term useful for niche marketing (Amaya 2010, 803), “accessibility” could shift from addressing the rights of people with disabilities to serving the imperatives of internet business. Although currently it appears that the businesses’ interests align with those of deaf and hard-of-hearing Americans, there is no guarantee that these interests will not soon diverge. Assuring equal rights and enabling the full participation and citizenship of people with disabilities in a mediated democracy that is increasingly reliant on online forms of entertainment and information media is a public value. As such, a renewed emphasis on coalitional politics that align not around shared identities or histories but around shared goals and future needs may be needed to create revitalized public spheres that move from neoliberal contexts toward a more robust, inclusive democratic society both online and off.

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Notes

1. The distinction between "Deaf" and "deaf" has been employed to indicate the Deaf community's understanding of itself as a linguistic minority. Deaf communities often primarily use American Sign Language to communicate. The use of "little-d" deaf is then limited to people who have developed hearing loss, who exist primarily in a hearing world, or often interact through writing, lip-reading, or even speech. See Harlan Lane (2006) for an elaboration of the logics behind this distinction. Brenda Jo Brueggemann (2009) has recently called into question the continued utility of the distinction, often collapsed into "D/deaf." Furthermore, many members of Deaf culture do not identify with disability culture. This article is in no way intended to erase these distinctions, though they are not its focus. In this essay, I use "deaf," as captions rely on reading standard English, rather than use of ASL.
2. Accessibility is best understood as the ability of people with disabilities to use a given technology (in this case, web video), with or without a compatible assistive device. There is no single solution to issues of accessibility, as different disabilities require different accommodations, and thus it is best addressed holistically through a number of strategies.
3. See Ellis and Kent (2010) for their analysis of this incident, online captioning, and other forms of disability in new media.
4. For a particularly salient example of this cycle in other media, [see, Goggin, Gerard, and Christopher Newell (2003)] analysis of cellular telephones, in which compatibility with hearing aids had to be incorporated through retrofitting inaccessible phones.
5. See Amaya (2010), Classen (2004) and Perlman (2007) for discussions of the ways in which minority groups have used media reform to access notions of citizenship more broadly.
6. See Henderson and Bryan's *Psychosocial Aspects of Disability* (2011) for a concise overview of the charity, medical, and other theoretical models of disability, many of which are in common use within disability scholarship and activism.
7. See also David Morley's *Family Television* (1988), for a similar history of television's domestication in the United Kingdom.
8. Some of the options for closed captioning of theatrical film include rear-projection captioning, which allows for captions to be seen from particular seats and the development of personal caption devices, similar to headsets or PDAs, which could be loaded with a caption file and used from any location. Synchronizing caption tracks with film reels has been a persistent challenge; digital film may ease this process.
9. See Classen (2004) for discussion of similar strategies by African American activists in regard to television station licensing and responsibilities to the public interest.

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Bio

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