

# Solving journalism with data: Silicon Valley's influence on the Fourth Estate

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## Abstract

The historically ambiguous relationship between journalism and Big Tech can be traced back to the late 20th century, when news organizations started to recognize the potential of the Internet as a distribution platform. While a growing body of literature is concerned with power asymmetries between Big Tech and journalism, the role of *place* in shaping the layered histories of journalism remains underexplored. This study uses a framework of place—conceptualized as material and geographic, a setting for action and lived experiences carrying the legacies of their past, and a site of accumulating histories of cultural meaning and power (Usher, 2019)—to examine how Silicon Valley and Fourth Estate ideals converge. Empirically, the study analyzes job advertisements of four US and UK print-legacy news outlets serving as a window into shifting expectations, skills, and values that news organizations seek in their employees, reflecting broader trends in journalism. Findings show that journalism draws on Silicon Valley ideals, merging datasolutionism with Fourth Estate narratives of audience access. Some news organizations are not only tech-oriented but frame themselves as tech companies with a Fourth Estate mission. While both Silicon Valley and Fourth Estate narratives promote ideals of equal power distribution, findings indicate the reinforcement of hegemonic power structures in the news industry. We conclude that the influence of Silicon Valley on journalism is one of consolidating power through location, action, and cultural meaning, as news organizations construct datasolutionism as a pivotal novel layer to achieve long-standing Fourth Estate

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ideals. This analysis contributes to our understanding of the historical context and evolving nature of the relationship between journalism and Big Tech, highlighting the significance of place in shaping the dynamics between these two increasingly intertwined industries.

## Keywords

Silicon Valley, Fourth Estate, datafication, journalism, place, ideals, inequality

## Introduction

Journalism and Silicon Valley have had an ambiguous friend-and-foe relationship. As platforms have gained power over news distribution and audience reach through their channels and dominated the digital advertising industry's underlying infrastructure, news organizations have become increasingly commercially reliant on Silicon Valley (Nielsen and Ganter, 2022). Platform companies distanced themselves from being editorial organizations (Napoli and Caplan, 2017) and have provided journalism with services, technological training, and innovation funds (Papaevangelou, 2023; Simon, 2022), while news organizations have expanded their technologically skilled staff and embraced a more tech-oriented culture in newsrooms (Lischka et al., 2022). As a result, platforms and news organizations have built complex connections that are characterized by interdependencies and power asymmetries, with well-resourced outlets being better positioned to mitigate their dependencies on platforms than smaller newsrooms (Meese and Hurcombe, 2021; Myllylahti, 2021).

Silicon Valley and journalism are historically grounded in different ideals. Silicon Valley's technosolutionism, as part of the "Californian ideology" (Ferrari, 2020), and journalism's Fourth Estate (Hampton, 2010) reach back to the 1960s in the US and the 18th century in Europe and the US, respectively. Despite the fact that news organizations aim to resist Silicon Valley's impact (Lindblom et al., 2022), they have become increasingly entangled with Silicon Valley platform companies. This might also involve a convergence of both ideals that can be traced over time.

Measured over too short a span, change becomes indiscernible and temporary conditions are perceived as permanent. Solnit compares this to navigating your way on a phone. Looking at a map "you see either a picture too small to provide detail or details too close up for context," or you blindly follow algorithmic directions, "and never fully grasp where you are."<sup>1</sup> In this article, we aim to zoom out by grounding our analysis in a cultural historical approach, and zoom in by drawing on contemporary empirical data. Similarly to Solnit, we think through change via place. Drawing on Usher's theoretical framework of place in journalism (2019), we connect place and inequity to the changes the industry has faced and ask, *How do Silicon Valley and Fourth Estate ideals converge in contemporary journalistic places?* to understand how Silicon Valley is shaping practice, cultural meaning, and location in journalism.

Specifically, we qualitatively analyze  $n = 55$  job advertisements of four high-status Fourth Estate legacy news outlets in the US and UK (*The News York Times*, *Washington Post*; *The Guardian*, *The Daily Mail/Sunday Mail*), two countries with similar roots in the Fourth Estate but differing in their geographical proximity to Silicon Valley. Job ads not only offer insights into journalistic practice, but they give practices “an institutional and physical form” (D’Souza et al., 2023), signal organizational identity as a site of cultural meaning and power, and bind them to physical manifestations and geographic locations. This place-based approach helps to display power asymmetries that are both material as well as socio-cultural, and “limit and enable particular kinds of journalism” (Usher, 2021: p. 13). Analyzing job ads can serve as a window into the shifting expectations, skills, and values that news organizations seek in their workforce, mirroring wider trends in journalism (Lindén and Grönlund, 2021). The study contributes to the field by identifying manifestations of Silicon Valley and Fourth Estate ideals that are historically embedded and shape contemporary journalism through their convergence. Demonstrating that news organizations construct datasolutionism as pivotal to achieve Fourth Estate ideals, the study furthers the field by highlighting how existing power asymmetries in journalism are reinforced.

## Theory

In the following sections we employ the theoretical concept of *place*, which is historically rooted in the sense that places carry the weight of their past, accumulating layers of history, culture, and meaning over time (Massey, 1995). We show how Silicon Valley encroaches on three conceptual dimensions of place in journalism as offered by Usher (2019)—place as a site of cultural meaning and power, as the geographic and material setting of journalism, and as lived, where action and lived experiences are made—concluding that Silicon Valley shapes journalism with consequences for inequity.

### *Place as a site of cultural meaning and power*

Place conceived as a site of cultural meaning and power situates journalism in its intersection with resources, economic imperatives, flows of capital and cultural influence in a historical context (Usher, 2021). In what follows we first trace a historical account of Silicon Valley’s ideals, followed by journalism’s conception as the Fourth Estate, to examine their production of meaning and power.

*Silicon Valley.* Geographically situated in the southern San Francisco Bay Area, Silicon Valley, subsumes a mixture of values, promises and concerns (Jones and Sudlow, 2022). As society’s resistance to military endeavors gained traction in the 1960s, engineers in California became increasingly resistant to military sponsorship of their academic research (Burrell and Fourcade, 2021). Hippies and hackers found each other to co-create a “techno-utopian social vision” opposing the Cold War’s “unfeeling bureaucracy, a calculating, mechanical form of social organization that had brought humankind to the edge of nuclear annihilation” (Turner, 2006: p. 237). They created a counterculture of

collaborative workstyles, hedonistic lifestyles, and a commitment to the circulation of information (Barbrook, 1998; Burrell and Fourcade, 2021; Turner, 2006). Over time, these aspirations were incorporated into neo-liberal politics and further evolved into technosolutionism, the idea that social problems can and should be solved by technology, not policy (Barbrook, 1998; Morozov, 2014). Disruptive innovation, then, became Silicon Valley's narrative to mark both the necessity as well as the inevitability of a technological revolution (Geiger, 2020). And as these companies gained authority (Moore and Tambini, 2018), the rhetoric changed once again: "While the Californian Ideology of the 1990s was an insurgent message, Silicon Valley's technological imaginary of the 2010s is a discourse which legitimizes an established dominant industry, capable of influencing political actors" (Ferrari, 2020). This shift is also illustrated by who has access to the social, cultural and economic capital of Silicon Valley. Prestigious and well-paid positions are overwhelmingly filled by white economically well situated men, whereas historically marginalized people, especially Black people and People of Color, are mainly found in lower-paid service jobs (Tomaskovic-Devey and JooHee, 2018). While dominant discourses about Silicon Valley are idealistic, its actualization is embedded in the same power structures it once aimed to counter (Couldry and Mejias, 2019).

*Journalism and the Fourth Estate.* The idea of an independent press representing a fourth power besides legislative, judicative, and executive powers formed its roots during the Glorious Revolution, the French Revolution, and the War of Independence in the UK, France, and the United States, respectively (Burrowes, 2011). The independent press "emerged out of a social rupture that resulted in the reorganization of state power" (Burrowes, 2011: p. 52) and was bound to the ideals of a democratic state. In the re-organized state, the British press had permission to publish reports on parliamentary proceedings in the second half of the 18th century (ibid.). The Fourth Estate first represented the Reporter's Gallery, a physical place indicating where reporters sat in the House of Commons. Therefore, the press not only connected political elites to their constituencies but determined the message. This control over discourse has remained a central part of journalists' professional identity (Sherwood and O'Donnell, 2018).

To maximize readership, news outlets positioned themselves beyond a specific party ideology and thus independent from party funding (Burrowes, 2011). Enabled by this political independence, the Fourth Estate represented a commitment to hold those in power accountable, facilitate public debate, represent the public opinion, and link those in power to civic society (Schultz, 1998). These ideals have revived in the digital age, when journalism is expected to facilitate a responsible public debate and enable citizens to participate in democratic processes (Tumber, 2001). Thus, the Fourth Estate is meant to compensate for misconduct in other fields and eventually to improve society. At the same time, in relation to society, the ideals of a Fourth Estate are a source of institutional legitimacy for journalism (Sherwood and O'Donnell, 2018).

Yet, the Fourth Estate is no mere imagination. Examples of award-winning investigative journalism indicate an ability to fulfill journalism's ideals (Hamilton, 2016), as demonstrated by award-winning news outlets such as *The New York Times* and the *Washington Post* in the US and *The Guardian* and *The Daily Mail* with *The Mail on*

*Sunday* in the UK (Carson and Farhall, 2018). Hence, the Fourth Estate can be regarded as a professional narrative that reflects journalistic ideals but can also reveal conflicts that arise through techno-cultural changes the industry is going through, which may best be localizable in award-winning news outlets.

### *Place as the geographic and material setting of journalism*

Place is imbued with materialities, objects and physical structures that function as a location for action. Connecting people to the places they live in by “providing them with critical news and information as well as a sense of rootedness and belonging” is a core function of journalism (Usher, 2021: p. 5). This function can be understood as tied to the historical dimensions of place, as journalism helps to shape and interpret the evolving narratives and collective memories that define the character and identity of a location. While newswork has moved beyond the Reporter’s Gallery, *where* journalism takes place still matters, as it shapes what journalists know and whose information needs they can and do pay attention to. Scholars have long been concerned with geographic concentration of news, and the emergence of news deserts (Toff and Mathews, 2021). This concentration is tied to a divide between large, resource rich news organizations with headquarters in metropolitan areas and smaller, local newsrooms. The techno-cultural change that the industry is going through has only amplified these asymmetries, as small newsrooms are lacking the resources (economically and in form of technologically skilled staff) to keep up and fully leverage new tools and technologies (Rinehart and Kung, 2022).

News organizations’ partnerships and the materialities used for journalistic work are locally bound as well. While tech companies, often with the support of national or more local governments, have created new Silicon Valleys, for example in the UK, Germany, France, and Romania (Jones and Sudlow, 2022), the corporations providing the top and middle layers of the infrastructure of digital journalism, are predominantly based in the US (Winseck, 2017). This includes platforms for news distribution and curation, but also tools to track, measure, and physically store data about audiences news consumption, as well as the digital means to leverage this data and deliver ads to consumers (Simon, 2022).

While digital tools and data can seem abstract and immaterial, locating their material conditions enables us to consider their cost—in terms of energy, labor, and capital—but also in terms of how they shape newswork and potentially reinforce inequity. Just like where news organizations are geographically based, these material conditions enable and limit action and experiences in newswork and determine the news that get produced.

### *Place as lived: Where action and lived experiences are made*

The final dimension of place refers to the ways in which news professionals, audiences, and their institutions interact with their environments, build news routines and shape professional ideals and imaginaries. As news organizations hire more technologically skilled staff (Wu et al., 2019), journalists’ work is increasingly informed by a new occupational elite (Burrell and Fourcade, 2021). The interaction between this professional group and the journalistic field has produced a new demand for technologically driven

newswork and thereby changed professional roles (Ferrer-Conill and Tandoc, 2018) and news routines (Schjøtt Hansen and Hartley, 2021). While technologically skilled staff are not necessarily formally tied to Silicon Valley (e.g., through former work experience), they are united by the intent and ability to transform journalism through technology—a transformative agency that is inspired by a Silicon Valley techno-centric culture (Lischka et al., 2022; Wu et al., 2019). This meeting of two epistemic cultures—one grounded in traditional understandings of newsmaking and one rooted in technological expertise and new conceptions of newsmaking—has created a renegotiation of journalistic norms, values, and practices in journalism (Lischka, Schaetz and Oltersdorf, 2021). Russell (2019), for example, found that journalists adapted values, that is, the belief that technological solutions can be found for societal problems and that information should be freely accessible. Relatedly, Zotto et al. (2023) caution that contemporary technological development not only creates the demand for technologically skilled staff to transform journalism, but also risks to shift news organizations’ attention and resources from their social responsibility to technological-centered marketing activities. Guided by quasi-religious beliefs in technology as facilitator of innovation and disruption (Chen, 2022; Geiger, 2020), Silicon Valley’s influence on action and lived experiences in journalism is reflected in what value is assigned to specific epistemic practices, skills, and other forms of labor. Investigating funding intermediaries, Papaevangelou (2023) for example, pointed out that one of the core objectives of Silicon Valley’s financial commitment to the news industry is to stimulate innovation. Rao and Neely (2019) demonstrated that a passion schema has become a Silicon Valley marker for structuring hiring and promotion within organizations. Passion here is used as a proxy for professionals’ intellectual fit, devotion, and commitment to Silicon Valley ideals. This passion scheme has also increased in journalistic job ads over time (Lindén and Grönlund, 2021). This way, Silicon Valley ideals not only direct who is being hired, but creates homogenization in the workforce. This can take the form of a lack of diversity in race or class, but also in epistemics. It matters who gets to be in a newsroom, and how epistemically diverse organizations are, because professional’s backgrounds and associated norms and practices influence what news organizations pay attention to and value, which ultimately shapes the coverage that we see.

## Method

Applying a qualitative content analysis on  $n = 55$  job advertisements of four award-winning news outlets in the US and the UK, we analyze narratives of Silicon Valley and Fourth Estate ideals in job ads. They represent the public step in staff recruitment and include extensive information on the position, responsibilities, expectations, and organizational identity (Walters and Fage-Butler, 2014).

## Sample

We follow a three-step critical-case sampling approach to identify information-rich news outlets and job ads for analysis. First, we selected the US and UK representing two

countries with a historical connection to the development of Fourth Estate ideals. The US is the country in which Silicon Valley is geographically located. Hence, the country selection represents an intensity sampling of the Fourth Estate, while differing in geographical proximity to Silicon Valley.

Second, we selected two news outlets per country with the highest number of awards for investigative journalism according to [Carson and Farhall \(2018\)](#). These outlets are *The New York Times* (NYT) and *Washington Post* (WP) in the US and *The Guardian* (Guardian) and *Daily Mail* with *The Mail on Sunday* (Daily Mail and General Trust, DMGT) in the UK. We collected all job ads from the websites of these news organizations over the period of 3 months in fall 2021, 1.5 years after the beginning of the Covid pandemic ( $N = 185$ ; of those NYT  $n = 105$ , WP  $n = 32$ , Guardian  $n = 12$ , DGMT  $n = 36$ ). The pandemic has been described as an accelerator of the digitalization of newsrooms ([Quandt and Wahl-Jorgensen, 2021](#)) and has sparked several funding initiatives from Big Tech ([Papaevangelou, 2023](#)), which may indicate that Silicon Valley ideals gained legitimacy in journalism during that period.

Third, we identified those job ads that required technical skills, which is a subset of innovative expertise of news professionals according to [Guo and Volz \(2019\)](#), using content analysis. The coding scheme for technical skills included “newly-developed, machine-related skills” ([Guo and Volz, 2019](#): p. 1301) such as software development, application of specific software, and data analysis. Job ads were coded by two trained coders reaching good intercoder reliability for identifying technical skills (Krippendorff’s  $\alpha = 0.84$ ). Across all job ads, 30% included at least one technical skill ( $n = 49$ , final sample). Typical job positions in the final sample of job ads encompass data analyst, product manager, product designer, multimedia editor or engineering manager. Hence, the skill-based sampling approach includes information-rich, critical cases in a sense that “if it doesn’t happen here, it won’t happen anywhere” ([Patton and Patton, 2002](#): p. 236) regarding the convergence of Silicon Valley and Fourth Estate ideals.

## Material

Job ads are a complex genre of recruitment and strategic organizational communication that include detailed information on the position and the organization. Job ads are material in which notions of place in the sense of [Usher \(2019\)](#) become manifest. Job ads are themselves socially constructed to express expectations of future personnel. By describing the position and its tasks, they provide insight into potential actions and experiences, signal organizational identity as a site of cultural meaning and power, and inform about the workplace as geographic location. Beyond indicating demand for staff, job ads represent a text genre in which professional norms and ideals are observable, revealing what news organizations value and prioritize ([Guo and Volz, 2019](#); [Lindén and Grönlund, 2021](#)). The job ads in our sample typically begin with a description of key aspects of the role and its reporting lines (“about the position”), followed by a detailed description of responsibilities (“what you will do”), requirements and qualifications (“who you are”) and end with information on working conditions (“what we offer”),



organizational identity (“about us”), and application procedures (“how to apply”). On average, job ads were 532 words in length with a maximum of 1247 words for a Visual Designer (*NYT*, ID 372) and a minimum of 188 words for a Senior Staff Editor at *NYT* (ID 484)). This short *NYT* job ad addressed only role description, requirements, and contact information. For our analysis, role description, responsibilities, and working conditions, and organizational identity contained rich information.

## Analysis

The analysis was structured using the thematic analysis method following (Braun and Clarke, 2006). First, we search for core indicators of Silicon Valley and Fourth Estate ideals. Regarding Silicon Valley ideals, we identify disruptive innovation, technosolutionism, and diversity themes. Fourth Estate aspects include narratives about holding those in power accountable, facilitating public debate, representing the public opinion, and linking those in power to civic society as well as independence and signals of Fourth Estate performance through prestigious awards. Second, we noted variations of narratives and themes that are related to Silicon Valley or Fourth Estate narratives, considering how these variations contributed to the overall understanding of the convergence between the two sets of ideals. Third, we differentiated references to sites of meaning-making, action and experience, as well as physical work places. We aimed to understand how these elements were intertwined with the narratives and themes identified earlier. Lastly, through repeated reading and axial coding, we traced the connections between narratives and themes found in the job ads and sorted them according to their relation to each other. We organized connections based on their relationships to each other, allowing for a comprehensive understanding of the interplay between Silicon Valley and Fourth Estate ideals in the context of the job market.

## Findings

### *Place as geographic and material*

Describing the location of the workplace, ads detailed the surrounding areas, signaling status to attract candidates: “Our Kings Place offices overlook Regents Canal, with the newly-developed Coal Drops Yard, Granary Square and St Pancras Square shops, restaurants and pop-ups” (Data Scientist, *Guardian*). Place was connected to a certain lifestyle and the possibilities that open up with it. If geographic location was discussed in this manner, it exclusively referred to metropolitan areas that are often characterized by gentrification and belong to the most expensive parts of the city: “You’ll be working in the Heart of Kensington, great for shops, bars and restaurants and Hyde Park is just a stone’s throw away” (Senior Data Analyst, DMGT). It should be noted that advertisements highlighted lifestyle perks, while journalism-related considerations, that is, proximity to civic structures to facilitate reporting, did not play a role. Similarly, physical proximity to other news organizations (which would have been the case in Kensington) was not mentioned. Lastly, some job postings promoted their “remote-friendly culture” to attract



competitive candidates: “we are proud to employ incredible people across the country” (Analyst, Data & Insights, Wirecutter, *NYT*).

The job ads also revealed materialities in terms of software use in journalism. The adoption of specific software and tools for various aspects of news production, data analysis, and distribution indicates the demand for proficiency in content management systems, data analysis tools like Power BI, data visualization tools like Tableau and D3.js, as well as database management systems like SQL. Moreover, the job ads shed light on the infrastructures supporting news production, such as cloud-based services for content storage and collaboration, and content delivery networks for efficient distribution of multimedia content. The growing use of software and digital tools in journalism indicates a deepening interdependence between the technology and journalism sectors.

### *Place as location for action and lived experiences*

**Passion structuring action.** Passion emerged as a dominating principle that structures action and lived experiences in journalistic places. It was found to be an established hiring criterion across organizations and positions that is tied to three functions. First, passion is used to assess the intellectual fit of the professional. The ideal candidate “loves to develop solutions for difficult problems,” “loves designing through collaboration” (Senior Product Designer/Developer, *WP*), or is generally “a passionate person who loves technology” (App Developer, *Guardian*). This function serves as a precondition for innovation, which is tied to a data analysis capacity. In order to innovate with data, passion is related to data culture, especially in the context of the *NYT*. Professionals should be “passionate about data” (Manager, Data & Insights, Engagement, *NYT*), “enthusiastic about data and its applications” (Senior Manager, Data & Insights, *NYT*). The intellectual passion for “answering hard questions with data” (Data Scientist (Algorithmic Targeting), *NYT*) should transfer to developing data-based outcomes by “turn[ing] passion for data and support of world-class journalism into tools and insights.” (various positions, *NYT*). As such, future newswriters are expected to “thrive in data driven decision making, love ambiguity and use research and data to help answer key business and customer questions” (Product Manager, *DMGT*).

A data-focused culture, collaborative and passionate workstyles, and problem solving can be related to aspects of Silicon Valley ideals. Fourth Estate aspects are also tied to passion. Passion is related to the field of journalism and its mission and becomes a proxy for devotion and commitment. As such, applicants should, for example, be “eager for the opportunity to support [the organization’s] journalistic mission” (Manager, Data & Insights, Engagement, *NYT*). Hence, passion serves as a precondition for professionals’ agency to contribute to the organization and its journalistic mission as a whole via innovation. This is laid out in the following sections—starting with candidates’ agency within the organization.

**Organizational agency as innovator.** News organizations describe candidates’ potential agency in the organization. Their intellectual fit and their allegiance to the culture of data are envisioned to enable them to act as a facilitator of change. Data analysts’ responsibility

has “a critical and strategic impact on all aspects of the company,” “driv[ing] data informed decision making at all levels of the organization” (Data Analyst, *WP*). Data processing capacities of news organizations were listed as incentives, signaling candidates’ ability to fully leverage their skills at the outlet: “Work on a truly modern data stack (dbt, Airflow, Fivetran and Tableau)” (Data Developer, *DMGT*). This conception of agency is closely linked to notions of innovation. News designers are, for example, expected to “push the boundaries of visual storytelling” (News Designer, *WP*). Data analysts are elevated to innovators: “we are now hiring the next innovator” (Data Analyst, *WP*). The work of these professionals is expected to “shape the future of our business” (Senior UX Researcher, *WP*), as organizations are reframing newsrooms as a site for this professional group to exercise agency over and to model according to their vision: “innovation doesn’t end in the newsroom” (Data Analyst, *WP*).

Notably, job ads did not always state to what ends innovation should be fostered. Clear goals were usually expressed in connection to economic expectations—for example, to grow subscription bases, or increase revenue. However, calls for boundary pushing or innovation were often open-ended—like an end in itself—asking “how will you impact tomorrow?” (Data Analyst, *WP*).

Individual agency is positioned within a plurality of agents within the organizations that are described as a professional and diverse community, representing Silicon Valley narratives: “some of the brightest and best people in media and beyond: award winning journalists, cutting edge commercial teams, industry leading digital talent and much, much more. We are a vibrant and diverse community with many events, groups and forums to get involved in” (various data positions, *Guardian*). That is, award-winning journalism as a signal for Fourth Estate performance and innovation capacities are closely linked. What follows outlines how journalism’s ideals as a Fourth Estate are established and how candidates are imagined to exercise societal agency via innovation.

*Societal agency as Fourth Estate.* Findings show clear references to journalism’s ideals of the Fourth Estate. Indicating power over the public sphere The New York Times, for instance, describes itself as “respected for its visionary, high-quality journalism, its reach and its influence.” (Product Manager, Growth, *NYT*). In their mission statements, ads argue for journalism’s role in improving society: “great journalism has the power to make each reader’s life richer and more fulfilling, and all of society stronger and more just.” (Product Manager, Growth, *NYT*). As a third variant, references to awards as indicators for Fourth Estate performance are drawn: “We are renowned for our groundbreaking independent journalism and our award-winning digital products.” (Data Quality Analyst, *Guardian*). Here, the historic Fourth Estate narrative of independence is connected to a commodified product-related excellence.

These Fourth Estate references are often tied to action and experience narratives: “This is a rare opportunity to work at a historic and innovative global media organization dedicated to improving society by creating and distributing high-quality news and information.” (Product Manager, Growth, *NYT*). The power of the organization is made accessible to the individual who becomes a powerful contributor to societal improvement. In contrast, some ads focused on economic objectives. Data analysts were expected to

“help deliver the Customer Vision,” which was meant to “understand as much as we can about our customers and their behaviour, driving them to spend more time with, and more money with, the Mail brand” (Data Analyst, *DMGT*). Others suggested compatibility between Fourth Estate performance and commercialization: “You can count on doing work that has a direct impact as we strengthen and grow our business.” (Product Manager, Growth, *NYT*). To become a Fourth Estate agent, specifically, “you will work to evolve the most important surfaces via which readers engage with our journalism including the homepage, the newsreader app, the story page” (Analyst, Data & Insights, Engagement, *NYT*), which again ties into innovation agency. Innovation agency, structuring action, is closely connected to dimensions of power and as such, to Usher’s final dimension of place.

### *Place as a site of cultural meaning and power*

*Converging powers of tech and Fourth Estate.* In order to remain an agent of the Fourth Estate, *NYT* is becoming more tech-oriented and describes itself as a tech company: “*The New York Times* is a technology company committed to producing the world’s most reliable and highest quality journalism. Our ability to do so relies on a talented team of expert technologists who help *NYT* learn from a tremendous abundance of data unique to this company” (various data positions, *NYT*). This statement ties data to the Fourth Estate. A similar framing could be found at the Washington Post, converging Fourth Estate and Silicon Valley: “The Post is as much a tech company as it is a media company, combining world-class journalism with the latest technology” (Data Analyst, *WP*).

The ability to extract and analyze data, which is personified in the tech team, becomes a direct source for achieving Fourth Estate ideals. Data has become the capital that is meant to attract tech talent, it invites technologists to participate in (social) analysis and innovation in a way that is proposed to strengthen the Fourth Estate. This shift is acknowledged as “a moment in history when the importance of learning from our data is transforming every aspect of the craft and practice of journalism” (various data positions, *NYT*). It recognizes the disruptive power of data for the field, suggesting that datafication fundamentally changes what has formerly been known as journalism practice. As a result, organizations with a legacy journalistic identity are reframing themselves as tech companies. While keeping with their journalistic mission, agency has at least partially been shifted to data analysis. Who benefits from these transformations and what indicators job ads give for the mitigation or reinforcement of inequity in journalism is explored in what follows.

*Power distribution and equity in journalism.* While disruption narratives were often linked with mission statements to improve society, ads lacked demonstrations of power redistribution within the news organizations that would reflect its normative expectations. Instead of evidence for changes in hegemonic power structures, postings reflected the status quo. This was particularly evident in narratives surrounding newsroom equity, where expressions of commitment to diversity and inclusion were salient: “[C]ommitted to increasing diversity and maintaining an inclusive workplace culture,” organizations

welcomed applications “from all qualified candidates regardless of their ethnicity, race, gender, religious beliefs, sexual orientation, age, marital status, or disability” (Visual Design Lead, DMGT). That is, they were aspiring “to inclusive working experiences and an environment that reflects the audience [they] serve” (Data Scientist, *Guardian*). Notably, organizations linked newsroom diversity to the quality of journalistic work. Striving to provide audiences “with high-quality, trustworthy news and information,” they argued that this “mission is best served by a diverse, multi-generational workforce with varied life experiences and perspectives” (Data Analyst, *WP*).

However, these statements were rarely grounded in workplace policy that could enhance equity in journalism. Beyond accommodations like flexible working hours and to work remotely, job ads lacked a commitment to an anonymized application process, mentoring structures or offers for paid parental leave. Additionally, pay transparency was largely absent, despite being a core driver of pay equity along the lines of race and gender. Relevant to the US context, most ads did not offer healthcare plans. The *Guardian* presented a notable exception, offering physical and mental health insurance, up to 18 weeks of parental leave at full pay, and a “Multi-faith prayer room” (Engineering Manager, *Guardian*) to candidates. Overall, however, findings suggest that the convergence of Silicon Valley and journalistic ideals does not disrupt, but reinforce power structures that marginalize traditionally underrepresented groups in journalism.

## Discussion

The analysis of UK and US based job ads suggests that Silicon Valley and Fourth estate ideals shape three dimensions of place—place as geographic and material, as location for action and experience, and as a site for cultural meaning and power (Usher, 2019)—with consequences for inequity in journalism. Tracing the history of the news industry, we can see that the adoption of innovation as a central ideal has roots in both the early days of print journalism and the more recent rise of digital technologies. Findings suggest that the news industry has adopted innovation as a central ideal, but unlike Silicon Valley’s conceptualization, innovation is not primarily expected to be disruptive (Geiger, 2020). Rather, it involves the enhancement of the role of data and its agents for journalism (Lewis and Westlund, 2015). By hiring staff that already show a passion for data analysis, news organizations are fostering a data culture aimed at finding innovative solutions for journalism products that efficiently reach news audiences. Passion is not only a proxy for professionals’ commitment and intellectual fit, as suggested in Rao and Neely (2019), but also serves as a crucial condition for the strengthening of data culture. In this way, Silicon Valley techsolutionism is being refined into datasolutionism. This positivist stance on datafication is viewed to support journalism’s long-standing Fourth Estate mission and increased data analysts’ agency in journalism.

The evolved Fourth Estate ideal reflected in our findings centers on audience access and addressing a wider public. As wide audience access serves as a source of financial independence for journalism (Burrowes, 2011), this narrative is used to legitimize the need for data-based innovation. However, instead of referring to multiple dimensions of the Fourth Estate, such as holding power to account (Schultz, 1998) or controlling content

(Sherwood and O'Donnell, 2018), news organizations focus on retaining control over access to society.

As technologically skilled staff increasingly gains importance to fulfill these goals (Wu et al., 2019), the emplacement of the Fourth Estate has expanded from the Gallery to tech team offices. Although places of institutional political power or proximity to political actors remain crucial to journalism, data analysis has opened up new avenues for holding power accountable that are not necessarily limited to a specific location and depend on physical infrastructure for hardware and knowledge production. Nevertheless, journalism continues to center in metropolitan areas, due to economic and cultural powers that offer news professionals an attractive lifestyle and easy access to international networks. This indicates that inequities in terms of where journalism takes place are likely to persist, despite tech workers' abilities to work remotely.

Silicon Valley and Fourth Estate ideals share a commonality in the way that they narrate and create tangible opposition to hegemonic power structures. Originally, Silicon Valley opposed bureaucratic, state, and particularly military power (Burrell and Fourcade, 2021). Likewise, the Fourth Estate has been closely tied to physical locations of institutional political power, opposing opaque and unequal state power (Burrowes, 2011). From its traditional stronghold in the press gallery, journalism has extended to tech team offices and other locations where data analysis and digital innovation take place. Despite journalism's dependency on tech companies for distribution channels and data extraction (Lewis and Westlund, 2015), we find that news organizations position themselves as an authority over their own data. Data analysis has opened up new avenues for holding power accountable that are not necessarily limited to a specific location and depend on physical infrastructure for knowledge production. Moreover, news organizations seek organizational agency via data practices to reach and inform a broader audience, innovate journalism and, ultimately, remain the Fourth Estate. Power is centered in the economic imperative to extract and analyze data, confirming that journalism, too, has accepted data as a form of capital (Sadowski, 2019). An imperative to remain critical of data practices or to be aware of ethical challenges when leveraging data for economic pursuits could not be identified.

Findings confirm an additional disconnect between ideals to challenge power and their implementation within the news companies (Twine, 2018). Despite aspirations to hire people from diverse backgrounds, we find little evidence of strategies that would enable historically marginalized people to fill these positions and thrive in them.

On a comparative level, findings indicate that geographic proximity to Silicon Valley between the US and the UK does not cause systematic differences in the adoption of its ideals, while the history of journalism in both countries may have shaped their respective approaches to technology and innovation. NYT stands out as an outlet with strong references to Silicon Valley ideals and a comparatively high demand for data analysts. This may be partially attributable to the historical evolution of American journalism, which has embraced innovation as a way to remain competitive. However, the sample size of four news outlets is too small to arrive at generalizable conclusions, particularly given the focus on legacy news organizations that might depend strongly on platforms for audience reach (Pyo, 2022). Future studies might explore news organizations in other

countries that have different relationships to Silicon Valley or understandings of journalism beyond its traditional role as the Fourth Estate. This could provide valuable insights into how technology and journalism intersect in different cultural contexts.

Further limitations of this study concern the intensity sampling, as well as material. The subsampling approach led to a small sample of job ads compared to the selection frame. A subset of job ads that required programming skills of the originally selected news outlets was analyzed. While this procedure allowed us to quantify demand for tech skills compared to other roles, future studies may benefit from a longer observation period to ensure that news outlet diversity is preserved. Second, using job ads as the primary source of material comes with several disadvantages. Job ads only reveal the demand for new positions. Our material thus gives insights into how news organizations imagine and shape the future of the profession, and gives little insight into narratives that are tied to the past. Because the convergence of Silicon Valley and Fourth Estate ideals are ever evolving, findings inevitably only reflect a snapshot in time. Job ads also revealed a variance in explicitly describing geographic dimensions of place. Some job ads only listed locations, while others described where the work was placed in more detail, in an effort to signal status. Still, job ads communicate geographic dimensions of place reliably, demonstrating concentrations of power in affluent, metropolitan areas.

Further, our sampling focus on positions requiring technological skills could have led to a stronger alignment with Silicon Valley ideals. Diverging notions may only become transparent through interviews with editorial staff or in newsroom observations. Similarly, this study does not provide any insights into the content controlling aspects of the Fourth Estate and allows for little analysis of how ideals are enacted in practice. Finally, our sample was based on large, award-winning outlets. Future research with a more diverse sampling would be needed to examine if findings of this study can be extended to less well-resourced organizations.

While job advertisements provide a valuable source of information about the skills and expertise sought by news organizations, deeper analysis of required software skills could shed light on the technical details of news production, distribution, and monetization. This would give a more nuanced understanding of how these changes are manifested in different positions within newsrooms. Furthermore, the efforts of platforms to fund journalism and become the infrastructure of the news industry go beyond the platformization of news production. They also extend to exerting influence over the larger news ecosystem.

## **Conclusion**

This study investigates how Silicon Valley and Fourth Estate ideals converge, by examining these processes through a historical lens and a framework of place—as material and geographic, a setting for action and lived experiences, and a site of cultural meaning and power (Usher, 2019). We qualitatively analyzed job advertisements of four high-status Fourth Estate legacy news outlets in the US and UK—countries with similar roots in the Fourth Estate histories but that differ in their geographical proximity to Silicon Valley.

Historically, both Silicon Valley and the Fourth Estate have been narrated as oppositions to hegemonic powers, sharing ideals of societal transformation. Findings indicate that Silicon Valley and the Fourth Estate converge in location, action and experience, as well as cultural meaning and power. We argue that it is each place's historic narrative that lays the groundwork for convergence. Because both Silicon Valley and Fourth Estate are narrated as oppositions to hegemonic powers, they share ideals of transforming society. However, the power asymmetries and unequal distribution of resources between Big Tech and journalism reinforces hegemonic power structures in journalism. While journalism holds cultural power due to its unique role in society, Silicon Valley is rich in economic capital and consolidates power through its technological control over journalistic production and news distribution.

As a result, journalism has adopted a form of Silicon Valley's technosolutionism, more specifically, a notion of datasolutionism and connected it to Fourth Estate ideals of audience access. Our findings thus support the notion that Silicon Valley ideals homogenize meaning-making and, as a result, practice independently from the geographical proximity to a news organization.

Specifically, we observed that news organizations are orienting themselves towards, or are even framing themselves as, tech companies, emphasizing the importance of data-driven solutions. As journalism has sought to develop its innovative capacities, news organizations now recruit people with a Silicon Valley mindset that represent a new occupational elite (Burrell and Fourcade, 2021). This elite supports the positivist notion, that journalism's problems can primarily be solved by data-driven practices. As such, journalism advances the convergence of Silicon Valley and Fourth Estate ideals within organizations by employing staff who foster datasolutionism in their organization. Although journalism remains committed to its traditional role as the Fourth Estate, it is now embracing Silicon Valley's datasolutionism as a new way to achieve that goal. This convergence is resulting in the consolidation of power and the emergence of a transformative agency for data analysts within these organizations.

The concept of place is historically rooted in the complex interplay between historical narratives, cultural meaning, power dynamics, and the evolving relationship between journalism and Silicon Valley. The convergence of their ideals into tech- and data-solutionism can be seen as a response to the historical context of journalism's role in society and the challenges it faces in the digital age. The layers of history, culture, and meaning contribute to the ongoing transformation of journalism and its adaptation to the challenges of the digital era. By considering place from a historical perspective, our analysis provides a more comprehensive understanding of how the convergence of Silicon Valley and Fourth Estate ideals has occurred, and how this convergence shapes the landscape of journalism today.

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