

A Dual Valuation of Open Government

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ABSTRACT

This article visits the origins of much of the current cultural expectations around the role of open government data. Beginning with the United States' Freedom of Information Act, the article then traces the influence of U.S. electronic government records legislation and norms that developed during the eighties and nineties. In particular, the concept of "value-added" from the financial sector reconfigured government records as "raw data" that could be enhanced and made operable through software interfaces. The Reagan administration and commercial vendors viewed "value-added" software as a proprietary venture that used strict licenses and copyright to wrench profit from government records while closing them off to wide public access. Open data, in contrast, reconciles government transparency with private sector expansion through open licenses and formats. In the rhetoric of open data, the monitory struggles against monopolistic electronic information technologies that took place in the eighties today align with the free market values of innovation and entrepreneurship touted by Silicon Valley.

CSS CONCEPTS

• **Applied Computing** → E-government

KEYWORDS

Open government, open data, transparency, open systems

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1 INTRODUCTION

The rhetoric of open government data – by pundits, politicians, and activists alike – describes a largely depoliticized vision of openness that departs radically from twentieth-century understandings of it. Take, for example, the words written in 1970 by the consumer rights activist Ralph Nader: "A well informed citizenry is the lifeblood of

democracy; and in all arenas of government, information, particularly timely information, is the currency of power" [29, p. 1]. Just a year before Nader had founded the Center for the

Study of Responsive Law, an organization that recruited law students to create detailed, muckraking reports exposing the extent of federal regulatory agencies' collusion with industry. Here, Nader links information explicitly to political authority and control; he was writing in the context of an increasingly secretive and bloated bureaucracy that he believed was too often beholden to corporate interests.

Four decades later, in 2013, United States President Barack Obama issued an Executive Order titled "Making Open and Machine Readable the New Default for Government Information," which began:

Openness in government strengthens our democracy, promotes the delivery of efficient and effective services to the public, and contributes to economic growth. [...] making information resources easy to find, accessible, and usable can fuel entrepreneurship, innovation, and scientific discovery that improves American's lives and contributes significantly to job creation [40].

The open data directive offers several points of departure from Nader's vision of open government. Rather than an adversarial use of transparency laws, wielded in instances in which citizens and the press used the law to expose or gain influence over covert or incompetent government activities, open data policies emphasize mutual collaboration between citizens and government through administrative data sharing and reuse. While Nader's mid-twentieth century concept of openness in government positioned official records in light of asymmetrical power struggles, the Obama Directive views government information as a mutually beneficial asset for "entrepreneurs" and as an engine of commercial innovation and job growth

This article argues that technological changes have created conditions under which proponents of open government data conflate the *civic* value of transparency with its *market* value, with consequences for how society understands the division between public and private services. Many scholars of open data have made a similar observation [2, 14]. For example, media scholar Nathaniel Tkacz sees open data as part of "the continuing march of market principles into government," a development he does not endorse [41]. Jo Bates, a scholar of information politics, likewise warns that open data initiatives can be subject to co-optation by interests who tout "markets over social provision" [1]. This article contributes to these arguments by answering the question of *why* open government data policies today appeal as both a civic and commercially-viable project that blurs public and private services.

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To tackle this question, this article examines a specific historical trajectory: In the United States during the 1990s, proponents of government disclosure came to see their cause as aligned with technology companies that also saw openness as a viable business model. Up until this time, open government efforts generally involved a legal struggle between citizens desiring documents and those government agencies who had them. This antagonistic relationship changed once transparency proponents could make the case that both citizens and businesses would profit from greater transparency infrastructure. As I will show, the legacy of open data owes as much to proponents of disclosure laws as to champions of open electronic networks and open information markets, particularly in the financial sector. One result of these influences is the coopting of the language of civic-minded openness by technology companies that benefit from user and public data mining.

This article traces several historical touch points that have not yet been used to contextualize and theorize open data. The next two sections provide context for the passage of the FOIA and the rise of a watchdog group, the Center for the Study of Responsive Law, which found in FOIA a powerful mechanism to challenge executive branch secrecy. For transparency activists in the sixties and seventies, the concept of open government entailed passing legal mechanisms that allowed persistent, combative monitoring of federal administration, in particular to expose its ties to the private industries it was supposed to regulate. In the eighties, as detailed in later sections, the concept of open government then mutated with the introductions of new policies and technological obstacles to FOIA that favored privatizing government information. Open government advocacy remained an antagonistic project during this time, but one that turned its focus to policies of computerized databases. The final sections describe an important precedent for open data that occurred in the 1990s with Carl Malamud's widely heralded hijacking of the SEC's EDGAR database; during this event, transparency activists began to make the novel case that open government *aligned* with private sector interests. These events are by no means definitive in understanding the history of open data, but they offer a perspective on how transparency initiatives became as much an economic strategy as a means to citizen empowerment, a dynamic that continues to shape open government data initiatives today.

2 OPEN GOVERNMENT AS A CITIZEN'S RIGHT

By the mid-twentieth century, the U.S. government administration reflected the bureaucratic changes wrought by war and New Deal policy. New regulatory commissions had formed, such as the Securities and Exchange Commission and the Federal Communications Commission, that were unaccountable to the electorate. The metastasizing government departments (of which there were, at that point, more than sixty) took advantage of the law's straggling pace [31]. Meanwhile, agencies classified more documents in the name of domestic security during wartime. Departments colored their obfuscations with an inconsistent lexicon of twenty-four different terms, from the frequent "Official Use Only" to the more obscure "Individual Company Data" and "Limitation on Availability of Equipment Files for Public Reference" [8].

In 1965, reports on twin bills in the House and Senate called for Congress to pass a new open record law, what would become known as the Freedom of Information Act. The resulting bills allowed citizens to request records from all Executive agencies and required departments to make their indexing and accessing requirements clear so that citizens could make reasonable demands¹. Furthermore, requesters no longer needed to justify their purposes. The bills also clarified nine specific exemptions for disclosure, giving agencies some latitude to deny requests^{2,3,4}. The bills argued a constitutionally grounded correspondence between self-government and accurate, free-flowing information: "A democratic society requires an informed, intelligent electorate, and the intelligence of the electorate varies as the quantity and quality of its information varies."⁵ Though reluctant, on July 4, 1966, Johnson signed the new open records bill into law a year after the Congressional bills passed [28]⁶.

FOIA helped institutionalize new forms of civic knowledge and engagement – a "monitorial democracy" as scholars have called it [12, 35]. The monitorial society that began in the sixties created novel forms of political representation beyond electoral politics, such as citizen hearings and comment periods. FOIA was a piece of these changes; in effect it expanded the potential for citizen political involvement beyond episodic election cycles to include continuous forms of public monitoring [35]. The rhetoric and civic action that resulted in the name of monitorial politics and open government was often couched in terms of gross power asymmetries, particularly between governments and citizens and between private industry and consumers. In the next section, I discuss an example of a new type of monitorial action enabled by FOIA, one that used the laws of open government to advocate for consumer safety and environmental health. I will later hold up this form of activism for comparison to open data projects that took place in the decades that followed.

3 FOIA BECOMES AN ACTIVIST TOOL

FOIA specifically instigated a type of radical, confrontational civic action: locating government documents in order to hold officials accountable at various stages of closed-door decision-making. The brashest manifestation of this framework for public interest activism – indeed, the template for it – was a civic watchdog group that began one year after FOIA was put into law. Ralph Nader and his Center for the Study of Responsive Law used FOIA as a tool of exposure and shaming. Nader enlisted teams of Ivy League-educated law students he called "task forces" to hound departments with interview and records requests, penetrating the sanctums of

¹FOIA specifically applies to cabinet departments, federal agencies, military departments, government corporations, and independent regulatory agencies.

²S. Rep. No. 89-813, 1965

³H. Rep. No. 89-1497, 1965

⁴Currently nine exemptions: national security information, internal personnel rules and practices, information exempt under other laws, confidential business information, inter or intra agency communication that is subject to a deliberative process, litigation and other privileges, personal privacy, law enforcement records of specific concerns, financial institutions, geological information.

⁵S.Rep. No. 89-813, p.3

⁶Pub. L. 89-487, 80 Stat. 250 (1966). The law was never called the Freedom of Information Act. This term was actually an informal name derived from the Times report on the new "freedom of information bill." When Johnson signed the law, he considered it a revision of the APA.

agencies unaccustomed to citizen monitoring. If denied access to documents, the Center threatened to sue under the FOIA [35].

The results were damning reports that received wide media coverage. For instance, the first such report, published in 1970, took aim at the Federal Trade Commission; it found an agency “fat with cronyism” and commercial influence [25]. According to William Grieder, the reporter who dubbed the student teams “Nader’s Raiders” in the *Washington Post*, the FTC report “was the first act in what became a popular theatrical – plain citizens assailing the government for its failures, demanding access to the decision-making, holding up a bright torch for something they called ‘public-interest’” [7]. The report pried open a window into what the Raiders considered irresponsible and, at times, corrupt administrative processes. The report garnered headlines in major newspapers, sparking public awareness and pressuring the Nixon administration to reorganize the FTC. The administration responded, first hiring a new chairman, then forming consumer protection committees around the country. The FTC soon began targeting companies, bringing charges against McDonalds, Coca-Cola, Standard Oil, Mattel, and many others for deceptive and false advertising. Other companies became subject to anti-trust suits, and, for the first time, the agency required the cigarette industry to print cigarette cartridge warning labels [45].

The Center for the Study of Responsive Law continued to publish reports throughout the late sixties and seventies on water and air pollution, mine safety, nutrition, nursing homes, auto safety, banking, and land use. The Center’s work relied on FOIA in the process of its investigations. Nader expressed the Center’s dependence on FOIA in a 1970 essay about the law’s ongoing flaws. In the piece, Nader castigates the “corporate favoritism” evidenced in the biased way regulatory agencies stonewalled information requested by students while offering the same information to the industries and trade associations that they were charged with regulating [25]. In his exasperated report, Nader lists the ongoing denials sent to 100 students he organized to make requests on a range of documents on matters concerning environmental and human health, consumer safety, and civil rights. The Labor Department appeared to protect industry by stonewalling evidence of violations of safety standards; the Department of Agriculture would not release records from its advisory groups that could illustrate the extent that food safety policy is shaped by private members. The National Safety Bureau denied the existence of documents it had already circulated to General Motors. Meanwhile, individual citizens, he pointed out, often do not have the financial means to fight this resistance in courts.

The Center’s research efforts contributed evidence to Congress that FOIA needed amending. In 1972, Congress held hearings with representatives about their frustrations after repeatedly being denied information by executive departments on matters of foreign relations and budgets [44]. In 1974, with the Watergate investigations as backdrop, a set of amendments easily passed in Congress over a veto by President Gerald Ford⁷. The amendments addressed ongoing inaction by agencies, requiring them to reply within ten days and made copying fees uniform.

⁷Antonin Scalia, then a young professor at the University of Chicago, characterized FOIA negatively as “the Taj Mahal of the Doctrine of Unanticipated Consequences, the Sistine Chapel of Cost-Benefit Analysis Ignored” [37]

FOIA would be amended by Congress five more times before Obama’s 2013 Directive on machine-readable data; the law would also fall subject to the political winds of presidential administrations as they alternately restricted and liberalized records releases through various executive directives. What is important here is that a policy change around government information access reflected the country’s shifting political and cultural understandings of what open government entailed: citizens now believed they had a right to the daily records of administrative agencies. FOIA also created new repertoires of democratic participation and resistance, exemplified by the Center for Responsive Law. This type of citizen participation was often adversarial – it was led by citizen “watch dogs,” the press, and advocacy groups that saw their role as a check on unscrupulous power by government, the military, and industry. The language and actions used by FOIA’s supporters in the press, civil society, and Congress consistently reflected a progressive atmosphere that championed the public interest over vested power. Although FOIA was also an instrument of the private sector, it neither originated from nor strengthened business interests alone. FOIA addressed the asymmetry of power between citizen overseers and the functionaries who carry out government responsibilities, allowing citizens a means to intervene in complicated administrative activities concerning chemicals, dams, streets, food safety, and air quality.

4 THE ECONOMIC VALUE OF GOVERNMENT INFORMATION

With computerization in the eighties, the concept of open government evolved again to confront new policies around electronic databases. During this decade, government documentation practices and bureaucratic transactions swiftly computerized, transforming an agency’s means of gathering and processing information, as well as the public’s access to records. State and federal courts began to link up databases, and in many cases government efforts outpaced the private market. The National Institute of Health, for example, launched the Medical Literature Analysis and Retrieval System (MEDLAR) in 1964, creating “the first large-scale, computer-based retrospective search service available to the public” [30]. Consumer habits were changing as well; by 1984, more than 16 million homes had computers [42].

Technological change was not an inexorable transformation; rather, it was spurred in part by policy. The Reagan administration’s 1980 Paperwork Reduction Act mandated that agencies reduce the burden of paperwork through electronic records systems that would minimize the burden and costs of collecting paperwork on citizens and businesses. Agencies were to use electronic processing to improve services, increase productivity, and make internal management more streamlined. The act, however, said little about how executive agencies should disseminate electronic information to the public [36]. Indeed, according to information access advocates, the Reagan administration did not see information delivery to the public as a core mission of agencies. As Jamie Love, director of the Taxpayer Assets Project, put it, “the Reagan/Bush administrations, often without much opposition from a compliant Congress, vastly restricted the ability of federal agencies to provide the types of services that would exploit modern computer technologies for

the benefit of citizens,” thanks to a “rigid ideological faith in private markets” [18]. McDermott, a public access scholar, argues that the act was less attuned to the public than it was to government efficiency and productivity; as a result, the act reflected “a political, economic, and social philosophy that considered information an economic resource, rather than a public good” [27].

The PRA reinforced the Reagan administration’s faith in a new information industry that saw structured, machine-readable information as an independent commodity that could be bought and sold [32]. Commodifiable information included online bibliographic systems important for scientific and technological research; statistics based on surveys, censuses, mailing lists, and credit information; and television ratings. Computerization, for instance, made possible the rise of statistical forecasting and profiles of entire sectors’ financial health, derived from the electronic storage of credit information that had formerly been analyzed in written reports. One of the largest private registers at the time, Donnelly Marketing, had names and addresses of 87 percent of Americans [32].

Indeed, a 1985 set of guidelines for the PRA, the Circular A-130 called “The Management of Federal Information Resources,” made explicit the economic importance of government information to commercial information vendors. The circular encouraged agencies to privatize their information services and to use caution when considering whether to disseminate information proactively to the public, particularly if it competed with the private sector. According to Love, the PRA was a victory for the Information Industry Association (IIA), which had lobbied Congress to privatize public information dissemination since 1975 [17].

To be clear, value-added services for government information had had a place in the private marketplace well before computerization. NOAA began releasing weather data in the 1970s, allowing a commercial weather forecasting sector to emerge. The financial sector had long taken advantage of SEC information thanks to free market-oriented disclosure policies, most important of which was the Securities Act of 1933 that Congress put in effect after the Great Depression. As a consequence, the financial industry used this public information to design commercial services, including those sold by financial institutions such as Dow Jones and Standard and Poor. The financial industry, therefore, always preferred non-restrictive information policies that allowed companies to add value to public information and then make it widely available as a private good.

Electronic government records, however, would be revolutionary, according to a document put forward by the IIA at a hearing of the U.S. Congress in 1985:

Like the Renaissance period, which documented what had been achieved up to that time and thus spurred an outpouring of new achievement, today’s information technologies have given us the means to capture and manipulate the vastness and complexity of information resources to lead us to a renaissance-like outpouring of new human capabilities. The information technologies not only give us the ability to record and store vast quantities of information equivalents but also enable us to manipulate

these and to test our plans and forecasts in the process [42, p. 92].

The new information policy by the Reagan administration took this position as well. The OMB Circular, for instance, specifically suggested that agencies encourage “value-added” resellers of its information. The concept of “value-added information” gave rise to the understanding of electronic government records as “electronic raw data” that, when delivered in bulk, could accrue value if enhanced through additional layers of software by individuals or businesses [42, p. 82]. Electronic records could be enhanced through indexes, abstracts, retrieval or search software, full-text search, and images, and reformatted in ways that permit new types of information to be created. According to the 1985 hearing, “In an electronic environment, the extent of the deliverables is far from finite; information in electronic form can be formatted and reformatted in countless ways to meet needs never conceptualized at the inauguration of the system” [42, p. 84]. In electronic form, government information would be the source of value-added services that the government might never foresee.

As a consequence, this understanding gave rise to several federal contracts with private sector software companies. For example, the Department of Justice’s (DOJ) JURIS system, an electronic database of federal legal information, remained unavailable to the public due to a contract that licensed case law and other legal information in digital formats to West Publishing. The contract prohibited the DOJ itself from providing public access to this data; hence, the department denied FOIA requests to the entire JURIS database. Similarly, the Federal Maritime Commission’s Automated Tariff Filing and Information System, an electronic records system that began to be developed in 1983, denied the public remote Internet access to its files throughout the decade, requiring them to pay for electronic retrieval through a commercial company owned by Knight Ridder [43].

Agencies, in essence, often sub-optimized their electronic records systems to promote a private sector industry based around value-added services for public information. One alarmed congressman described how “this historic shift from a policy of pricing information at reproduction costs to the pricing of information according to willingness to pay [...] has disastrous consequences for society. It represents a rejection of the principle of universal access to federal information and it will lead to inefficient dissemination of information that has important social, economic, and scientific value” [34, p. 290].

Significantly during this decade, policymakers considered “wholesale” government data – that is, data in bulk without value-added resources – outside the public’s interest. The methods for offering in bulk at that time were in the formats of tapes, optical disk, and expensive dial-up or in public reference rooms around the country. In fact, policymakers saw the release of information wholesale as *counter* to FOIA, because it increased “the frequency with which agencies decline access altogether, by forcing requesters to take data in gross in forms usable only by the technologically sophisticated” [20]. Adding value to public information was viewed as the commercial sector’s purview, not something a private citizen would undertake. The debate at the time rested instead on whether

government agencies should undergo sophisticated statistical analyses and database schemes to retrieve information for the public themselves, as information access advocates argued for, or whether a privatization model should prevail. Because capital costs at that point were so high, officials in the Reagan and Bush administrations opted towards infrastructure built by private companies that required user fees to recoup investments.

The eighties came to a close, then, with the struggle for open government repositioned away from the *legality* of the public's right to access to records, to criticizing artificial scarcity driven by copyright incentives and monopolistic contracts. The assumption remained in place that the government's release of electronic public records, while having clear civic value, was not always economically feasible and remained incompatible with the economic interests of the private sector. Early open data projects would emerge as critiques of this position and proofs of concept to the contrary. Opening government databases online would be championed as serving both public and private sector parties that saw the market value in openness.

5 OPEN GOVERNMENT MEETS OPEN SYSTEMS

The Taxpayer's Assets Project (TAP), a subcommittee founded in 1988 for Nader's Center for the Study of Responsive Law, focused on issues related to the management and sale of government assets [16]. TAP was also among the few civil society groups, other than the library community, to monitor government information policy as it became increasingly technical and esoteric. The complexity seemed deliberate; to TAP's director, Jamie Love, the government's highly fragmented, decentralized information systems appeared to be a response to lobbying by the Industry Information Association, which did not want the government to compete with its members by organizing information into one easily accessible database [42]⁸.

Love became a particularly outspoken opponent of the SEC's electronic database, called EDGAR (Electronic Data Gathering, Analysis, and Retrieval). The SEC first began piloting EDGAR in 1983 in an attempt to reduce the paper load of company filings – 9,500 companies were submitting at that time, amounting to over six million pages of paper each year [42, p.40]. These documents included hundreds of public reports filed by private corporations, brokers, investment advisors, and other entities and provided the names and salaries of corporate officers and board members, as well as other matters such as trading by corporate insiders, pending civil or criminal actions, and company balance sheet and income statements. The system could respond to requests for information more efficiently by producing microfiche rather than paper copies, and businesses could file as well as pay fees to the same system. EDGAR was expected to be "revolutionary," allowing "around the clock trading" and investment decisions built on almost instant access to daily stock fluctuations [19]. However, the project came with a hefty economic price tag estimated at more than \$50 million.

In 1989, the SEC moved into the implementation phase of EDGAR with its new contractor, Mead Data Central, Inc. While the SEC itself handled receipt and review of companies' electronic filings,

Mead took charge of their storage and dissemination and created a search-and-retrieval system for the public. In this manner, the public SEC data existed on a private server in Dayton, Ohio, controlled and owned by Mead. The SEC itself only maintained official microfiche copies of these electronic records, depriving it of possessing machine-readable copies. The resulting project created a tiered system of access: Citizen requests for EDGAR information received a paper copy from the official microfiche, itself a copy of the electronic filings; this could take days or weeks to receive, with recipients charged per page (\$20–\$30 per filing). Meanwhile, financial companies could subscribe for \$150,000 a year to a bulk sales program that would allow them online access to the electronic files. Or, for \$75,000 a year, subscribers would receive magnetic tapes through the mail. Subscribers thus had quicker access than did nonsubscribers [11].

Love took issue with how the government encouraged a private market out of its public documents and research. Clearly the arrangement between the SEC and its contractor was not in the public interest – without electronic copies of its own information, the SEC could not respond to the FOIA requests for information in that format; it meanwhile denied the public copies of the electronic database so that the contractor could continue to profit from sales. The contract also stipulated that the contractor only sell electronic tapes for the day's filings. If someone wanted SEC information in electronic form, he or she was effectively blocked from receiving it as a cumulative database, discouraging competition by preventing the person from entering the online market for SEC filings.

In 1993, EDGAR found another critic in a Washington-based technology author, "computer whiz" and public domain advocate, Carl Malamud [3]. In the years prior, his nonprofit, Internet Multicasting Services (now called Public.Resources.Org), had been engrossed in a campaign to dismantle copyright around the documentation of Internet standards. Writing in 1991, Malamud argued that documentation of Internet protocols belonged in the public domain, as was the case with TCP/IP, but not the Open Systems Interconnection or OSI. Malamud exposed the deep irony that standards for an international open system could be copyrighted and kept offline [22].

Malamud turned his energy next to EDGAR because of a technical challenge raised at a congressional hearing. In 1993, Malamud delivered a speech about the Internet to the U.S. House of Representatives. Chairman Edward J. Markey explained that the House Telecommunications and Finance subcommittee also oversaw the Securities and Exchange Commission and that Jamie Love had asked why SEC filings were not online. The SEC had responded that posting EDGAR's filings online was not technically possible and that the filings wouldn't find an audience beyond Wall Street (or the "fatcats," as Malamud called financiers). To Malamud, such conditions – the SEC's contract with a commercial firm – created a hurdle to putting public information in the public domain. According to Public.Resources.Org's website, "the SEC had drunk the value-added koolaid popular among beltway bandits of the era" [21].

Both Love's and Malamud's language at the time is important for our understanding of how the rhetoric around opening government information changed. In the eighties, making records available to the public entailed either extensive government capital or exclusive

⁸Love himself had a technical background: Before joining the Center, he worked as an economist who developed database services for financial investors.

licenses with private companies that foreclosed free or easy access. In discussions about EDGAR, in contrast, disclosure and openness became linked with unforeseen market opportunities. First, though Malamud's prior experiences were rooted in the design of Internet standards and software and Love's in a government watchdog group, both spoke of the potential for private sector innovation using government data in electronic form. Speaking at the SEC's EDGAR Technology Conference in August of 1995, Love points out that the firms that could create the most useful interfaces for government data were not given consideration in the original conception of the EDGAR system:

I can say from our experience in the legal market that the important value added sector that is left out when you have poor government management on records are the most innovative companies. The companies that cannot enter, for example, the legal market are the companies that provide artificial intelligence front ends, that provide novel new ways of searching documents and combining information [23].

That allowing free access to wholesale government databases would help the business sector was also a selling point by Malamud to the SEC at its EDGAR Conference: "There is a tremendous market for extracting value out of this information, and I believe by putting the base data out there we are going to encourage a retail information industry" [23]. That same year, computer companies also began to see the value in open government information, including America Online and Knowledge Systems, whose representatives spoke to the Markey Commission in the House to advocate for free online access to EDGAR – these new companies were also interested in an open market of wholesale government information on the Internet [3].

Furthermore, providing information in bulk, according to Malamud, offered an important civic tool. Malamud argued for the principle of openness on behalf of other potential users, whether citizen action groups, universities, or the press, who would take on the role of innovating upon or interpreting arcana found in government documents in a way useable to a wider public. As an article in the library-focused journal *Against the Grain*, put it, "Malamud's overarching goal is to release government information into the open so that others can build more advanced interfaces and facilitate better access to the workings of our governments" [6]. The users could be anyone, "including college students, senior citizens, and young researchers," as Malamud made clear in a letter he wrote to Al Gore complaining of his ongoing entreaties to the U.S. patent office to put patents online [24].

After his conversation with Markey, Malamud worked with NYU's Stern Business School under the auspices of a \$600,000 grant from the National Science Foundation. The team piloted a cost-effective online version of EDGAR, complete with public domain network-based tools that added searching, an anonymous FTP, and email. The website went live to the public in the fall of 1993 and immediately generated interest, with an average of 16,700 hits a day. NYU and Malamud oversaw the project for two years, then asked to hand it over to the SEC [39]. After much handwringing over the potential costs and after rejecting several more offers from

private companies to take over the effort, the SEC began operating EDGAR itself in 1995.

That same year, the Clinton administration passed a revision of the Paperwork Reduction Act that mentions data explicitly: Agencies that offer "public information maintained in electronic format" are to provide "timely and equitable access to the underlying data (in whole or in part)," effectively ending what Patrice McDermott calls "sweetheart deals" with private sector companies that had been given exclusive access during the Reagan and Bush administrations [27, p. 41].

Malamud's interpretation of openness reflects his technical background. He reinterpreted openness in light of his practice with open systems (which also influenced Public.Resources.Org's slogan: "open source America's operating system"). Malamud had argued that the Internet developed and thrived due to a standard that remained in the public domain. When standards were closed, participation, and consequently innovation in software and services, wilted. The analogy could be grafted onto government documents: Keeping them unnecessarily locked behind paywalls by secondary private contractors prevented a wider audience from accessing the records and building knowledge or business opportunities upon them; it stifled creativity that could contribute value to the data.

After the EDGAR controversy, citizen access to government information became equally a legal issue and a technical matter of format standardization and easy points of online access. Technical openness of government databases allowed a private sector to thrive alongside a monitory culture. These two motives – openness as government disclosure and openness as open systems enabling unforeseen "value-added services" through entrepreneurship – both became strongly embedded in the concepts driving open data policies and the open data movement. As touted by open data initiatives, value-added services are no longer monopolistic parasites of public goods; they complement the goals of openness.

While work done by Internet Multicasting Services was not called, at the time, open data, the release of EDGAR is cited as an important precedent for open data efforts [33, 38]. Other prototypes for open data followed a similar formula: They were often designed by programmers or civic groups interested in marrying ideals of open systems and open source software – specifically open licenses, documentation, and formats – with access to public records. EDGAR became a precedent for additional efforts by Malamud to liberate government information from private contractors or sluggish agencies; these included a database of U.S. patents in 1998 and, more notoriously, the PACER (Public Access to Court Electronic Records) database of government law in 2008. Malamud objected to PACER for charging fees for each document on its online database and enlisted other supporters to download the records from terminals at public library that had free PACER trials. Aaron Swartz, the renown open Internet activist⁹, wound up downloading twenty percent of the database and giving it back to Public.Resources.Org to distribute.

⁹Swartz committed suicide while the subject of a federal prosecution that had accused him of several felony counts and would have imprisoned him up to 50 years if found guilty. The charges resulted from Swartz's batch downloads of JSTOR files. Swartz had an account with JSTOR at the time of his downloading activity.

Some early open data projects, such as OpenSecrets and GovTrack.us, carried on the work of monitory publics, putting transparency at the service of spotlighting consumer safety, corporate accountability, or government corruption. Yet also underlying these efforts is the iterative logic of open source software culture: Public documents that are open by law should be available using the open protocols of the Internet, making the records open in a technical sense as well [13]. The influence of open source became solidified in the “eight principles of open data” written by the Open Government Working Group in 2007, which, as mentioned, has now become enshrined in federal and local policies. The principles stipulate that data must be in open, structured, machine-processable formats with non-discriminatory licenses. Implicit in the open source spirit, as critics have pointed out, is an ethos that encourages private services built on top of public data (analogous to open source code that underlies private software) [5, 15, 26].

Because proponents of open government data now tout both its civic and commercial functions, it is no surprise that other early open data projects entailed collaborations between city governments and private companies that embrace “openness” as a corporate strategy. Google has been the most successful at this approach. Indeed, the first release of city data in a customized open format resulted from collaboration between Google and the City of Portland, Oregon; the open format eased the use of public transportation data on Google’s Map application. Open APIs and open source software used by Google and other companies such as Facebook and Amazon encourage developers to “enrich the customer experience” for these companies’ users, while the products industry has embraced “open innovation” by inviting customers to become “prosumers” and contribute to product development [4]. Concurrently, as open data policies have spread, the adversarial, monitory nature of government disclosure advocacy operates alongside civic projects, such as civic hackathons, that foster collaboration and mutual support between private companies, open data advocates, and governments. As these projects unfold, the inequitable distribution of power that Nader and Right to Know advocates articulated is often no longer the primary concern. The focus lies as much on transparency as innovation and economic growth.

6 CONCLUSION: OPEN GOVERNMENT CO-OPTED

Open data’s vision of open government, in effect, deemphasizes the function of transparency policy to expose structures of political power and information asymmetry. In the rhetoric of open data, the monitory struggles against government secrecy, corporate greed, and monopolistic electronic information technologies that took place in the sixties, seventies, and eighties is today often downplayed, while the promotion of innovation and entrepreneurship is commonplace. Consider Los Angeles open data directive, issued the same year as the Obama directive:

Open Data empowers Angelenos to participate in governance with greater understanding and impact. Opening government data to entrepreneurs and businesses promotes innovation by putting that information to work in ways outside the expertise of government institutions and gives

companies, individuals, and nonprofit organizations the opportunity to leverage one of government’s greatest assets: public information [9].

Less a “monitory culture” in which citizens continue to pit themselves against secretive, monolithic bureaucracies and exploitative private industries, open data proponents seek mutual collaboration between citizens, companies, and governments.

The conflation of these interests has consequences that bear on the division between public and private services. First, this alignment means that citizens who advocate for the civic importance of data transparency often do so in solidarity with the private interests of a powerful commercial sector that profits from the reuse and repackaging of public resources. The Google-owned driving app Waze, for instance, has encouraged several cities to make information on street closures and public events available as open data and hence for use on its platform.

Another consequence is that technology companies can easily co-opt the language of openness as a strategy to purport their civic value. The claim that openness is inevitable for governments and technology companies alike is evident in this blog post on Google’s website:

Open will win. It will win on the internet and will then cascade across many walks of life: the future of government is transparency. The future of commerce is information symmetry. The future of culture is freedom. The future of science and medicine is collaboration. The future of entertainment is participation. Each of these futures depends on an open internet [10].

In this logic, openness is always in the public’s interest. Yet such claims mask that, while private companies may provide open APIs, use open source software, and encourage user-driven content, these activities are not identical with placing their commercial data in the public domain, nor compatible with the mass surveillance, free labor exploitation, and data mining of their users that underlie their business models.

In sum, this article has attempted to offer a complex lineage of the dual valuation of open data, one that promotes both information disclosure and market-based values. Jamie Love’s work for the Center of Responsive Law is a thread running between the Center’s inventive, monitory use of FOIA in the sixties and seventies and the more benign, industry-friendly rhetoric that later came to ground open government data in the nineties up to the present. The rhetoric of reconciliation between civic and commercial sector interests, grounded in part in the debates over EDGAR in the eighties and nineties and now prominent in open data discourse, has in turn had important consequences for our understanding of the distinctions between public and private service delivery today. Thank you to Lucy Bernholz, Emily Clough, Johanna Drucker, and Jessica Feldman and to the Digital Civil Society Lab at the Center for Philanthropy and Civil Society at Stanford University.

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