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Alexa and the Making of the Neoliberal Ear

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Alexa and the Making of the Neoliberal Ear

Abstract

Smart home device Amazon Echo, equipped with a voice assistant named Alexa, is a new ear within the home, gathering previously inaccessible sounds of the domestic sphere. Devices such as Echo are constantly 'on' and listening, but whether Echo is always recording is subject to speculation and ambiguity. In this article, I use Echo to theorise sonic surveillance through what I term the 'neoliberal ear'—a twenty-first century mode of listening to the world embedded into 'surveillance capitalism.' (Zuboff 2019) I examine the relationship between non-creative recording practices and voice-enabled technology within the context of neoliberalism and its legislative allowances.

Conceptualizing Amazon Echo as a complex sonic object that listens to voices in the domestic space in order to gather information on the subjectivity of its users while normalizing the ubiquity of listening in, I investigate the surveillance capabilities of the device, and conduct a sound studies analysis of dispossession and displacement in surveillance capitalism, which I argue are rooted in the split between listening and recording in US copyright law. To discuss Echo's legal ground, I focus on a murder case in which Echo was requested as evidence, considering the specificity of sound within privacy law, and analysing the relationship between Echo and the First and Fourth Amendment of the US Constitution. I view these sonic theorisations of the US legal framework as an initial step to form a neoliberal history of aurality through the conception of the neoliberal ear.

Alexa and the Making of the Neoliberal Ear

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‘Best not mess with someone who knows where you live and has your credit card’ kirubakaran May 25 2018 *Hacker News*

1 Introduction

Amazon Echo stands dark and immobile, and only lights up in a turquoise colour when it hears the wake word ‘Alexa,’ a three-syllable feminine name that contains the paradox of the device it awakens. ‘Alexa’ is common enough to seem both ordinary and recognizable to most western ears, yet uncommon enough that it is unlikely to be confused with a member of the household. Like many other features of Echo, in calling their voice assistant ‘Alexa,’ Amazon attempts to walk a fine line between the familiar and the unusual.

Echo now sits in over 100 million households, providing aural interactions with technology: through vocal commands and responses, speech recognition, and listening and recording. Echo’s circular shape houses seven microphones, allowing it to hear from anywhere in the room. Yet, Amazon insists that Echo does not record sonic data unless the wake word is used. When asked directly, Alexa responds: ‘I only send audio back to Amazon when I hear you say the wake word.’ This response highlights two important points: first that Echo is always listening for the wake word, and second, that any sonic information

occurring after the wake word is shared with Amazon. The device is constantly 'on' and listening, but whether Echo is always recording is subject to speculation and ambiguity.

In this article, I use Amazon Echo to theorise sonic surveillance through what I term the 'neoliberal ear.' I conceptualise the neoliberal ear as a set of listening practices within 'surveillance capitalism' (Zuboff 2019). Shoshana Zuboff defines surveillance capitalism as a new model of market capital which surpasses the economic domain of the workplace to dominate social life. If capitalism evolved through the commodification of various domains, surveillance capitalism claims private human experience as a source of free raw material for subordination to market dynamics. This data is then combined with computational capabilities to predict human behaviour, using tools such as Echo, which she terms 'prediction products' (67: 2019).

Surveillance capitalism is both a product of neoliberalism, and a tool for its preservation. In my theorisation of the neoliberal ear, I use David Harvey's definition of neoliberalism as:

A theory of political economic practices that proposes that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterised by strong private property rights, free market, and free trade. The role of the state is to create and preserve an institutional framework appropriate to such practices (2007: 2).

Neoliberalism values free market exchange as an ethic in itself capable of acting as a guide to all human actions. As such, it promotes freedom, individualism and self-interest, over social justice and collective well-being. As a mode of governance, it promotes a self-regulating free market (Steger and Roy 2010). The neoliberal apparatus rests on the separation between government and private corporation, thus allowing private entities such as tech companies to reach the power status of nation-states through the control of the means of communication.

Neoliberalism as an ideology is enacted in surveillance capitalist devices, which in turn lead to surveillance capitalist market profit and allow for a neoliberal mode of governance. Neoliberalism

thus functions as a set of legislative allowances which both enable surveillance capitalism and allow it to thrive. Echo embodies and promotes neoliberal ideology, and Amazon acts within a neoliberal mode of governance allowed by public policies. Here, I only focus on some manifestations of neoliberalism within prediction products. These products are created with the neoliberal logic of infinite modifiability and little government oversight. I show how tools such as Echo function to persistently push the boundary of the commodifiable into the sensory realm of aurality and identify their ethical implications and legal ramifications.

The neoliberal ear is comprised of non-human tools made by humans and fed by human behaviour in a constant feedback loop. It's the ear that generations of despots have dreamed about: it can collect and process massive amounts of data to serve the apparatus within which it is situated. The neoliberal ear is ubiquitous and hopes to hear every facet of human life; by listening, it turns sociability into data. The data it generates lay outside our care, and the ownership of our voices depends on terms of use we didn't read, but agreed to. It is both derived from and exploiting desire: the desire to listen, and the desire to be heard. The neoliberal ear is always ambiguous: it raises doubts about its technological capacities and motives; it blurs the lines between listening and recording, between public and private, between digital and analogue identity. It emulates or enables idealised humans and human interactions, available for free or for cheap, but comes at great social, political and ecological cost. The neoliberal ear is simultaneously a physical, virtual, and metaphorical entity that listens, processes, stores, and shares human sounds owned by private corporations.

The neoliberal ear is the listening entity that feeds surveillance capitalism. By investigating its listening practices, I show what a sound studies analysis of neoliberalism can offer to current discussions about surveillance. In this paper, I analyse Echo's privacy policy and some of its skills, an Echo patent application, as well as the legal framework within which the device operates such as the US Constitution, US copyright law, and the third party doctrine. I put these in conversation

with literature from sound studies, communication studies, and ethnomusicology. The implications and ramifications of the neoliberal ear are a work in progress and require future engagement with several tools of surveillance capitalism. As an initial step, I propose an aural theorisation of data gathering practices in neoliberalism through an analysis of Echo, and their legislative allowances and limitations in the American legal context.

By focusing on the American context, I do not wish to argue that surveillance, or surveillance capitalism, is solely an American or western preoccupation. The US is currently the leader in producing (although not in manufacturing) tools of surveillance capitalism, which it does within the general *laissez faire* of the American legal system. However, the modalities of production of tools of surveillance capitalism have global effects. Furthermore, if, as Zuboff argues, surveillance capitalism is an ‘unprecedented’ (17) form of market capital, it is rooted in colonial ideology. Zuboff argues that the ‘conquest pattern’ of Christopher Columbus, achieved through ‘the invention of legalistic measures to provide the invasion with a gloss of justification, a declaration of territorial claims, and the founding of a town to legitimate and institutionalise the conquest’ (118), is analogous to the conquest pattern enacted by tech companies and lay as the foundational ideology of surveillance capitalism. Surveillance was also used in colonies to promote, protect and ensure the colonial agenda and its capitalist economical system (Ogasawara 2019: 3). Similarly, Simone Browne’s work on modes of surveillance during slavery, shows how ‘racialized surveillance’ (2015: 16) was used to maintain slavery as a profit-making enterprise. Browne further notes: ‘Surveillance is nothing new to black folks. It is the fact of antiblackness’ (10). Thus, surveillance capitalism is not born in 2001 as a result of 9/11 and Google’s decision to sell ‘behavioral surplus’ (Zuboff 48) to advertisers. Its origins lie at least as far back as the colonial practices of surveillance for imperial economical imperatives, and as I will further discuss, in the enclosure of the commons, and was enabled by 20th century neoliberalism and technological capabilities.

My theorisation of the neoliberal ear stems from Jonathan Sterne's historicisation of sound reproduction technology in his book *The Audible Past*, and Emily Thompson's history of aural culture in 20th century America in *The Soundscape of Modernity*. In her book, Thompson identifies the new sounds that are both produced by and characteristic of modernity, which reveal and lead to the formation of a specific culture of listening. Analysing cultures of listening enacted in the construction of novel acoustic spaces such as the concert hall, Thompson describes the modern sound as either a nuisance or a commodity, which, in either case, is something to be controlled and rendered pristine (2004). In *The Audible Past*, Sterne argues that 19th century interest in the workings of the ear allowed for the emergence of recording technology. He theorises what he calls 'audile techniques' as a 'set of practices of listening that were articulated to science, reason, and instrumentality and that encouraged the coding and rationalisation of what was heard' (2003: 23). For example, in examining how audile techniques were used in the field of medicine with the stethoscope, Sterne argues that listening came to be associated with intellectual distance and with the separation of the senses. Sterne describes how the stethoscope's setting contributed to the notion of a malleable, private acoustic space, as did the world of sound telegraphy later. In such a rich interior acoustic space, one had to foreground some sounds as signs and background others as noise in order to make sense of the things listened to. These audile techniques led to recording practices that enacted specific sonic cultures. My theorisation of the neoliberal ear directly draws from Sterne's and Thompson's modern ear. I situate the neoliberal ear as part of a historical continuum whose origins lie in colonial modalities of property which translate into US copyright law, and its nefarious separation between original and recorded sound.

This article figures as the first stage of development of the concept of the neoliberal ear, whose central aim is to interrogate and explore the audile techniques of surveillance capitalism. I treat sound as 'simultaneously a force that constitutes the world and a medium for constructing knowledge about it' (Ochoa 2014: 3). As such, sound is both an acoustic event, and a mode of knowledge production.

Here, I use sound as both a metaphor and a medium for surveillance, exploring the following questions: In what sonic culture do we operate when we enact the desire to hear everything from everyone? How has listening changed in the neoliberal age? How does Alexa's modalities of listening change the sonic make up of neoliberal life? To what extent can listening be sadistic, invasive or destructive? What kinds of information does sonic data contain, and what is the incentive for tech companies to obtain it? What are the legislative allowances and limits to the protection of privacy?

In the first part of this article, I describe Echo and investigate the surveillance capabilities of the device. I then conduct a sound studies analysis of dispossession and displacement in surveillance capitalism, which I argue are rooted in the split between listening and recording within US copyright law. Finally, I use a murder trial in which Echo was requested as evidence to analyse the relationship between Echo and the First and Fourth Amendment of the US Constitution. I view these sonic theorisations of the US legal framework as an initial step to form a neoliberal history of aurality through the conception of the neoliberal ear.

2 Building the Neoliberal Ear

In this section, I describe how Echo is dependent on the user's data and free labour, thereby establishing a feedback loop. I look at the privacy policy, some of Echo's functionalities, and a patent application to argue that surveillance is not a byproduct or unfortunate consequence of the technology, but rather is embedded within the conception of the device. I demonstrate how Echo is a complex sonic object that gathers voices to obtain information on the subjectivity of its users in the domestic space.

Echo is an Internet of Things (IoT) device designed for the domestic space. Echo costs between \$35 and \$200, and has, since its launch in the US in November of 2014,¹ expanded into various devices: Echo Spot, Show, Dot, Dot Kids, Alexa Guard, Auto and dozens more. Amazon is investing in a monopoly of Alexa-enabled devices. As

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Priya Abani, an Amazon executive notes: 'You should be able to talk to Alexa no matter where you're located or what device you're talking to. We basically envision a world where Alexa is everywhere' (Pierce 2018). Over time, and fed by user data, Echo is constantly improving with new capabilities. With only 14 capabilities, called 'skills,' at its release, Echo has now over 100,000 and growing. The hardware and software built by Amazon make it easy to add skills over time and add Alexa into objects of daily life. Any developer can 'Alexa-enable' its device by purchasing a kit from Amazon. Amazon sells various kits with different skills, but all have one thing in common: microphones. For developers the idea is seductive: for just a few hundred dollars, the speaking voice and listening practice of Alexa can be embedded into any device without the need to develop complex voice technology. For Amazon, this allows for an Alexa controlled domestic environment. Thus, central to its appeal, is Alexa's capacity to grow by extending its influence, its sphere of knowledge, and its abilities. Alexa is not just a voice assistant or a single device, but rather is a technology designed to connect people to other services, devices or media, while simultaneously gathering an ever-expanding network of data.

The Echo user thus takes a much more complex place in the ecosystem of Echo than the end point. As Kate Crawford argues, the Echo user is simultaneously a 'consumer, a resource, a worker, and a product' (2018: VI). The user does much more than purchase and interact with the device: the content of their voice commands and Alexa's responses are collected to feed and improve Echo's capabilities. In fact, without this valuable service there wouldn't be an Echo. What it takes to produce the Echo wouldn't be profitable to the company if the device couldn't be improved over time, with millions of data points. As such, 'users form a cyclic flow in which the product of work is transformed into a resource, which is transformed into a product, which is transformed into a resource and so on' (Crawford 2018: X). Alexa thus creates a feedback loop: it listens, stores, analyses, and uses the data it collects to improve its capabilities to get more information from the user. In continuous transformation, the neoliberal ear listens, captures, and stores anything within its capabilities, and it needs to

feed off the user in order to exist. The improvement of services and devices is the main justification for extensive data gathering practices in surveillance capitalism. The device, always in beta mode, is meant to be improved over time and needs an ever-expanding data set to do so. But is this the only use of the data? Looking at Alexa's skills and privacy policy provides an entry point into this question.

In the current privacy policy, Amazon makes it clear that they record and store all *interactions* with the device, as well as share information to third party services when their skills are used. For example, if a user listens to Spotify on Echo, Amazon may 'exchange related information with that service, such as your ZIP code when you ask for the weather, your custom music stations, information about your Auxiliary Products, or the content of your requests' (Alexa Terms of Use 2020). I have learned to be weary when privacy policies use the term 'such as,' meaning these are just examples of the data being extracted, and more could potentially be shared. The privacy policy allows Amazon to trade not only sonic data, but also information based on sonic behaviour (such as what music we listen to and when) to other parties. This modality of shared listening remains largely unregulated, and companies are often not held accountable for the kind of data they own and share, or how this data is processed and used. Aside from the concerns arising from the privacy policy, there are privacy concerns stemming from Echo's skills.

In *Automated Media*, Mark Andrejevic shows how recent technological formations are guided by a desire for automation. This desire is a response to 'a perceived problem: the moment of uncertainty, unpredictability, inconsistency, or resistance posed by the figure of the subject' (Andrejevic 2019: 2). Automation offers speed and predictability, serving the neoliberal agenda of maximized profit, while, as Andrejevic notes, profoundly affecting decision-making, social skills and subjectivity. On top of Echo's extensive data gathering on daily user activity (such as alarms, lights, and search queries), Echo is also equipped with 'Alexa Hunches' a skill that 'predicts' human behaviour. Hunches can suggest actions to the user based on their daily behaviour.

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For example, if the user usually turns off the lights before they leave for work, Alexa would get a hunch that something is wrong if the lights didn't turn off, and might say: 'Hey, I think you left the light on, would you like me to turn it off?'

Here, what Amazon is proposing is the ability to anticipate what people need, and even what they have forgotten. It aims to think for—and 'better' than—the user. As Daniel Rausch, Amazon's VP of Smart Homes, says: 'We've reached a point with deep neural networks and machine learning that we can actually program intuition' (Harris 2018). By analysing habits and regular pattern of behaviour, Echo learns, predicts, and imitates human behaviour. Amazon exploits habits and rituals of the domestic to turn them into data-driven forms of automation.

Skills such as Hunches follow what Andrejevic terms the 'cascading logic of automation,' in which 'automated data collection leads to automated data processing, which, in turn, leads to automated response' (Andrejevic 2019: 9). Echo is thus not simply a listening entity, but a responsive one. The ability to respond accurately requires extensive data gathering practices, and the sonic world turned into data offers new possibilities for commodification. As Andrejevic notes: 'The avalanche of data generated by a sensorised world can be tamed only by the development of automated systems for processing it on a hitherto unimaginable scale' (Andrejevic 2019: 9). The cascading logic displays the listening practices of the neoliberal ear as limitless and in a constant state of starvation for more data, generating a feedback loop in which behaviour is transformed into data that is then collected, processed, and responded to.

The optional feature 'Drop In' is essentially an intercom, where one user can reach another through devices within the household, without them having to answer the call. This feature can be used within households with multiple devices, allowing for people to essentially spy on each other. If you are being 'dropped in' on and want to pretend you aren't here, being silent won't suffice: the feature uses motion sensors and allows the caller to know if you are or have recently been present.

Drop In is optional but can be activated at any point, and doesn't require the consent of other members of the household. Here, and in its basic functions, Alexa is allowing for a normalisation of constant listening, in which spying on member of the household is part of daily life. Drop In carries its own irony, as users are being spied on while they are spying. These kinds of capabilities go beyond traditional notions of spying, in which listening is unidirectional. The feature plays on people's desire to listen in, on everyone's ability to become a spy.

I conceptualise the neoliberal ear as Sterne conceptualises hearing: 'a medium for sound, a body with ears to hear, a frame of mind to do the same, and a dynamic relation between hearer and heard that allows for the possibility of mutual effects' (2015: 65). The 'mutual effects' of Echo are clear: while Echo needs the user's data to function, Echo plays on user's desires and affects their subjectivity. As such, the listened-to is involved in the listening process.

If listening has been 'described and experienced as a solitary and individual practice, sometimes deeply personal and private' (Rice 2015: 102), this notion is today obsolete. There have been several reports of Echo recording private conversations without the use of the wake word, (Ford and Palmer 2018) even at times mistakenly sharing them with users' contacts (Chokshi 2018). Furthermore, voice commands can be shared with actual human listeners for "improving the customer experience" (Lee 2019). In essence, Alexa is the aural equivalent of a search engine. However, the voice carries much more intimate details than a textual interface.

Echo is capable of constructing voice profiles for members of the household. This feature is installed in every Echo, but users have the ability to opt-out. Over time, Alexa can recognise individual members of the household through their timbre as: 'Alexa uses recordings of your voice to create an acoustic model of your voice characteristics' (Amazon Alexa FAQ). The privacy policy notes that: 'If Alexa recognizes your voice when you are using a third-party skill, that skill may receive a numeric identifier that allows it to distinguish you from other users in your household to better personalize your experience' (Terms of Use

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2020). All of this intimate data is held by Amazon and shared with third parties. Furthermore, the voice profile ability could be used to tie the information to an individual user, thereby removing the guarantee of anonymity tied to recordings.

Aural information offers a set of affordability that are specific to the voice. In the 'Keyword Determination from Conversational Data' patent application, Amazon describes a technology that would record all conversations, identify keywords within the conversation, and generate advertising based on the keywords. This voice 'sniffer algorithm' (Edara 2014) analyses audio in almost real time to provide relevant ads on other platforms. As the patent application describes, current target advertising algorithms online, based on browsing activity, provide limited information (Edara 2014). The data is gathered without context: for example, a user could do a web search for 'Trump,' without being a Trump supporter. This new system, based on vocal information would provide a remedy for this, as the technology would allow for information to be gathered in context, with all the information that voice and conversation contain. The patent application shows three problematic practices that Amazon denies doing: first the recording, storing and analysing data without use of the wake word, second, the failure to protect the anonymity of users, and third, the use of data for targeted advertising. A patent does not mean it will be implemented; it does however prevent any other companies from doing so. Patents are better understood as an archive for protected ideas that reflect the ideology and ambition of the company, allowing us to see which kind of ideas get funding.

Here, the voice reveals context in a way that is not achievable through a textual interface. As anthropologist Amanda Weidman describes, the voice has been considered in the western cultural imagination as a 'guarantor of truth and self-presence' (2015: 233). The voice is here considered a characteristic of subjectivity, thus becoming a valuable and unique kind of data. Both the patent application and the voice profile technology rely on the aural capabilities of the voice for providing far more information than a search engine could. Amazon

builds tools that rely on the richness of the voice as a conveyor of content, meaning, intent, tone, identity or mood, for transformation into data for commercial profit. The implication of the voice as data means the creation of another sphere of commodification of human subjectivity, which grows even more precise, specific and personable.

Through these technological capacities,² we see a sonic data ecosystem developing. Echo knows the timbre of your voice, it can paint a picture of your daily routine and anticipate your needs, and it has hopes to listen in on your conversations to provide targeted content. Invasion of privacy is not simply a by-product of improvement: Echo is a surveillance tool by design. It creates a set of affordances which turns the home into a listening space, and both the voice and domestic activity into data. The neoliberal ear has hopes to be an all-knowing entity at the service of surveillance capitalism. To do so, it funds, develops and implements invasive technologies, constantly innovating without regard for users' privacy. It needs massive data sets to function: the user provides this labour, while their data becomes a currency. The neoliberal ear constructs a user profile with data that is shared among listening entities, constantly building a larger archive of human subjectivity.

3 Property, Dispossession, Displacement

In this section, I trace the origins of the neoliberal ear in notions of property rooted in coloniality and the enclosure of the commons. I use the concept of 'schizophonic mimesis' (Feld 1996) to theorise the audile techniques which rationalised and legislated the separation between the sound maker and their sound. I argue that the consideration of sonic practices as private commodifiable property is the precedent that allows for understanding of our aurality as commodifiable data.

Schizophonia is a term coined by R. Murray Schafer (1969) to denote the separation of sound from its original source through the process of sound recording. I argue that western copyright law has enacted a schizophonic split between the voice as it exists as a sound, and the voice as it is translated into an object through the process

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of recording. This is reflected in the split between the composition copyright (called ‘publishing rights’) and the recording copyright (called ‘masters rights’) under the American system for music publishing. The composition copyright is guaranteed by the score and is owned by the composer. In contrast, the recording copyright is guaranteed by the master’s recordings and is owned, most often, by the record label, i.e. the entity that owns the means of production of the recording. In this system, creators often find themselves with no control, authority, or revenue from their recordings. This split between the composition and its recording reveals and enacts particular audible techniques, rooted within notions of sonic materiality and governed by capitalist profit. Because the recording is enabled by sound reproduction technologies, the law dictates that the owner of said technology is also the owner of that recording. This is enacted in conceptions of data ownership in the neoliberal age: users are not owners of the data they produced, because the technology is operated by the corporation.

I theorise the arbitrary split between voice and the recording of a voice as a form of schizophonia and dependent upon what Steven Feld theorised as ‘schizophonic mimesis,’ the set of practices that question:

How sonic copies, echoes, resonances, traces, memories, resemblances, imitations, duplications all proliferate histories and possibilities. This is to ask how sound recordings, split from their source through the chain of audio production, circulation, and consumption ... stimulate and license renegotiations of identity. The recordings of course retain a certain indexical relationship to the place and people they both contain and circulate. At the same time their material and commodity conditions create new possibilities whereby a place and people can be recontextualized, rematerialized, and thus thoroughly reinvented (1996: 13).

Recordings enable the displacement of sound and the formation of archives, which are divorced through legal and authoritative processes from the sound maker. Feld theorised schizophonic mimesis as enacting displacement within the context of ‘world music’ and ‘globalised’ music industries. This displacement posed issues surrounding credit and financial redistribution, as well as on the ability of creators to build

cultural capital (1996, 2000). In the US, Native Americans and African Americans have been subjected to various forms of dispossession, including sonic dispossession and displacement (Arewa 2010, Gray 2018, Reed 2018). Through colonial recording practices, many of these works ended up in closely guarded institutions (Fox 2017), or fell into the public domain, thereby suppressing agency and control, opening them up to the risk of appropriation, misuse, and potential economic gain to others from distribution and commercialisation. Those legal forms of colonial displacement have preceded the dispossession of data that is characteristic of the neoliberal ear, and can help us understand the profound impact that the continuation of these practices beyond the colonial has on subjectivity and sovereignty.

The arbitrary split between the voice and its copy as it is generated in copyright law, results in a legal legitimacy of the split between the user's voice and its copy turned into data. With devices such as Echo, we are listened to and the data we produce is stored in data centres outside our reach. What is done with this data is unclear, and not up to recourse. I argue that the alienation of the user from their voice is characteristic of the Marxist concept of 'primitive accumulation,' the 'separation of the producer from the means of production' (1894: Vol. III Part V). In Marxist theory, the 15th century enclosure of the land through expropriation by the state is the start of capitalism. Workers were no longer working for the fruit of their labour, but instead for a wage, dictated by those in power.

Building on Marx's theory of primitive accumulation, David Harvey develops his conception of 'accumulation by dispossession' as a characteristic of neoliberalism (2007: 170). Harvey argues that neoliberal conceptions of property is characterised by:

The conversion of various forms of property rights (commons, collective, state, etc.) into exclusive private property rights ... suppression of rights to the commons ... commodification of labor power and the suppression of alternative (indigenous) forms of production and consumption; ... colonial, neocolonial, and imperial processes of appropriation of assets (2007: 159).

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The role of the state is to back the neoliberal agenda through enacting various forms of intellectual properties that value individual property rights over the commons. Thus, neoliberal modes of property are characterised by the dispossession of the commons to turn human knowledge into commodifiable goods.

The neoliberal ear enacts harmful audile techniques: the user inadvertently consents to sonic displacement through the formation of archives outside their reach. Modalities of ownership rooted in copyright law give proprietary privileges of our voices to private corporations, with little regulation or oversight.

4 Alexa and the Constitution

In the following section I examine the legality of surveillance devices and the legislative power of the corporations who make them. I discuss a murder trial in which Echo was requested as evidence in the case, and I examine Amazon's motion to quash this request. Amazon invoked First and Fourth amendment protections, which poses a series of ethical questions surrounding recording, ownership and freedom of speech.

The Constitution affords protection against the invasion of privacy. The Fourth Amendment provides:

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized (US Const).

Under the Amendment, the people's right to privacy is protected by the issue of a warrant. This right of protection against unreasonable searches and seizures assumes forms of threat and despotism, and bars these from entering into the private sphere. The Fourth Amendment is founded on the idea that the prime danger to private sovereignty is that the sanctity of our homes will be breached by government actors (*Boyd v United States* 1886), and the amendment guarantees a right to

hide behind the walls of one's home (*Kyllo v United States* 2001). Yet, IoT devices are, by design, an ear inside the home. In looking at the language of the Amendment, we start seeing issues of compatibility with contemporary notions of the private: Is Echo an 'effect?' If, as an 'effect,' the device belongs to the customer who purchased it, the data on it belongs to Amazon. In this context, is the voice considered an effect, and if so, to whom does it belong? The Fourth Amendment protects from search and seizure of things from a place, but what happens when things and places are intangible and in constant motion?

The landmark case *Katz v United States* (1967) provides an entry point into these questions surrounding the Amendment. Charles Katz was under investigation from the FBI for gambling activity. The FBI taped, without a warrant, the telephone booth near Katz's residence, and used the recordings of his phone calls to incriminate him. With *Katz*, the Supreme Court established that physical intrusion and trespassing are not necessary for an invasion of privacy to occur, that 'people, not things' are protected under the Amendment in the context of a reasonable expectation of privacy, and that conversation was protected under the Amendment. This overturned several cases, most notably *Olmstead v United States* (1928), in which the court ruled not only that physical intrusion was necessary to claim an invasion of privacy, but that tangible objects, as opposed to conversation, would have to be seized. In *Olmstead*, Chief Justice William Howard contended:

The reasonable view is that one who installs in his house a telephone instrument with connecting wires intends to project his voice to those quite outside, and that the wires beyond his house and messages while passing over them are not within the protection of the Fourth Amendment. Here, those who intercepted the projected voices were not in the house of either party to the conversation (1928).

This particular understanding of the voice disregards its conception as both an index of identity and meaning. In *Katz*, the government argued that there was no reasonable expectation of privacy because the phone conversation took place in a phone booth with glass doors. Justice Stewart contested this argument, noting: 'What (Katz) sought

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to exclude when he entered the booth was not the intruding eye -- it was the uninvited ear.' The difference between visual and sonic surveillance was thus clearly established by the Court. Furthermore, the Court in *Katz*, broke with *Olmstead*, noted that the Fourth Amendment must adapt to new technologies: 'To read the Constitution more narrowly is to ignore the vital role that the public telephone has come to play in private communication.' (*Katz v United States* 1967) Within the data gathering practices of surveillance capitalism, we don't search places, we search identities, such that the object of search is the person, and the seizure is their subjectivity turned into data. As such, the *Katz* precedent of protection of people rather than things, should protect users from invasion of privacy.

If the Constitution protects identities from invasion of privacy, how, then, is data collection legal? The third-party doctrine, established in the 1970s by two Supreme Court cases, states that: 'People are not entitled to an expectation of privacy in information they voluntarily provide to third parties' (Thompson 2014). The doctrine establishes that while citizens do indeed enjoy a reasonable expectation of privacy within their own homes, this changes if they willingly share information with anyone or anything that constitutes a 'third-party.' The third-party doctrine considers that while law enforcement needs a warrant to invade someone's privacy, a private corporation does not. Data collected within the home is thus allowed to stream to the servers of a third-party corporation, and for this data to be shared among other entities. This means a user has no recourse if they didn't read or understand the privacy policy they agreed to. Notions of informed consent are thus central to the third-party doctrine.

Many legal scholars and privacy activist groups have contested the doctrine, as legal scholar Joel Reidenberg argues: 'The pervasiveness of disclosures to third parties in an always connected world eviscerates the Fourth Amendment' (Sweetland Edwards 2017). The IoT and the third-party doctrine contradicts the Fourth Amendment expectation of privacy within the home. Furthermore, the California State Assembly's privacy committee advanced an *Anti-Eavesdropping Act* that would

require tech companies to get consent at the installation phase from customers before storing recordings on smart devices, something that is already enacted in two-party consent law, but complicated by the third-party doctrine.

A 2017 murder case provided some insight into the way that Amazon conceived of user's rights, and their own relationship with the Constitution. The *State of Arkansas v James A. Bates* (2017) murder case received national attention after the prosecutor asked the defendant for his Amazon Echo to use as evidence in the case. Bates was accused of first-degree murder of his friend Victor Collins as well as tampering with evidence after Collins was found dead in Bates's hot tub. During the search of the premises, the police seized Bates's Echo device, and requested, with a warrant, the data from the device to Amazon. Amazon refused. Nathan Smith, the prosecutor in this case, argued:

There is not a rational or legal reason that we shouldn't be able to search that device ... voicing a search request to Alexa, is no different—legally or logically—from typing that same request into a search bar. There's no good reason devices with microphones instead of keyboards shouldn't be subject to the same rules. After all, if police present probable cause and receive a search warrant, they can often enter a suspect's home, request phone records and access recent browser history. How is that any different than searching the audio collected by a digital appliance? (Sweetland Edwards 2017)

Insensible to this argument, Amazon filed a motion to quash the search warrant requesting First and Fourth Amendment protections. With regards to the Fourth Amendment, Amazon argued that the court should demonstrate sufficient need for the recordings, contesting the probable cause of the search warrant. Although Amazon doesn't directly cite the Fourth Amendment, it makes Fourth Amendment claims. However, the third-party doctrine they benefit from for their data gathering practices disregards the Fourth Amendment. Does Amazon itself have 'sufficient need' for the data they gather on users? A search warrant contains significantly more information (sworn statements, description of place or search and items to be seized) to

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justify its need than Amazon ever has to provide to its customers. The existence of the motion to quash itself, shows that obtention of private information from the state can be challenged, while the same information can be used by a private corporation with little oversight.

In regards to the First Amendment, Amazon argued that recorded audio should be protected, citing previous courts (*Amazon.com LLC v Lay* 2010; *McIntyre v Ohio Elections Commission* 1995; *Lamont v Postmaster Gen.* 1965): ‘The fear of government tracking and censoring one’s reading, listening, and viewing choices chills the exercise of First Amendment rights’ (Amazon.com, Inc to Benton County Circuit Court 2017: 2), and noting that ‘[A]t the heart of that First Amendment protection is the right to browse and purchase expressive materials anonymously, without fear of government discovery’ (10).

Amazon further argued that both the speech of the user and Alexa’s response³ are protected by the First Amendment, claiming that courts (*Zhang v Baidu.com Inc* 2014) have recognised that ‘the First Amendment protects as speech the results produced by an Internet search engine’ (11). If the First Amendment protects, as it does, the disclosure of individual’s reading, listening and viewing habits, that information contained in Alexa’s recording, including its answers, might display and provide private information on the user. Amazon knows the information it has on users is sensitive, and presents itself as a more legitimate safeguard of citizens’ information than the state. As they write: ‘Rumors of an Orwellian federal criminal investigation into the reading habits of Amazon’s customers could frighten countless potential customers’ into cancelling their online purchases through Amazon, ‘now and perhaps forever,’ resulting in a chilling effect on the public’s willingness to purchase expressive materials (14). Amazon’s argument is ironic at best. As lawyer and legal historian Eben Moglen argues, when our mode of communication is also the mode of collecting behaviour, we need to rethink what abridgment in the context of the First Amendment means (2017). Does this mode of surveillance not enact specifically what the First Amendment is meant to protect us from?

If the First Amendment guarantees freedom of speech, surveillance of users by private corporations functions as a form of silencing (Amsellem 2021). Surveillance is a means of control: through recording and processing, the listener makes decisions on what is visible and invisible, audible and inaudible, silenced or amplified. These decisions are made to value or censor populations for political ends or capitalist profit. Surveillance in the colonies served to deny agency, ‘depriving groups of access to life opportunities’ (Ogasawara 2019: 3). The extensive surveillance practices during slavery were, among other uses, designed to prevent insurrection (see Browne 2015), a practice that continued after slavery with the monitoring of black activists by the FBI (see Browne 2015, Levin 2018). In recent years, surveillance has been decried as enabling: discrimination (See Crawford 2016, Noble 2018, *Sandoig v Sessions*, Smith et al 2016); a tool for election interference (See Wylie 2018); intimidation to suppress political activism (See Knappenberger 2014) and public gatherings (See Jack 2020). In these cases, surveillance practices directly abridge the free speech protections of the First Amendment.

The motion to quash is a fascinating document which overturns conceptions of surveillance and privacy. The document is emblematic of the neoliberal ear: it claims freedom and protection but enacts dispossession and displacement through surveillance. It also raises the question: through this motion, is Amazon attempting to protect its users, or to protect its recording practices?

A few weeks after the motion was filed, Bates, under advice of his new star attorney, consented to release the data. The motion was thus found moot, but remains an important document to understand how Amazon considers itself in relation to the Constitution. The court would not get the opportunity to rule on the issues presented in Amazon’s motion, and two questions remain: firstly, is there a different expectation of privacy with these Smart Homes devices that doesn’t exist for computers and phones? Secondly, is Alexa’s speech protected by the First Amendment? What would be the implications of this for privacy? Any proceedings after Bates released the recordings were not

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uploaded to the docket record. It is possible that the court reviewed the recordings *in camera*, as Amazon had requested, but no trace of whether or not the recordings were admitted in the trial can be found. A few months later, Bates' trial was moved *nolle prosequi*, meaning the charges were dismissed by the prosecution.

The superimposition of the First and Fourth Amendment concerning our rights to privacy is a central notion to understand privacy within the neoliberal ear. The First Amendment protects our speech, while the Fourth Amendment protects us, including our recordings. When we ask the law, 'to whom do our voices belong?' there is no unequivocal answer. In neoliberalism, everything, including the 'freedom' it so values, is subjected to market laws rather than public legislation for the common good. The neoliberal ear listens, while the law is not clear enough on rights and recourses. This forces us to think about the limits of legislative power in the privacy wars.

The neoliberal ear is the listening entity that feeds surveillance capitalism. Here, I have begun to theorize its listening practices and their implications. The invisibility of recording practices enabled the ubiquity of listening in, while the voice makes interaction with the device smooth and integrated into our daily life. Amazon Echo makes apparent the political stakes and processes of the neoliberal ear, revealing a complex array of audile techniques and social practices that are fundamentally altering the conception and experience of privacy and intimacy in the 21st century.

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Endnotes

1. Echo is now available in the UK, Ireland, Canada, Germany, Austria, India, Japan, Australia, New Zealand, France, Italy, Spain, and Mexico.
2. At the time of writing, Amazon announced several new skills. Particularly relevant is the ‘natural turn taking’ skill in which users can ask Alexa to ‘join the conversation’ and interact with users without them having to use the wake word by using ‘acoustic, linguistic and visual’ cues. See Amazon News 2020 *Introducing Amazon’s Latest Devices & Services* https://www.youtube.com/watch?v=zSE1Ya_xOoY&ab_channel=AmazonNews
3. This, as well as the recently introduced ‘follow up mode,’ points to Amazon’s ambition to reduce the use of the wake word.
4. See Timothy Wu’s Machine Speech for a critic of First Amendment protection of non-human entities: Wu T 2013 ‘Machine Speech’ *University of Pennsylvania Law Review* 161/1495 <https://papers.ssrn.com/abstract=2352334>.

References

- Anderson J and Geismar H eds 2017 *The Routledge Companion to Cultural Property* Routledge London and New York
- Andrejevic M 2019 *Automated Media* Routledge London New York
- Amazon.com ‘Alexa and Alexa Device FAQs’ <https://www.amazon.com/gp/help/customer/display.html?nodeId=201602230>.
- Amazon.com ‘Alexa Terms of Use’ 2020 <https://www.amazon.com/gp/help/customer/display.html?nodeId=201809740>.
- Amazon.com, Inc to Benton County Circuit Court 2017 ‘Memorandum of Law in Support of Amazon’s Motion to Quash Search Warrant’ <https://www.courthousenews.com/wp-content/uploads/2017/02/EchoQuash.pdf>
- Amselfem A 2021 ‘The Noise of Silent Machines: A Case Study of LinkNYC’ *Surveillance & Society* 19/2 168-186
- Arewa O 2010 ‘Blues Lives: Promise and Perils of Musical Copyright’ *Cardozo Arts & Entertainment Law Journal* 27: 573-621

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- Browne S 2015 *Dark Matters: On the Surveillance of Blackness* Duke University Press Durham
- Chokshi N 2018 'Is Alexa Listening? Amazon Echo Sent Out Recording of Couple's Conversation' *The New York Times* <https://www.nytimes.com/2018/05/25/business/amazon-alexa-conversation-shared-echo.html>.
- Crawford K 2016 'Opinion | Artificial Intelligence's White Guy Problem' *The New York Times* <https://www.nytimes.com/2016/06/26/opinion/sunday/artificial-intelligences-white-guy-problem.html>.
- Crawford K and Joler V 2018 'Anatomy of an AI System' <https://anatomyof.ai/>.
- Edara K 2014 'Keyword Determinations From Voice Data' United States US20140337131A1 filed July 30, 2014, and issued November 13, 2014 <https://patents.google.com/patent/US20140337131A1/en>.
- Feld S 1996 'Pygmy POP. A Genealogy of Schizophonic Mimesis' *Yearbook for Traditional Music* 28
- 2000 'A Sweet Lullaby for World Music' *Public Culture* 12/1: 145-171
- Fox A 2017 'The Archive of the Archive' in Anderson et al 2017: 194-211
- Ford M and Palmer W 2018 'Alexa, Are You Listening to Me? An Analysis of Alexa Voice Service Network Traffic' *Personal and Ubiquitous Computing* 23, 67–79
- Fox A 2017 'The Archive of the Archive' in Anderson et al 2017: 194-211
- Gunderson F Lancefield R and Woods B eds 2018 *The Oxford Handbook of Musical Repatriation* Oxford University Press New York
- Gray R 2018 'Repatriation and Decolonization: Thoughts on Ownership, Access and Control' in Gunderson et al 2018
- Harris M 2018 'Amazon's Alexa Knows What You Forgot and Can Guess What You're Thinking' *The Guardian* <https://www.theguardian.com/technology/2018/sep/20/alexa-amazon-hunches-artificial-intelligence>.
- Harvey D 2007 *A Brief History of Neoliberalism* Oxford University Press Oxford
- Jack M 2020 "'If We Don't Sing, Then They've Won!' Atmosphere and the Governance of Public Affects at Football Club Union Berlin' *Un/Sounding the Relational City Conference* New York University
- Knappenberger B 2014 *The Internet's Own Boy: The Story of Aaron Swartz* Documentary Participant Media FilmBuff

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- kirubakaran 2018 *Hacker News*
<https://news.ycombinator.com/item?id=17145204>
- Levin S 2018 'Black Activist Jailed for His Facebook Posts Speaks out about Secret FBI Surveillance' *The Guardian* <https://www.theguardian.com/world/2018/may/11/rakem-balogun-interview-black-identity-extremists-fbi-surveillance>.
- Marx K 1894 *Capital Volume III* Part V International Publishers New York
- Moglen E 2017 'Computers, Privacy and the Constitution' Class Lecture at *Columbia Law School* New York
- Noble S U 2018 *Algorithms of Oppression How Search Engines Reinforce Racism* NYU Press New York
- Novak D and Sakakeeny M eds 2015 *Keywords in Sound* Duke University Press Durham
- Ochoa Gautier A M 2014 *Aurality: Listening and Knowledge in Nineteenth-Century Colombia* Duke University Press Durham
- Ogasawara M 2019 'Mainstreaming colonial experiences in surveillance studies' *Surveillance & Society* 17/5: 726-729
- Pierce D 2018 'CES 2018: Inside the Lab Where Amazon's Alexa Takes Over The World' *WIRED* https://www.wired.com/story/amazon-alexa-development-kit?mbid=social_fb.
- Reed T 2018 *Hopi Song, Intellectual Property, and Sonic Sovereignty in an Era of Settler-Colonialism* Ph.D. Diss Columbia University
- Rice T 2015 'Listening' in Novak et al: 99-111
- Schafer R.M 1969 *The New Soundscape: a Handbook for the Modern Music Teacher* Berandol Music Toronto
- Steger MB and Roy RK 2010 *Neoliberalism: A Very Short Introduction* Oxford University Press Oxford and New York
- Sterne J 2003 *The Audible Past: Cultural Origins of Sound Reproduction* Duke University Press Durham
- 2015 'Hearing' in Novak et al: 66-77
- Sweetland Edwards H 2017 'Alexa Takes the Stand: Listening Devices Raise Privacy Issues' *Time* <http://time.com/4766611/alexa-takes-the-stand-listening-devices-raise-privacy-issues/>.

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- Thompson E A 2004 *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900 – 1933* MIT Press Cambridge
- Thompson II R 2014 ‘The Fourth Amendment Third-Party Doctrine’ Congressional Research Services <https://fas.org/sgp/crs/misc/R43586.pdf>.
- Weidman A 2015 ‘Voice’ in Novak et al: 233-254
- Wylie C 2018 ‘Written Statement to the United States Senate Committee on the Judiciary in the Matter of Cambridge Analytica and Other Related Issues’ <https://www.judiciary.senate.gov/imo/media/doc/05-16-18%20Wylie%20Testimony.pdf>
- Zuboff S 2019 *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* Public Affairs New York

Cases and Statutes

- Amazon.com LLC v Lay* 758 F. Supp. 2d 1154, 1168 (2010)
- Anti-Eavesdropping Act AB-1395 (2019)
- Boyd v United States* 116 U.S. 616 (1886)
- Katz v United States* 389 U.S. 347, 351 (1967)
- Kyllo v United States* 533 U.S. 27 (2001)
- McIntyre v Ohio Elections Commission* 514 U.S. 334 (1995)
- Lamont v Postmaster Gen.* 381 U.S. 301, 307 (1965)
- Olmstead v United States* 277 U.S. 438 (1928)
- Sandoig v Sessions* WL 1568881 (2018)
- State of Arkansas v James A. Bates* Case No. 2016-370-2 (Ark. Cir. 2018)
- US Const Amend XIV
- Zhang v Baidu.com Inc.* 10 F Supp. 3d 433, 435 (S.D.N.Y. 2014)