# Aff Wiki Doc – DRR R2

# 1AC

## 1AC – Dartmouth RR

### 1AC – APIs

#### Advantage one: APIs

#### Dominant digital platforms shut out competition by restricting Application Programming Interfaces (APIs) – mandating interoperability between competing platforms enables market entry.

Sharma ’19 [Chinmayi; JD @ UVA Law; “Concentrated Digital Markets, Restrictive APIs, and the Fight for Internet Interoperability,” *University of Memphis Law Review*, 50(2), p. 441-508; \*Edited for Gendered Language]

II. APIs and an Interoperable Internet

Understanding how APIs operate can elucidate how they contribute to interoperability and why interoperability is important for a healthy online marketplace. APIs are neither the secret sauce that originally led to an online platform's rise to prominence, nor are APIs the bread and butter that drives a platform's continued success. Rather, they act as gatekeepers to the information bank account fueling all business activity, limiting access through their lock and key design. And as with banks, they allow the owner to benefit from opening access to this stockpile to others who would pay to use it. They represent a two-way dataflow: opening access to third parties to internal data and features, while receiving valuable user information from those third parties about their user activity. Essentially, the code reflects and fosters an organic, symbiotic relationship.

A. What is an API?

Over 1.5 billion websites are registered on the Internet, 32and all of them interact with each other to some degree to provide their unique services. For example, for a single web search, an Internet browser needs to access Bing. Bing then links to the websites in the search results, and these websites often rely on CAPTCHA to verify that the person conducting the search is not a robot. Each task is accomplished by a different entity, but each entity relies on information provided by the others information communicated through APIs. The Internet has been called an information highway, a digital infrastructure, or even a set of pipes. But ultimately, it is nothing more than a series of protocols designed to foster the creation and transfer of information, or data, as described above.

These protocols comprise the fabric of the Internet. They enable programming languages to build applications, enable data transfers necessary to connect with other Internet users, and enable shared access to public or proprietary tools to carve out new digital spaces. 33Previously, these protocols were born of necessity and expanded to achieve [\*451] greater efficiency and innovation among developers collaborating to realize the dream of a powerful open Internet. 34But, as with all good inventions, the Internet was quickly conquered by commercial entities that then used and created new protocols to further their business ends. 35 The collection of these protocols that broker interactions with a particular entity on the Internet are referred to as Application Programming Interfaces (APIs), or libraries of protocol layers. 36

APIs are the connective tissue that allow the various platforms in our digital economy to request and send information to each other. 37 Individuals utilize APIs when using their computers to interact with other computers by sending their information, in the form of an API call, to receive external information. For this to work, networked computers must be ubiquitously accessible and process the individual's request, or API call, in standard protocol to ensure communication. 38 To ensure that their APIs are openly accessible, companies publish documentation outlining how their API is designed, what kind of information third parties can access, the manner in which they have to make the call to receive a reply, and the terms of use for the API. 39

[\*452] In short, standardization feeds interoperability a feature that is not anomalous to the digital sphere. In fact, the vast majority of consumer products are aggregations of disparate patented technologies packaged together. They function because they have been built according to standards formally set by competitors in contracts. 40For example, the manufacture of a single laptop can necessitate adherence to between 250-500 interoperability standards. 41But, while a laptop is a discrete product with finite parties to invite to a standard-setting negotiation, the number of potential parties interacting with any given website can be near infinite. For example, Yelp as a platform needs to interact with Google and Apple Maps to provide directions, OpenTable and Resy to facilitate making a reservation, a phone's GPS to determine proximity, a phone's keyboard to allow users to post reviews, and thousands of advertising providers that pay to post commercials. With the multitude of players involved in any given digital interaction, formal standard-setting procedures common for market players like Dell and Apple are impractical for the digital market. 42Instead, websites like Yelp, Google, Apple, and the other aforementioned entities publish their APIs. 43

[\*453]

B. Interoperability Fosters Competition

The symbiotic relationships fostered by APIs enhances competition in the digital marketplace. Interoperability can have three types of effects on competitive markets:

(1) Direct, in which increased use increases the value of the product itself; (2) indirect, in which increased use leads to development of complementary products, such as applications for a specific platform, which in turn increases the value of the product; and (3) two-sided, in which increased use by one set of users increases the value of a complementary product and vice-versa. 44

Economists widely recognize the formidable hurdle of entering online markets as a feat that "requires either building up strong brand recognition to draw users to an independent site," a resource intensive route, "or using an existing platform," 45 an option made possible by permissive APIs. Innovative products and new startups built off existing platforms use permissive APIs to gain a foothold in a tumultuous market. In turn, the original platforms increase in value and experience an influx of new users. As the saying goes, "rising tides raise all ships."

Interoperability also lowers the barrier of entry to the online marketplace by encouraging the development of complementary platforms. 46At the early stages of the Internet, online platforms were united in their pursuit for active, loyal user bases and collaborated with [\*454] each other to accomplish these goals. 47APIs helped broker these cooperative, pro-competitive strategies. For example, Instagram has witnessed the advent of Instagram celebrities, or individuals who appear to have accumulated overnight fandom teaching people to "be yourself." 48In reality, they are the success stories of third-party apps that allow for planned posts, 49follower analytics, 50and trend-worthy Boomerangs. 51These third-party apps rely on Instagram's API to pull information about users and push information such as curated content. Instagram and these third-party apps mutually benefit from the traffic generated. Security apps have also flourished because platforms like Instagram are reliant on them, 52recognizing platforms sink when users feel unsafe.

The pro-competitive benefits of this "rising tides raise all ships" approach to API design extend beyond encouraging the development of complementary products. Platforms with more universally beneficial services or information can offer access to their APIs for a fee. 53 [\*455] This type of open access to platforms allows for more options to flood the market, theoretically driving out poor quality options that are unable to generate sufficient value to bear the cost of using the API. For example, Google provides its Maps product to developers at a price based on use. 54This allows developers to put Google Maps on their websites and enables users to get directions to a location directly from their app without going to Google. 55The developer pays for this use at a cost proportional to the traffic ~~his or her~~ [their] third-party product generates. 56 This has created an economy of map-based applications that detect potholes, warn of anomalous traffic, and suggest new restaurants, without the new companies having to recreate Google Maps from the ground up. 57

C. Shut Out of the "Walled Gardens"

The concentration of the Internet marketplace in the hands of a few players removes incentives to maintain interoperability, making the issue unlikely to self-correct. As online companies mature, the marginal utility of additional exposure via third-party applications becomes outweighed by the potential benefits of restricting open access to proprietary information to stifle future competition. 58Thus, dominant [\*456] players are shifting to "walled garden" models, restricting API access and diminishing Internet interoperability. 59"Walled gardens" refer to platforms that, previously open, now substantially limit third-party access to their information and services with code-and contract-based barriers. 60Some deride this shift to "walled gardens" as the dystopian antithesis of open Internet goals, 61while others see "walled gardens" as the natural end point of company maturation and the development of a sustainable revenue model. 62Ideology aside, "walled garden" APIs definitively reduce interoperability by setting up formidable barriers to third-party access of platform data, reducing innovation of platform-dependent apps and equipping these dominant players with the ability to unilaterally alter API conditions. 63

An already concentrated online market engenders further concentration. For one, venture capitalists ("VCs") have driven market concentration. The tech sector contains many startups not projected to [\*457] turn a profit for years, entirely reliant on external investments. 64At first, VCs took gambles on nascent companies with potential, focusing on their "exit" potential (or acquisition by a dominant player). 65 Later on, VCs began concentrating their funding on a smaller number of more mature tech companies rather than spurring innovation by funding embryonic startups. 66And now, well-funded market players, either through VCs or through initial public offerings ("IPOs"), have the ability to buy out future competitors and acquire complementary products to internalize their features. 67After a major merger or acquisition, tech companies undergo massive reorganizations to accommodate the new company, including a transformation of APIs to begin the process of integrating the new addition's technology into a legacy system. 68 APIs [\*458] were designed to facilitate mutually beneficial information transactions between competitors, but when one company buys up Park Place and Boardwalk in Monopoly, they no longer have an incentive to cooperate with others.

Companies can reduce interoperability by restricting API access after an acquisition. For example, after Facebook acquired Instagram in 2012 for $ 1 billion, it immediately began integrating the platform into traditional Facebook features. 69Notably, it altered Instagram's API within months of the purchase to prevent users from cross-posting photos generated for Instagram onto Twitter, thereby preventing Twitter users from accessing Instagram content directly. 70Facebook's goal was to drive activity to Instagram's native platform directly rather than have users interact with Instagram content through other, and at the time more dominant, social media avenues. 71But in doing so, Facebook hurt Twitter's dynamism as a platform by reducing Twitter's access to high-quality, third-party content. 72In response, Twitter deleted its app from the Facebook ecosystem. 73 Instagram's newly restrictive API halted the trend of building one-off, third-party projects, such as hashtag driven campaigns or event promotion. 74

[\*459] In a concentrated market with a dearth of options, dominant players can further reduce interoperability by making the conditions of API access prohibitive. Although tech companies are notorious for evading profitability for unfathomably long periods of time, all companies ultimately seek revenue. Google Maps's API, one of the most dominant geolocation services available, has recently capitalized on the market's reliance on its services to increase the price associated with making API "calls" or discrete requests for information. 75When controlling for quantity and cadence of API calls, developers reported an over 1,400% increase in the costs for using the Maps platform. 76In addition to these increased costs, Google has required API users to hand over billing information regardless of whether or not they incur any costs. 77Most significantly, native Android app developers are protected from these changes because Google will not be implementing these new cost structures in its Mobile Native Static and Dynamic Maps APIs the unique APIs built for use by Android developers. 78Ergo, Google, through its APIs, demonstrates favoritism or exceptionalism for the mobile operating system it owns.

Restrictive APIs are by no means per se unreasonable or anticompetitive. Most online platforms generate revenue through advertising, and the "walled garden" model helps platforms curate more personalized, effective advertising schemes. 79Additionally, restricting [\*460] access to APIs limits the ability for low-quality third-party applications to dilute the company's brand by association. 80Finally, data security concerns have also driven decisions to fortify "walled gardens." 81Facebook and Facebook-owned Instagram responded to the Cambridge Analytica data leak and API-enabled data breach by severely curtailing third-party access to user information by putting restrictive conditions on their APIs. 82This move gave Facebook more control over who is accessing information, how much information they are accessing, what they plan to use it for, and whether they are complying with API use conditions. 83Users were duly indignant at the open and unmonitored nature of APIs, but the appropriately placed frustration has since evolved into the belief that there is an unavoidable zero-sum game between interoperability and information security. 84

Just as all monopolies are not per se injurious to competition or the public, 85not all API-restricted walled gardens are problematic. But, [\*461] as with monopolies, we rely on competition law to redress impermissible business practices. The question remains: can it?

#### Interoperability creates platform competition by reducing network effects and switching costs – it allows users to leave platforms without losing ability to interact with them.

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Online Platform Competition Is Hard to Address

Online platforms possess unique gatekeeping power. By setting API design and policy, they have the ability to control who has access to critical aspects of the vast datasets and user bases they’ve built—things like a user’s social graph that enables a hopeful competitor to grow its own user base and establish itself. Once a platform is sufficiently scaled, and especially if it is dominant, it no longer has the incentives to grant access to its APIs to facilitate a healthy downstream ecosystem. The more vertically integrated a platform is, too, the higher the risk that it may not offer APIs with sufficient data and functionality for other companies.20 Whereas our current antitrust framework may not sufficiently ensure platform competition, platform interoperability offers a solution to promote a more competitive ecosystem.

Platforms Operate in Multi-sided Markets and Benefit from Network Effects

Online platforms do not always offer a single product or service, but often build complex businesses across a wide range of commercial offerings. This business model includes many business lines that are vertically integrated on top of one another—meaning that a single company controls more than one stage of the supply chain. Google’s advertising intermediation business, for instance, is largely vertically integrated in that it operates: (1) as a publisher ad-server (offering advertisers the opportunity to run ads on Google’s digital properties—anywhere from alongside certain Google search results to on Google’s websites, such as Gmail, Blogger, and Youtube)21; (2) as a supply-side platform selling inventory on behalf of publishers (optimizing inventory usage through Google’s Ad Manager to maximize ad views); and (3) as a demand-side platform buying inventory on behalf of advertisers (offering advertisers access to display, video, and mobile inventory in real-time through Display & Video 360, formerly DoubleClick Bid Manager).22

Online platforms are complex, but they share several characteristics that distinguish them from traditional brick-and-mortar businesses. Public Knowledge Vice President Harold Feld defines a digital platform as a product that meets the following criteria: “(1) a service accessed via the internet; (2) the service is two-sided or multi-sided, with at least one side open to the public that allows the public to play multiple roles (e.g., content creator as well as content consumer); and (3) which therefore enjoys particular types of powerful network effects.”23 Because these platforms deliver services over the internet, they are able to take advantage of economies of scale. Their costs of scaling the network are dramatically reduced compared to brick-and-mortar businesses that have to build out a physical network to reach customers.24 In addition, operating in a two-sided or multi-sided market reduces a firm’s costs for inventory and market research.25

Online platforms also enjoy network effects, which further entrench their market dominance. A network effect means that the value of the network increases with each additional participant. Through the internet, platforms benefit from being able to reach greater numbers of other users and businesses. When platforms operate with closed systems, such network effects can also affect competition. For instance, Facebook’s network effects from the 2 billion plus users on its network means that users may be reluctant to leave it for a competitor, especially if it means that the user has to expend substantial switching costs by rebuilding their personal networks, posting content, and more from scratch.26 Switching costs and network effects can therefore lock in a user by making them dependent on a particular firm’s good or service.

Given these dynamics, the dominance of a few online platforms reflects an unsurprising trend toward greater concentration. The rise of these platforms, in fact, can be attributed to hundreds of mergers consummated in rapid succession.27 Platforms are keen to capitalize on economies of scale and tap into network effects, especially through vertical integration and data consolidation.28

#### API interoperability key to physical internet and maritime logistics optimization – solves global supply chain crisis.

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Throughout the past centuries, the facilitation of international trade has made significant contributions to the current level of globalization, as well as to global welfare and economy. Current global maritime trade volumes surpass 10 billion tons annually, while 80 % of the total world merchandise trade is transported over sea (Hoffmann et al., 2018). Being the gateway between land and sea, maritime ports function as critical enablers of international trade and global supply chains. Ports can be regarded as dynamic and organic systems in national socio-economic-political systems as well as in the globalized economic system (Haraldson et al., 2020). Therefore, ports continuously need to evolve by adapting to their external environment in terms of changing economic and trading patterns, new technologies, legislation, and port governance systems.

A system innovation that is already impacting the current economic and trading patterns, technologies, legislation, and governance systems, is the Physical Internet (PI). In 2011, Montreuil (2011) introduced the vision of the PI as one of an open global freight logistics system founded on physical, digital and operational hyperconnectivity through encapsulation, interfaces, and protocols. The PI proposes physical packages to be moved similarly to the way data packets move in the Digital Internet (Pan et al., 2017). In the PI, goods are encapsulated in modularly dimensioned easy-to-interlock intelligent containers, called PI containers, which are designed to optimally flow in hyperconnected logistics networks (Sallez et al., 2016). The PI is expected to strengthen the economic, environmental, and societal sustainability and efficiency of global logistics (Montreuil et al., 2012).

To help achieve hyperconnectivity in the global freight logistics system, ports need to be capable of autonomously routing shipments of PI containers, based on appropriate real-time information availability. Future PI applications will be data intensive and will require strong sensing, communication, data processing, and decision-making capabilities. In the design of intelligent systems, sensing (information handling), which is the focus of our study, comes prior to thinking (problem notification), and acting (decision-making) (Meyer et al., 2009). In PI applications, we consider sensing as the process of achieving increased visibility by means of enhanced track-and-trace (T&T) systems, supported by information architectures (IAs) that allow for communication among the various internal and external logistics entities and actors. A primary means to create visibility of shipments for the complete logistics chain is the T&T capability in ports (McFarlane et al., 2016). PI ports will need to be able to process information on an individual shipment level to facilitate optimal (un)loading and de- and (re-)compositioning operations of PI containers. This implies that data about the shipments within containers will need to be accessible. In addition, Calatayud et al. (2019) emphasize the importance of T&T systems for predictive decision-making capabilities of supply chains. We argue that in the PI, this importance will grow further and require access to more detailed information. In the PI context, T&T is the real-time ability to locate every individual PI container with its contents and to provide traceability information (e.g. weight, state, commodity type, estimated arrival and departure times, origin and destination, and environmental conditions) to relevant actors (Sallez et al., 2016). Today, however, port information systems (ISs) only support T&T at container level, typically 20 and 40 foot containers, and not at the level of underlying shipment units. If ports want keep an essential existence in the future door-to-door PI system, they should adapt to the needs of the PI and extend the capabilities of the T&T systems. Until now, there has been no attention in the literature on this problem.

To help filling this gap in literature, our research question is the following:

What is the proper arrangement of information flows on shipments and their characteristics, that supports T&T of goods inside a port, within the PI context?

In order to answer this research question, we use a design science research (DSR) approach (Weber, 2018), by the guidelines of which we develop a functional design of an IS that provides the port with the required T&T capabilities (i.e. including shipment level information). The task of re-designing ports’ ISs to suit a new functionality is not trivial. Within an IS, the different aspects of information sharing, including data elements, message formats, communication lines, should be defined in line with the new business objectives, and in a consistent relation to each other (Romero and Vernadat, 2016). In this study, we develop such a design. Therefore, our main contribution is the tractable and reproducible design of an IA for the T&T functionality of maritime ports in a PI context. The design of a shared information environment that lives up to these conditions is called an IA (Yaqoob et al., 2017). To keep the different aspects of the information tractable, consistent and complete, we use a reference architecture model (RAM) for the IA design, which provides guidance relative to the different elements that need to be included. A RAM can be defined as an abstract system framework that contains a minimal set of unifying concepts, axioms, and relationships to understand the interactions between entities in and with its environment (Van Geest et al., 2021). We use the Reference Architecture Model for Industry 4.0 (RAMI 4.0), a well-known reference model used worldwide for IA designs (Bangemann et al., 2016). As such, our main research contribution is the tractable and reproducible design of an IA for the T&T functionality of maritime ports in a PI context.

The rest of the paper is built up as follows. An overview of the relevant port, PI, and IA literature is provided in Section 2. Section 3 introduces the methodology. Section 4 presents a real-world case, which is followed by conceptual design of the IA in Section 5. Section 6 provides a discussion, while Section 7 presents the conclusions of our work and recommendations for future research.

2. Literature review

T&T has been recognized as an important element within supply chain management in general, and ports in specific. One stream of literature addresses this from a descriptive port evolution perspective; another from a normative design approach focusing on the global PI as an ultimate vision. In addition, these two streams of literature, we review the literature of innovative RAMs and IAs and their applications, which also include Internet-of-Things (IoT) and blockchain application, designed for the Industry 4.0 movement. We conclude this section by identifying a converging research gap as the starting point for our work.

2.1. Maritime port evolution and developments

In the maritime port logistics literature, the evolutionary path of ports has been described through several generations (Lee and Lam, 2016). Ports, over time, have evolved from first generation ports (1GPs), which merely served as gateways between land and sea, and are now moving into fifth generation ports (5GPs), which are considered highly complex and dynamic multi-actor systems with advanced (information) technologies and a wide range of (value-added) services, in addition to the traditional ones. Lee and Lam (2016) emphasize the key roles of new information technology (IT) in the most modern 5GPs, notably contrasting their IT features versus those of fourth-generation ports (4GPs). Essentially, IT in 4GPs focuses on providing cargo clearance and T&T services on container level, whereas IT in 5GPs goes one step further by offering its users a single window (SW) by means of Port Community Systems (PCSs) for information exchange about T&T of not only maritime containers but also its contents (on a shipment level), delivery information, and performance measurement (Lee and Lam, 2016). Another more recently developed concept that explains current and future practices, and is closely linked with PCSs, is Port Collaborative Decision-Making (PortCDM). By making the foreland operations as predictable and real-time as possible, PortCDM makes not only processes in one port more efficient, but will also contribute to an increase in the efficiencies of other ports and vessels (Lind et al., 2020).

A distinction can be made between internal T&T systems inside a particular (local) logistics system, such as a port, and external T&T systems across the supply chain. In 5GPs, PCSs fulfil the function of, among others, T&T across the supply chain (EPCSA, 2011a). A PCS can be defined as a neutral and open electronic platform, enabling intelligent and secure exchange of information between public and private actors to improve the competitiveness of port communities (EPCSA, 2011b). PCSs aim to contribute to optimizing, managing, and automating port and logistics processes through a single submission of data and connecting supply chains (IPCSA, 2018). Globally, various PCSs with a range of functionalities have emerged over the years (e.g. Dakosy in Germany, Logink in China, Maqta in United Arab Emirates, Portbase in the Netherlands). In addition, initiatives are being taken to expand the knowledge capacity and enhance usability of these systems among its actors, often led by the European and International PCS Associations (EPCSA and IPCSA), and United Nations. In line with the objective of the PI becoming an open global freight transport and logistics system through physical, digital and operational hyperconnectivity (Montreuil, 2011), future PCSs aim to support T&T capabilities and interoperability across supply chains (UNESCAP, 2018). However, the PI has not been considered in the PCS literature whatsoever. The requirements of the PI concerning T&T capabilities of a port should be known to be able to develop PCSs in line with the 5GP vision.

2.2. Physical Internet (PI)

Montreuil (2011) defined the vision of the PI as an open logistics system that is capable of being accessed by all actors in a logistics chain at a global scale. Montreuil et al. (2012) suggest a framework of PI foundations representing the PI’s building blocks and their systematic relationships, organized in layers, including commodities, shipments, load units, carriers, and infrastructure networks. At the core of the PI are the fundamental goals of improving economic, environmental, and societal efficiency and sustainability (Ballot et al., 2014). To achieve these goals, hyperconnectivity at the physical, digital, operational, transactional, legal, and personal levels is a prerequisite (Montreuil et al., 2016). This hyperconnectivity is enabled by three key PI features: encapsulation, interfaces, and protocols (Montreuil et al., 2013).

2.2.1. Encapsulation

The PI encapsulates freight into modular (PI) containers that are easy to handle, store and transport, smart and connected, and eco-friendly (Montreuil, 2011). Montreuil et al. (2016) propose a three-layer typology of PI containers: packaging containers (P-containers), handling containers (H-containers), and transport containers (T-containers). P-containers directly enclose and protect the physical objects in the innermost composition. P-containers can be embedded in H-containers designed for use in handling and operations within the PI. H-containers can be embedded in T-containers, which are functionally similar to the maritime shipping containers that are currently used, exploitable across multiple modes of transportation.

2.2.2. Interfaces

In order to provide transport and logistics services, the PI system needs to consider both physical (operational) interfaces as well as information and communication (I&C) interfaces, as emphasized in Montreuil et al. (2012) and synthesized in Table 1. The interactions and the exchanging data sources between the two interfaces provide the new context for increasing the visibility in transport chains. While the high-level interfaces focus on logistics services, the low-level interfaces focus on the PI containers at which the information is carried.

Table 1. Types and Levels of Interfaces.

Type of interface Level of interface Interface

Physical (Operational) Interfaces Low Complementary physical fixtures that allow PI containers to interlock with one another, and to be snapped to storage structure.

High Logistics PI-nodes that are available for smooth logistics services (e.g. transfer from unimodal to multimodal transportation) by appropriately allocating freight within the PI network.

Information & Communication (I&C) Interfaces Low Smart tags on PI containers capable of identification, routing, traceability, conditioning of each modular container.

High Digital middleware platforms that provide an open market for logistics services in PI by connecting human and the PI's components.

2.2.3. Protocols

The PI enables the interconnected exploitation of logistics networks through cooperative protocols agreed upon and exploited by the variety of actors in the logistics chains. PI protocols not only ensure the integration of logistics entities but also their performance, resilience, and reliability in PI networks (Montreuil, 2011). Standardized PI routing protocols will facilitate dynamic routing of PI containers across multiple modes of transport in the PI network. To connect logistics networks and services by means of protocols in the PI, Montreuil et al. (2012) proposed the Open Logistics Interconnection (OLI) model as the PI’s equivalent to the Digital Internet’s Open Systems Interconnection (OSI) model. Fig. 1 depicts the OLI model with its seven layers and respective protocols. The layered protocols of the OLI model provide a framework for exploiting physical, digital, financial, human, and organizational means of the PI (Ballot et al., 2014). On each layer, an instance provides services to an instance on a higher layer, while receiving services from an instance on a lower layer. Simultaneously, instances on the same layer can also provide and receive services to and from each other. Note that, from the OLI perspective, a T&T functionality within a port will primarily conduct the operations within L1, L2, and L3, while supporting routing and shipment decisions at L4 and L5. A port, as a hub, allows for routing decisions, the rearrangement of products by means of PI containers, and their assignment to service classes. In line with the OLI, the to be designed IA considers how data is transmitted between different layers.

#### Supply chain stability solves emergent catastrophes whose cumulative risk profile outweighs all existential threats.

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Emergent catastrophes

Some catastrophes are difficult to place into historical context because there is really no such relevant context. Among them are financial crises, supply-chain disruption or epidemics. For instance, the table below comes from Supply Chain Digest and shows (as of 2006) a ranking of top ten “supply chain disasters.”6 These are not disasters caused by extreme events like a flood (e.g., Bangkok 2011) or an earthquake (e.g., Honshu) 2011 which then have knock-on effects to global supply chains, as important as these are. These disasters are caused by the failure of a system created by humans which displays some unanticipated behavior for which decision makers were unprepared.

An “emergent” phenomena, according to one useful definition is “a large scale, group behavior of a system, which doesn’t seem to have any clear explanation in terms of the system’s constituent parts” (Darley, 1994; cf. Homer-Dixon et al. 2015). In other words, you cannot describe the behavior of the system as simply the additive consequence of its elements – hence the notion of emergence. Emergent systems are “complex” in the sense that its behaviors are “the result of interactions between a large number of relatively simple parts, cannot be predicted simply from the rules of those underlying interactions” (Darley, 1994). Such interactions can be simulated but not generally predicted.

Due to their inherent unpredictability, emergent phenomena pose a particular challenge for the use of insurance as a tool of management. Insurance requires that risks be, to some quantifiable degree, in the sense of being able to characterize their statistics of occurrence (e.g., Berliner, 1982). Emergent phenomena do not meet this criterion of insurability. This does not necessarily mean that insurance cannot be used as a response tool, but rather that any such reinsurance will probably need the backstop of a residual market (see Weinkle, 2015).

With respect to catastrophic risks, perhaps the ultimate irony is that efforts to quantify risk, as a mechanism of responding to risk, itself can lead to emergent phenomena with its own considerable risks. Consider the role of so-called “risk models” in finance and their role in the global financial crisis. Risk models can be valuable tools in the financial industry because they allow decision makers to evaluate the consequences of their assumptions in a rigorous manner. But there are two significant problems with their use in financial decision making.

One is that risk models break down in times of crisis. Well before the global financial crisis, Daníelsson (2002) observed that “The basic statistical properties of market data are not the same in crisis as they are during stable periods; therefore, most risk models provide very little guidance during crisis periods." The same models that make sophisticated financial instruments possible during normal times are virtually useless during times of crisis. They can also create emergent behaviors in financial markets.

A second problem is that the use of risk models encourages a herd mentality among firms. According to an Inspector General's report from the US Securities and Exchange Commission released September 25, 2008, "In times of market stress, trading dries up and reliable price information is difficult to obtain. Models therefore become relatively more important than market price in times of market stress than in times when markets are liquid and trading actively. Such stressed circumstances force firms to rely more on models and less on markets for pricing and hedging purposes."7 Daníelsson (2002) observes that the wide reliance on risk models to make decisions in a crisis can lead to perverse outcomes if “identical external regulatory risk constraints are imposed, regulatory demands may perversely lead to the amplification of the crisis by reducing liquidity." To have many large institutions making bad decisions with flawed information is not a recipe for financial stability.

Daníelsson (2008) cites a Lehmann Brothers' modeler commenting on model performance during the summer of 2007: "Events that models predicted would happen only once in 10,000 years happened every day for three days." As the financial crisis unfolded, decision makers suffered from having little experience in using the complex risk assessments. This was revealed dramatically during the spring of 2008, when the Financial Times reported that an error in a model used by Moody's, one of the world's most respected and widely utilized source for credit ratings, research and risk analysis, led to a far higher credit rating than was deserved by a particular complex derivative product. Upon learning of the error, Moody's adjusted the model to reflect the ratings error, rather than admit the initial mistake.8 Because no one had any experience with the sophisticated financial product being modeled, the presence of the error in the rating virtually escaped notice in the marketplace. Efficient? Hardly.

Effectively using models of complex, emergent systems usually means treating them as one of many approaches to assessing risk. The Inspector General of the SEC recommended that the SEC be "more skeptical" of risk models and that firms be required to develop "informal plans" for scenarios that may not be found in their models. In other words, they should use models heuristically and not as comprehensive tools for assessing risks. This implies that the appropriate use of any risk model is contingent on the decision environment – useful in ordinary times, risky in times of crisis. The sets a rather high bar for their effective use, as the existence of a crisis may not be readily apparent.

Risk models are an important tool and no doubt here to stay as a fundamental part of our 21st century global financial system. But wisdom will be found in using them effectively. Daníelsson (2008) explained,

“The current crisis took everybody by surprise in spite of all the sophisticated models, all the stress testing, and all the numbers. The financial institutions that are surviving this crisis best are those with the best management, not those who relied on models to do the management's job. Risk models do have a valuable function in the risk management process so long as their limitations are recognized. They are useful in managing the risk in a particular trading desk, but not in capturing the risk of large divisions, not to mention the entire institution. For the supervisors the problem is even more complicated. They are concerned with systemic risk which means aggregating risk across the financial system. Relying on statistical models to produce such risk assessments is folly. We can get the numbers, but the numbers have no meaning.”

The global financial crisis provides a perfect example of emergent risks and the challenges of preparing for them. More broadly, dealing with emergent phenomena requires attention to what is possible, rather than the probabilities of possibilities, and strategies of resilience, robustness and responsiveness.

Extraordinary Catastrophes

The third category of 21st catastrophes considered here are the extraordinary. Those hazards that may or may not be foreseen or foreseeable, but for which we are wholly unprepared, such as an asteroid impact, massive solar storm, or even fantastic scenarios found only in fiction, such as the consequences of contact with alien life. Perhaps surprisingly, such extraordinary hazards have received some attention in recent years.

For instance, Towers Watson has focused on a category of “extreme risks” which it defines as “potential events that are very unlikely to occur but that could have a significant impact on economic growth and asset returns, should they happen.”9 Towers Watson provided a ranking of what it concluded to be the top 15 “extreme” risks, shown below (cf., Smil 2008). In a somewhat similar exercise, Bostrom (2013) focuses on the concept of “existential risk” defined as “one that threatens the premature extinction of Earth-originating intelligent life or the permanent and drastic destruction of its potential for desirable future development.” Included in this category are things like nanotechnology or artificial intelligence run amok, global pandemic, nuclear terrorism and extreme climate change. Sandberg and Bostrom (2008) surveyed experts and arrived at an estimate of a 19% probability that humanity goes extinct before 2100, a number that they caution to take “with a grain of salt.”

Even while taking that “grain of salt” with respect the specific risk probabilities, the potential risks of large magnitude are nonetheless interesting. The experts that they surveyed provided median estimates of the likelihood of >1 million deaths by 2100 for each of the following threats: molecular nanotech weapons (25%), superintelligent AI (10%), engineered pandemic (30%), nuclear war (30%), nanotech accident (5%), natural pandemic (60%), nuclear terrorism (15%).

These values are remarkably high In another, similar exercise in 2015 the Global Challenges Foundation produced a list of 12 risks that threaten humanity.10 They identify risks described as “infinite” meaning that they could pose an existential threat. There are of course less intense scenarios associated with these risks that do not rise to the level of existential. The table below shows these risks, ranked by the number of times that each appears in a 22 different “global challenge” surveys identified in the report.

Climate change is ranked most commonly, appearing in 21 out of the 22 surveys. By contrast, the impact of a near-earth object (asteroid, comet etc.) presents a risk which is straight-forward and over the longer-term, a certainty. However, it appears in less than 2/3 of the risk surveys. NASA explains that the probabilities of a large impact are small (e.g., on average a 100m object is expected to hit the Earth once every 10,000 years) and with proper monitoring, the world would have several years advance notice of such an approaching object.11

The differential focus is highlighted by Bostrom (2013) who observes, “it is striking how little academic attention these issues have received compared to other topics that are less important.” The Global Challenges foundation points to the fact that there are about 100 times as many academic articles on the “dung beetle” as there are to “human extinction.” Bostrom (2013) suggests that one reason for the apparent disparity is that “the biggest existential risks are not amenable to plug-and-play scientific research methodologies.” Most notably, they are not often amenable to meaningful prediction or risk quantification. Further, none of these issues are politicized in the sense that climate change is, which provides a demand for evermore studies to buttress ongoing policy debates. No one is debating the risks of an asteroid impact. Google Scholar allows for a simple, quantitative investigation of the focus of academic attention on extraordinary catastrophes. The graph below shows a simple ratio of articles on “climate change” listed by Google Scholar to articles on “asteroid impact risk,” “global pandemic,” “super volcano,” and “extraterrestrial life.”12 The differential is stark.

#### Gene sequencing database interoperability metagenomic microbiodiversity sequencing.

Ellisman ’17 [Mark; UC San Diego/National Science Foundation; “EAGER: An Interoperable Information Infrastructure for Biodiversity Research (I3BR),” https://www.nsf.gov/awardsearch/showAward?AWD\_ID=1255035]

Biodiversity comprises all variations of life at all levels of biological organization, most of which arise from genomic diversity. As genomic technologies become available across the biological sciences, a full characterization of biodiversity demands a full characterization of genomes. Similarly, data synthesis across the full range of biodiversity research domains demands development, implementation, integration and harmonization of data exchange standards. Such interoperable informatics would be transformational for our understanding of biology, with consequent impact on environmental and conservation policy. Adding to the transformational potential is the fact that the microbial world represents half of the world's biomass and nearly all of its biodiversity, yet is still effectively invisible and intractable to traditional biodiversity research. Metagenomic data are not amenable to the concepts, standards, semantics, and methods of traditional eukaryotic biodiversity, and therefore, require an alternate informatics framework. The EAGER will transform the collaborations between two previously separate research communities: the informaticists of the traditional biodiversity community, who employ the Darwin Core (DwC) as a standard, and the informaticists of the Genomic Standards Consortium (GSC), who have developed the Minimal Information about any Sequence (MIxS) standard for genomics, metagenomics and marker genes. Together, these groups will engage in a unified informatics effort to develop three layers of interoperability. The EAGER will harmonize the observational (DwC) and genomic (MIxS) standards, building on a community dialogue and interdisciplinary networking hosted and established under an NSF Research Coordination Network. Standards interoperability is the basis for the next two layers. Syntactic interoperability (in the context of Internet APIs and a database Reference Model) will be supported. The EAGER will assemble experts from the two communities to (a) devise a database Reference Model that integrates the DwC and GSC MIxS standards; and (b) for effective data management, create specific implementations for different database platforms to foster adoption. The practical implementation of the reference model on/for different database systems will allow, for the first time, systematic comparative testing of technical performance and of use cases (e.g., which implementation best serves which complex data query). The EAGER will create task groups to establish the infrastructure for managing ontologies, and to construct a reference model on the purely semantic level in order to fuse the two worlds of data standards, both of which are advanced enough to engage in useful interoperability. In developing an interdisciplinary information infrastructure to achieve data interoperability across domains, this EAGER would advance understanding of complex environmental phenomena and, thereby, inform future policy decisions. Indeed, by leading to an informatics standards platform to conceive a novel conceptual and theoretical framework for the world of microbial ?dark matter,? the EAGER would have a transformational impact beyond science.

#### Microbial biodiversity solves extinction.

Sharma ’22 [Sunanda, Chair of Applied and Molecular Microbiology @ Technische Universität Berlin, and Vera Meyer, Microbio @ Technische Universität Berlin; “The colors of life: an interdisciplinary artist-in-residence project to research fungal pigments as a gateway to empathy and understanding of microbial life” Fungal Biol Biotechnol. 2022; 9: 1. Published online 2022 Jan 10. doi: 10.1186/s40694-021-00130-7]

The limited discovery and quantification of microbial diversity is a significant challenge to our understanding of the biodiversity of Earth. A great deal of life on our planet may in fact be microbial, yet we are estimated to know less than 1% of existing microbial species [2] and little to nothing about the trends regarding its diversity and rate of change [3]. Even the microbial species we know of, including many bacteria, fungi, archaea, and protists, are often understudied. This may be in part due to the fact that they are individually difficult or impossible to discern with the naked eye, limiting observation and interaction by humans. The mismatch of physical scale between microorganisms and humans has been proposed as the reason for a “size bias” against microbial life, resulting in their exclusion from the ethical frameworks utilized in laboratory research [4, 5]. In addition, microorganisms lack key features that humans have been shown to have strong affective and empathetic responses to, such as visible neotenic characteristics, similarity to human appearance, the possibility of communication, and aesthetic beauty [6]. Furthermore, research on human empathy for other organisms indicates that there is an inverse relationship between empathy inspired by the species and evolutionary divergence time, suggesting that achieving human empathy for microorganisms is a challenging endeavor [7]. Yet, it is well accepted that microorganisms are essential to agriculture [8], major biogeochemical cycles [9, 10], and the evolution of higher life forms [11, 12]. In addition, they are ubiquitous in and on the human body [13] and built environment [14, 15], so may be deserving of unique ethical consideration. Microbial diversity is fundamental to not only the maintenance of global resources and, in turn, human survival [16, 17], but microorganisms are now being increasingly pursued for their potential in biotechnological applications such as the production of biopharmaceuticals [18], and use in bioremediation [19, 20]. Given that human preference directly affects the success of preservation and conservation efforts [21], it is critical that microbes are reconsidered in an empathetic light if their survival and diversity are to be maintained. Approaches for increasing human empathy for non-human organisms have been explored most widely in the field of conservation biology and can be grouped into five themes: promoting anthropomorphism, demonstrating utility, eliciting emotion (such as sympathy, protectiveness, or curiosity), promoting practical engagement, and attachment to nature, and highlighting aesthetic beauty. The first approach focuses on finding or creating similarities between a target species and humans to develop empathy, such as by adding human-like faces onto representations of animals; it has more recently been refined in an attempt to reduce anthropocentric bias [22]. The second approach focuses on examining and communicating the usefulness of a target species to human survival or daily life. For instance, public interest in insect pollinators has been sought by presenting data on their widespread positive effect on globally important crops as well as quantifying their service contribution to market output [23]. The third approach has similarly been used to call for support for pollinators such as honeybees (Apis mellifera) by describing their plight and the potential role of humans as protectors [24]. The fourth approach has been explored through citizen science efforts to engage the public in the research and conservation of various organisms such as native North American songbirds [25], butterflies [26], and bumblebees [27]. Finally, highlighting aesthetic beauty has been used effectively to promote interest in some organisms, such as butterflies [28].

#### Interoperability key to global bio-informatics – solves marine biod and zooplankton collapse.

Webb ’20 [T.J. Department of Animal and Plant Sciences, University of Sheffield, and Bart Vanhoorne, Flanders Marine Institute (VLIZ), Ostend, Belgium; orcid.org/0000-0003-3183-8116 and Vanhoorne, B. (2020) Linking dimensions of data on global marine animal diversity. Philosophical Transactions of the Royal Society B: Biological Sciences, 375 (1814). ISSN 0962-8436]

Although access to biodiversity data of different types is now much improved, to extract full 63 value from existing data requires linking together different datasets that were often collected 64 for different purposes, by different organisations and at different times. This kind of 65 interoperability of diversity data is central to the vision of a ‘macroscope’ to sample and 66 monitor the entire biosphere [25], and is a fundamental principle of the Bari Manifesto of best 67 practice in biodiversity informatics [28]. Progress towards such interoperability requires 68 comparable coverage across multiple classes of data and dimensions of diversity, as well as 69 parallel measures of the abiotic environment and of human pressures. An exemplar of 70 successful data integration for terrestrial plant communities is the Botanical Information and 71 Ecology Network [29] which combines standardised information on plant distributions, traits, 72 and evolutionary relationships with the computational tools needed to work with them. An 73 important step towards this kind of model is to fully understand the gaps and biases in 74 available data. In the marine environment, key gaps in the overall knowledge of marine 75 biodiversity have been documented [30-32], including estimates of the extent of unknown 76 biodiversity [33] and undocumented extinction risk [34]. Efforts to quantify these gaps across 77 different key variables and data sources have been limited to the regional scale, but have 78 shown for instance that the species and taxonomic groups that we know most in one 79 dimension (e.g. global occurrences) tend to be those that we also know most about in 4 80 another (e.g. biological traits, extinction risk; [34,35]). To date we lack a global overview of 81 how data (and gaps) are co-distributed across axes of marine diversity, to compare for 82 example with previous global analyses of terrestrial plants [36]. 83 84 Such a task is feasible however, given the availability of a standardised global taxonomy of 85 marine species, the World Register of Marine Species (WoRMS, [37]), which includes links 86 out to other key biodiversity datasets (Table 1). In this paper, we focus on key data sources 87 which, when linked to robust taxonomy, individually or in combination can be used to 88 construct different dimensions of marine diversity. We consider geographic occurrences and 89 nucleotide sequences to be the fundamental building blocks of the spatial and phylogenetic 90 dimensions of diversity, which interact to structure the distribution of key ecological traits 91 across species [38]. A first step to adding the functional dimension of diversity is to classify 92 species into broad ecological guilds, similar to the way in which species can be classified in 93 global theories and models of biodiversity [39,40]. Supplementing these with information on 94 conservation status and molecular taxonomy provides insights into how marine diversity is 95 changing, and how we might efficiently monitor this. Throughout we use open source 96 computational tools to link data across these components of marine diversity to take stock of 97 the current state of data availability, identifying gaps and priorities for future work. In this way 98 we summarise data availability across multiple axes for >200,000 marine animal species 99 from 32 phyla and across broad ecological guilds (e.g. benthos, zooplankton, seabirds), and 100 we assess the extent to which this availability is correlated across different classes of 101 diversity data. Above all, our aim is to highlight the wealth of marine biodiversity data that we 102 have amassed as a community over centuries, and the opportunities that we now have to 103 link different classes of data in order to better understand the dimensions of marine diversity.

#### Zooplankton collapse causes global hypoxia – extinction.

Martin ’17 [Daniel et al, UCLH NIHR Biomedical Research Centre Helen McKenna, UCLH NIHR Biomedical Research Centre & Valerie Livina, National Physical Laboratory, Hampton Road; “The human physiological impact of global deoxygenation” The Journal of Physiological Sciences volume 67, pages97–106 (2017)]

Earth’s atmosphere, like most biological systems, is in a constant state of flux governed by oxygen’s generation and destruction; natural processes that surround us every day (Fig. 3). The primary source of oxygen on Earth is photosynthesis, the generation of carbohydrates from carbon dioxide and water using sunlight as a catalyst (Eq. 1). Higher plants, algae, cyanobacteria, and prochlorophytes are all capable of photosynthesis. A tiny amount of molecular oxygen is also produced by the photolysis of water vapor in the upper atmosphere (Eq. 2). The end-users of molecular oxygen are aerobic life forms, including humans, which use it to generate the majority of their energy requirements (Eq. 3). Oxygen is also used during photorespiration, in which organic substrates are oxidized to yield ATP for energetic processes, in some photosynthesizing cells. The atmosphere and sea act as the main reservoirs for oxygen and major events such as natural fires can alter the balance to a minor degree. Therefore, in simple terms, if the number of plants decreases, the oxygen-generating capacity of the Earth is reduced; and if the number of animals (including humans) increases, then oxygen consumption will rise. Combustion of fossil fuels has a major impact on oxygen and carbon dioxide levels in the atmosphere, there being a correlation between fossil fuel-related global warming and depletion of oxygen from the oceans [11]. Furthermore, oxygen is consumed not only when fossil fuels are used in combustion, so the relation between decline of oxygen and rise in carbon dioxide is not linear. For example, oxygen is consumed in many oxidation processes in industry for materials manufacturing, where there is no direct combustion of fossil fuels. One of the uncertain factors in the model of oxygen decline lies in the rise of new technologies, which may appear “green” in terms of carbon dioxide emissions but at the same time would deplete oxygen—these need to be monitored in the context of the atmospheric oxygen decline. Waning of atmospheric oxygen concentration will also have knock-on effects in the oceans. Henry’s law determines the amount of gas that dissolves into a liquid and as the atmospheric partial pressure of oxygen (PatO2) declines, oxygen will diffuse out of the water leading to further oceanic deoxygenation, depriving the underwater world of the oxygen it requires to survive. It has been estimated that ~70% of atmospheric oxygen is produced in the oceans by photosynthesis in phytoplankton [12]. There is concern that uncontrolled global warming could lead to a catastrophic loss of this vital source of atmospheric oxygen through inhibition of photosynthesis [13]. Fig. 3 figure 3 Processes that influence the global oxygen cycle and therefore the atmospheric concentration of oxygen Full size image Photosynthesis: 6CO2 + 6H2O→6O2 + C6H12O6. (1) Photolysis: 2H2O→4H+ + e− + O2. (2) Aerobic metabolism: C6H12O6 + 6O2→6CO2 + 6H2O. (3) Biological impact of atmospheric deoxygenation The biological effect of a gas is determined by its partial pressure, which, according to Dalton’s law, is equal to the product of barometric pressure and the fractional concentration of the gas in the mixture (Eq. 4). For example, at sea level, PatO2 is ~21 kPa (sea level barometric pressure 101 kPa × fractional concentration of oxygen 0.21). Thus, atmospheric hypoxia may result from either a decline in oxygen concentration (normobaric hypoxia) or a reduction in barometric pressure (hypobaric hypoxia). Differences in the biological responses to these situations are subtle but not completely insignificant [14]. For humans, the principal consequence of a fall in PatO2 is hypoxemia (a lack of oxygen in the blood), resulting in reduced delivery of oxygen to the tissues (tissue hypoxia). This occurs during ascent to high altitude, due to the exponential decline in barometric pressure. Above ~1500–2500 m, depending upon the individual, hypoxemia can lead to altitude-related illnesses, such as acute mountain sickness (AMS). Hypoxemia and tissue hypoxia can also result from many pathophysiological states that impair oxygen transport, such as respiratory and cardiovascular diseases. Humans have the ability to adapt to hypoxemia, through a process known as acclimatization, but the extent to which adaptation can compensate for the oxygen deficit depends on the magnitude of the deficit, and the time over which it occurs. Partial pressure of gas A=barometric pressure × fractional concentration of gas A. (4) Adaptation to acute hypoxia No clear definitions exist to define time-related exposures to hypoxia, but attempts have been made to unify the language used [15]. A significant and abrupt fall in PatO2 cannot be tolerated for more than a few minutes before cerebral hypoxia results in unconsciousness. Descriptions of death following sudden oxygen deprivation were common amongst early high-altitude aviators during World War II [16]. The “time for useful consciousness” on sudden exposure to a simulated altitude of 7620 m above sea level (PatO2 ~8 kPa) is ~4–5 min) [17]. The rapidity of the fall in PatO2 prevents any meaningful adaptation beyond hyperventilation and tachycardia, a desperate attempt to increase circulating blood oxygen levels. This almost immediate physiological change is brought about through oxygen sensing in the carotid bodies and their subsequent effect on the respiratory and cardiovascular centers of the brain. Adaptation to subacute hypoxia With a more gradual exposure to hypoxia, as might be experienced by during a trek to high altitude, other biological systems have a chance to contribute through a process known as acclimatization. In addition to augmented ventilatory and cardiovascular responses, hypoxia is sensed at a cellular level, triggering the increased concentration of a gene regulator known as hypoxia inducible factor (HIF). The HIF complex up-regulates a variety of specific genes, all pertinent to the survival of a sustained hypoxic exposure (Fig. 4). This oxygen-sensing system is one of the oldest and most robust cellular regulators and is preserved throughout almost all life on Earth, signifying the importance of the ability to rapidly respond to changes in oxygen availability [18]. One important role of HIF is to increase the number of circulating red blood cells through the up-regulation of erythropoietin. This increases the oxygen-carrying capacity of the blood over a period of days to weeks and forms the backbone of short-term hypoxic adaptation. It is through this process that the summit of Mount Everest (8848 m), where PatO2 plummets to 7 kPa, can be reached without the use of supplemental oxygen [19]. Fig. 4 figure 4 Examples of genes (in red) within the HIF pathway in which positive selection has been identified in high-altitude populations. Activation of the HIF response involves prolyl hydroxylases (PHD), which, in the presence of oxygen, hydroxylates HIFα thus targeting it for destruction by the ubiquitin–proteasome pathway. Under hypoxic conditions, HIFα persists to combine with the constitutively present HIFβ, and this dimer acts as a transcription factor, influencing the expression of over 100 genes, which possess hypoxia response elements in their promoter regions, and play a role in the cellular and systemic response to hypoxia. The HIF response involves increasing oxygen delivery to hypoxic tissues (through effects on angiogenesis, vascular tone, and erythropoiesis) as well as modifying cell metabolism, proliferation, and survival pathways. High-altitude positive selection has been demonstrated in all parts of this pathway, but none of the alleles affected have been demonstrated in more than one population. Data summarized from [31]. HIF hypoxia-inducible factor, HRE hypoxia response elements, PHD prolyl hydroxylase Full size image Lifelong hypoxic exposure Chronic disease or long-term residence at high altitude can expose humans to a lifetime of hypoxemia. ~140 million people live permanently at high altitude (conventionally defined as >2500 m: the elevation that most people demonstrate a drop in the oxygen saturation of hemoglobin, SpO2) [20]; and whilst this is compatible with life, it is not without consequences for many. With increasing altitude of residence, chronic mountain sickness (CMS) and intrauterine growth retardation (IUGR) become more prevalent and an acceleration of pre-existing chronic respiratory diseases is observed [21]. Global atmospheric deoxygenation would lead to such complications being encountered at progressively lower elevations, and we would expect their incidence and severity increase on a global scale. CMS is characterized by excessive polycythemia, progressing to pulmonary hypertension, right ventricular failure, and death [22]. There is limited information about the frequency of and mortality from this disease in the present day as it is not a recognized classification in death certificates [21], but it will undoubtedly generate a significant and progressive disease burden as deoxygenation continues. The impact on human reproduction may have even more grave ramifications for population expansion and health. Fetal hypoxia, due to reduced maternal oxygenation and uteroplacental blood flow, reduces birth weight by an average of 100 g for every 1000 m above sea level [20, 23]. IUGR has wide-ranging and severe consequences throughout life. Low birth weights are linked to higher mortality in infancy, childhood, and later in life. Late (adult) morbidity and mortality may be due to the heightened risk of systemic hypertension, coronary heart disease, and diabetes observed in low-birth weight groups [24]. Decreasing PatO2 at altitude is also associated with an increased prevalence of pre-eclampsia, a syndrome of maternal hypertension and proteinuria, which can progress to life-threatening seizures, as well as IUGR [25]. Chronic lung disease follows an accelerated course in hypoxic environments, resulting in a shorter interval between onset and death, and further increasing the incidence of right heart failure [26]. In short, lifetime exposure to low PatO2 exerts detrimental effects that may limit longevity, increase morbidity, and impair human reproduction. However, some populations have thrived at altitude and perhaps the survival of future generations of humans depends on the long-term adaptations observed in these people. Adaptation to hypoxia over generations Populations that have occupied hypoxic environments for hundreds of generations appear to have undergone genetic adaptation leading to the expression of phenotypes that convey an enhanced ability to survive and reproduce under chronic hypoxic stress. Long-resident populations enjoy reduced incidence and severity of the high-altitude complications such as CMS and IUGR [20] compared to non-ancestral high altitude residents, and their superior physical performance at altitude is widely reported anecdotally and demonstrated by increased maximal oxygen consumption on exercise testing [27, 28]. Three populations have occupied highlands of 3500–4000 m above sea level for millennia. Current best estimates place Tibetan plateau settlement first (25,000 years ago) followed by that of the Andean Altiplano (12,000 years ago) with a range of values given for colonization of the Ethiopian plateau (between 5000 and 70,000 years ago), although we cannot prove genetic continuity between original colonizers and modern-day populations [29]. Specific physiological traits, related to the oxygen transport pathway or oxygen utilization, have been identified in these populations, but the composite of traits is different in each. For example, hemoglobin concentration is elevated in high-altitude Andeans, but remains close to typical lowlander values at sea level in Tibetan and Ethiopian highlanders up to altitudes of 4000 m, with only minimal increment upon further ascent [30]. On the other hand, SpO2 is lower in high-altitude Tibetans and Andeans compared to Ethiopians [30]. Tibetan and Andean highlanders have been the most extensively studied, with comparatively limited information available about their Ethiopian counterparts, and the main phenotypic differences between the three populations are summarized in Table 1. There is a lack of consensus regarding some of these differences, and we have much to learn about how and to what extent each phenotype actually contributes to improved function or survival in hypoxic conditions. Table 1 Physiological responses to sustained exposure to hypobaric hypoxia in different native populations (in comparison to values seen at sea level) [29, 46, 47]. Full size table Many approaches have been applied to uncover the genetic basis of these hypoxia-adapted phenotypes. High-altitude populations appear to have undergone positive selection in many genes that are involved in the HIF signaling cascade, which co-ordinates the cellular and systemic response to hypoxia. Examples of such genes are summarized in Fig. 4. In most instances, the precise function these genetic variants is yet to be revealed, but in some instances, putative mechanisms are beginning to emerge. For example, a variant of the EPAS1 gene (which encodes the alpha subunit of the HIF-2 transcription factor) has been demonstrated at increased frequency in high-altitude Tibetans. The selected variant actually down-regulates HIF targets, including erythropoietin, and is associated with lower hemoglobin concentrations [31]. It has thus been proposed that it may promote survival in hypoxic conditions by protecting against CMS and improving microcirculatory flow and local oxygen delivery due to reduced blood viscosity. The Tibetans inherited this gene from an ancient human race called the Denisovans, prior to their extinction 40,000 years ago [32]. It has been identified in only one other population on Earth, the Han Chinese, from which the Tibetans split less than 3000 years ago. In this time, the frequency of the gene in the two populations has diverged significantly: it is present in only 9% of Han but in 87% of Tibetans, the fastest known example of Darwinian evolution of humans [32]. The timeframe over which this significant genetic population change occurred is roughly equivalent to the time over which the model predicts global PatO2 to halve, and offers some insight into how quickly humankind might be able to adapt to the oncoming hypoxic selection pressure. Any predictions about the nature of the human race in an oxygen-deplete future using the genetics of present-day high altitude populations is hampered by the fact that different genes appear to have undergone positive selection in each, with no overlap in the variants expressed by the Tibetans, Andeans, or Ethiopian highlanders [33]. Genomic analysis of Andean populations has revealed at least 40 candidate genes involved in the HIF pathway or hypoxia-related genes, including PRKAA1 (which codes for a subunit of adenosine monophosphate-activated protein kinase, and may influence fetal growth) [33, 34]. Natural selection in many genes involved in the same pathways has been demonstrated in high-altitude Tibetans, but the specific genes are at different loci or constitute different variants, such as EGLN1 (which encodes prolyl hydroxylase 2, the oxygen-dependent modulator of the HIF alpha subunits [35]). Ethiopian highlanders show positive selection in different genes again, this time including BHLHE41, which may be both a target and a modifier of HIF-1 alpha [33, 36]. One possibility is that different populations have followed different paths towards hypoxic adaptation, influenced by other environmental variables in each location (such as temperature or food availability), and population factors such as the genetic variation in the original settlers (contributing to genetic drift) and access to other gene pools (contributing to genetic flow). A second explanation is that they represent different time points on the same journey towards an optimally adapted phenotype, with duration and degree of hypoxic exposure different in each region. If we accept the second explanation, then the Tibetans, exposed to the greatest degree of hypoxic stress for the longest time, would represent the current pinnacle of long-term hypoxic adaptation. This is corroborated by the fact that Tibetans have a lower incidence of CMS and IUGR than their shorter-resident Andean counterparts [20]. The nature and rate of human adaptation to future atmospheric hypoxia will depend on stochastic events and making predictions is dogged by uncertainty, but the rate of oxygen decline that is projected by the parabolic model (PatO2 falling by 50% over the next 3500 years) may not provide sufficient time for the development of a Tibetan phenotype, but perhaps just enough to allow an Andean pattern of traits to emerge. Hypoxia survival limits and human extinction Even with genetic and phenotypic adaptation, the parabolic decline described by this mathematical model predicts a scenario in which atmospheric oxygen concentration falls to levels below the threshold where human survival and reproduction may be sustained. Defining this point in terms of oxygen concentration is difficult, and our hypothesis is based on the highest elevations known to sustain lifelong human habitation. The highest permanent settlement in the present day is the Peruvian village of La Riconada, at an altitude of 5100 m, which has around 30,000 inhabitants [37]. Native villagers have survived there for at least 40 years and current residents have successfully gone through child birth to create the next generation at this altitude [38], however, it is not known whether the birth rate can sustain this population indefinitely. The highest permanent settlement on record is the (now abandoned) Chilean mining village of Quilcha (5340 m), which was discovered by the 1935 International High Altitude Expedition to Chile [39]. It has been argued that this represents the upper limit of long-term human habitation, because the residents chose to sleep at this elevation and make a daily ascent to the mine above. PatO2 at the Quilcha settlement is 11.3 kPa (slightly higher than 50% of the current PatO2 at sea level). The parabolic deoxygenation model described here predicts that PatO2 at sea level will reach this threshold in ~3600 years from now. During this time, the human species is likely to undergo further positive selection for physiological phenotypes conveying survival advantage in hypoxic conditions. Studies of high-altitude residents tell us that while such adaptations may enable us to function relatively well in an atmosphere that contains just over half the oxygen we breathe today; many will suffer the long-term consequences. Higher rates of maternal pre-eclampsia and death, increased perinatal mortality, low birth-weights (and the myriad consequences of this in adulthood) and escalating pulmonary disease will curtail life expectancy and population growth. Those individuals with independent comorbidities, particularly chronic respiratory and cardiac disease, may suffer exacerbation of their symptoms, reduced function, and reduced length of life. Highlanders may be forced to descend as life becomes intolerable at hypobaric elevations, therefore reducing the surface of Earth that we can populate. The burden of ill health will begin to overwhelm the capability of healthcare services. The last prevailing human phenotypes may resemble those of current high-altitude populations: with enhanced abilities to extract precious oxygen from the atmosphere or deliver it to the tissues, and perhaps superior cellular mechanisms to improve efficiency of oxygen use and defend against hypoxic stress. It is important to stress that the parabolic model described here is mathematical rather than geophysical [5]. Other authors have disputed the idea that global deoxygenation on a catastrophic scale is possible [40]. One of the key reasons cited for this is that the determining factor in global oxygen decline is fossil fuel usage and current estimates predict that oil, coal, and gas stocks will last 35, 107, and 37 years, respectively [41]. Thus, is it plausible that the increased fossil fuel usage in recent years has caused a temporary acceleration of the deoxygenation phenomenon, which will resolve once reserves have been exhausted. This scenario would predict a very different decline in atmospheric oxygen from the one we have described, with a fall of only a fraction of a percent in 4400 years [42]. Consensus in this area has not yet been achieved, but the need to understand the limits of long-term human survival under progressively hypoxic conditions cannot be questioned, whether we are considering the persistence of the human race in the mathematical model discussed here, or other contexts in which atmospheric oxygen may become scarce, such as future long-term space expeditions. Other environmental changes may also impact the ability of humans to acclimatize to hypoxia during global deoxygenation and these include the rise in both temperature and concentration of carbon dioxide. It is hard to predict the precise effect of these additional physiological stressors but both are likely to reduce further our chances of long-term survival. In particular, rising carbon dioxide levels could lead to metabolic problems if individuals fail to adapt to this adequately. High blood carbon dioxide levels (hypercarbia) can cause acidosis, hypertension, and tachycardia. Those with underlying lung chronic disease may suffer greatest from this. In a simple, short-term experimental model of Earth’s atmosphere, a novel experiment that used plants to generate oxygen and consume carbon dioxide in a sealed hypoxic chamber noted a high carbon concentration (0.66%) towards the end of the 48-h experiment [43]. The atmospheric changes will also impact other animals on Earth, and failure to adapt will result in extinction both on land and in the seas and oceans. All aerobic life forms will suffer as oxygen is removed from the atmosphere. In addition, plant metabolism may also be detrimentally affected. Already, the rising carbon dioxide concentration has been predicted to reduce the rate of photorespiration, and a falling oxygen concentration may exacerbate this. While the overall effect of a reduction in photorespiration remains unclear, we do know that complete removal of this pathway could lead to metabolic disaster for the plants that use it [44]. Conclusions Progressive asphyxiation of the planet would ultimately lead to the demise of humankind through escalating infant mortality and eventually complete failure to reproduce. Perhaps technological advancement could permit the continuation of life within biospheres in the short term [45], but beyond this, the outside world would become a barren and inhospitable place. It is not possible to predict with certainty the threshold value at which mass extinction becomes inevitable, but we have no evidence that humans can persist for more than a generation in an atmosphere containing half the amount of oxygen currently available at sea level, a situation that, according to a new model, could be upon us in a few thousand years. Unless the process of global deoxygenation is reversed, either by increasing oxygen production or by reducing its consumption, the human race, as obligate aerobes, will be left behind forever, our domination of this planet a brief footnote in its history.

#### API interoperability under the antitrust frame key to regulated quantum technology.

Kop ’20 [Mauritz; Stanford Law School TTLF Fellow @ Stanford University, Managing Partner @ AIRecht, Amsterdam, The Netherlands, “Regulating Transformative Technology in The Quantum Age: Intellectual Property, Standardization & Sustainable Innovation” https://law.stanford.edu/wp-content/uploads/2020/11/Mauritz-Kop\_Regulating-Transformative-Technology-in-The-Quantum-Age\_Intellectual-Property-Standardization-Sustainable-Innovation\_Stanford.pdf]

Regulating technology is a continuous effort. It is a dynamic, ongoing process that follows the lifecycle of the technology and the application. The article argues that the pervasiveness of quantum technology asks for a holistic view on a regulatory framework, that balances the interests of stakeholders and that of society at large. It demands for an agile legislative system that can adapt quickly to changing circumstances and societal needs. How can policy makers realize these objectives and regulate quantum computing, quantum sensing and the quantum internet in a socially responsible manner? Regulation that addresses risks in a proportional manner, whilst optimizing the benefits of this cutting edge technology? Without hindering sustainable innovation, including the apportionment of rights, responsibilities and duties of care? What are the effects of standardization and certification on innovation, intellectual property, competition and market-entrance of quantum-startups?

Moreover, which culturally sensitive ethical issues play a role in these regulations? Would it be a good first step to link the governance of quantum & AI hybrids to the Trustworthy AI principles? Do quantum’s different physical properties call for additional core rules? Is it wise to embed our democratic values into the architecture of quantum systems, by way of Trustworthy Quantum Technology by Design? The article explores possible answers to these tantalizing questions. Particles and energy at the subatomic level do not follow the same rules as the objects we can detect around us in our everyday lives. In addition to universal, overarching guiding principles of Trustworthy & Responsible Quantum Technology that are in line with the unique physical characteristics of quantum mechanics, the article advocates a vertical, differentiated industry-specific legislative approach regarding innovation incentives (based on the innovation policy pluralism toolkit), externalities and risks (based on the pyramid of criticality, which should include a definition of highrisk quantum technology applications).

The article demonstrates that strategically using a mixture of IP rights to maximize the value of the IP portfolio of the quantum computer’s owner, potentially leads to IP protection in perpetuity. Overlapping IP protection regimes can result in unlimited duration of global exclusive exploitation rights for first movers, being a handful of universities and large corporations. The ensuing IP overprotection in the field of quantum computing leads to an unwanted concentration of market power. Overprotection of information causes market barriers and hinders both healthy competition and industry-specific innovation. In this particular case it slows down progress in an important application area of quantum technology, namely quantum computing.

In general, our current intellectual property framework is not written with quantum technology in mind. Intellectual property should be an exception -limited in time and scope- to the rule that information goods can be used for the common good without restraint. Intellectual property cannot incentivize creation, prevent market failure, fix winner-takes-all effects, eliminate free riding and prohibit predatory market behavior at the same time. To encourage fair competition and correct market skewness, antitrust law is the instrument of choice.

#### Unregulated quantum tech infinitely multiplies US-Russia-China security dilemma – nuclear war.

Allison ’19 [Kevin; Senior Editor @ Signal; “Why quantum computing could be a geopolitical time bomb,” GZERO Media, https://www.gzeromedia.com/why-quantum-computing-could-be-a-geopolitical-time-bomb]

What the heck is quantum computing? It's a way of computing that is immeasurably faster than what existing computers do. Traditional computers work by adding up 1s and 0s. Quantum computers are, very roughly speaking, able to make finer distinctions between the two, which allows tremendously complex calculations to be done in a fraction of the time it would take using a traditional computer.

There's still a lot of work left to do before Google, or anyone else, can create a reliable quantum computer that works outside of a narrow laboratory setting, but as this recent article by a computer scientist argues, Google's breakthrough is an important milestone on the way there.

Why it matters: the US, China, Russia, and other countries are racing to roll out national strategies, cultivate talent and pump money into quantum computing. Why? Well, quantum computers have the potential to revolutionize how scientists create new medicines or materials, which could boost health and the national economy. They might even help answer fundamental questions about the nature of the universe, which would be a huge win for science. But much more important than all of that is the fact that whoever can build a powerful enough quantum computer might be able to use it to CRACK ALL OF THE CODES.

Consider: In order to crack the encryption on everything from your bank account to nuclear war plans, today's most powerful supercomputers would have to crunch numbers longer than the lifespan of the known universe. But a powerful enough quantum computer might be able to crack the same code in just a few hours, giving whoever owns it access to other countries and their citizens' most sensitive secrets.

No alarms and no surprises, please: That would be a geopolitical earthquake, and at some point, maybe even soon, it's bound to happen. The big question isn't if, it's how: will it be a surprise when it happens? If so, buckle up. If one country suddenly gained an ability to crack its adversaries' codes it might be tempted to use that power to its advantage, while rivals that suddenly wake up to find their most sensitive information compromised might feel a strong temptation to lash out defensively, heightening the risk of global conflict. A quantum surprise could also have immediate destabilizing effects on the economy if people suddenly feared their money was no longer secure and sparked a run on the banking system.

Conversely, the risks of a major flare-up would be lower if governments and companies were able to give each other some measure of transparency about their quantum projects and to develop new, stronger forms of encryption that can keep pace with that progress to keep essential information secure.

But that doesn't seem to be where things are headed. Instead, technologies like artificial intelligence and 5G have already become hotly politicized by growing strategic competition between the US and China. The closer scientists get to building a working quantum computer, the greater the risk that governments will move the most cutting-edge research behind closed doors. That would heighten the risk that one country or another pops a politically destabilizing quantum surprise.

#### Case-by-case antitrust enforcement fails to address anticompetitive harm produced by restrictive APIs. Only ex ante agency enforcement can adapt to changing market conditions and set norms across industry.

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Platforms Feature Complex Dynamics that Can be Difficult to Address Using Current Antitrust Law

The complex, integrated nature of online platforms makes it challenging to address competition concerns under current antitrust law.29 Digital platforms do not always fit into clear, static market definitions that are foundational to traditional antitrust cases. They also operate in multi-sided markets that antitrust case law may not clearly address.30 The fact that platforms are venturing out into new markets—many of which are rapidly consolidating—adds another layer of complexity for antitrust attorneys and economists to unpack.31 Take, for example, Amazon’s 2017 acquisition of Whole Foods. The FTC cleared the deal and let the parties merge without issuing a second request to conduct a more thorough, formal investigation. The merger between a traditional supermarket and a digital platform with extensive e-commerce operations might have raised difficult questions about defining the relevant market. Many advocates raised concerns that the deal might enhance Amazon’s dominance in fields such as logistics, expand the company’s data trove on consumers, and allow the company to replicate its anticompetitive online tactics in the brick-and-mortar space.32 But it’s not clear that current antitrust law can address these concerns if the merging parties may not appear to directly compete.

The challenge for enforcers is how to measure dominance when the technology, market, and industry are constantly changing. Antitrust agencies must also be empowered with additional resources to improve their capacity for analyzing how market power can be leveraged through data and networks. Further, the case-by-case nature of antitrust enforcement means that even when antitrust interventions are applied, only the specific company involved is obligated to abide by the conditions mandated by the remedy.

Antitrust enforcement operates ex post, meaning that enforcement might only come after the problematic behavior has occurred. Merger review is an exception to this rule, in that enforcers might be able to intervene if the likelihood of anticompetitive harm post-merger is apparent—and even then, merger conditions are often time-limited and the merged entity is not required to abide by them once they’ve expired. Additionally, whether an antitrust enforcer is successful in attaining a desired enforcement action depends on the facts of the specific case, the resources available to bring a case, and, if the enforcers file a lawsuit, the litigation outcome. Ultimately, antitrust enforcement requires a significant time investment, which does not necessarily sync up with the lifecycle of technological innovation and growth. Firms that find themselves excluded from a fair shot at competing—for example, because a dominant platform is engaging in anticompetitive self-preferencing and denying access to its API—might go out of business waiting for the outcome of a case challenging those actions.

Further, structural separation would not remedy all of the competition concerns that online platforms pose.33 Even if a platform is broken up, it could still enter into an anticompetitive arrangement in which only some downstream products are compatible with the platform through proprietary integration or an exclusive contract.

But requirements for interoperability could address some of these threats to competition. As a result, Congress should promote interoperability in new legislation, and the FTC, too, should promote interoperability when appropriate in antitrust enforcement to protect against the anticompetitive risks that arise from dominant platforms’ gatekeeping power.

Platforms Sometimes Inhibit Competition Through API Policy

Interoperability is all the more important when platforms are vertically integrated and, as a result, may have fewer incentives to offer open APIs on their own. Vertically integrated firms offer products that feed into one another along a single production vertical. In the absence of vertical integration, different companies usually produce a different product or service along a supply chain. When firms vertically integrate, however, they usually seek to tap into efficiencies gained from the supply chain integration, and give preference to their own supply chain components when designing products and services to the exclusion of other players in the ecosystem—in their API design, for instance. The more vertically integrated a platform is, the higher the risk that it may not offer APIs with sufficient data and functionality for other companies, particularly downstream businesses, to build products that are compatible with theirs.34 This practice may sometimes threaten competition, but our current antitrust framework insufficiently addresses these risks and does not promote interoperability ex ante (“before the event”).

Vertically integrated platforms have incentives to build their API design solely to their own needs, tailored to their own specific apps, features, and competitive strategy. Twitter, for instance, vertically integrated by purchasing apps like TweetDeck (a social media dashboard application for managing Twitter accounts) in 2011,35 Tweetie (then a leading iPhone Twitter client) in 2010,36 and Summize (a search engine built specifically for indexing Twitter posts) in 2008,37 and as a result was in a position to discourage developers from using Twitter’s APIs to make apps that directly competed with their platform.38 Twitter rejected apps that relied on tweet feed via its API and revoked API access. This practice certainly harmed competition, but may not have been considered anticompetitive within our current antitrust framework because of the challenges in assessing the relevant market, market power, and consumer harm.39

These risks also exist when a platform updates or expands its product offerings.40 For instance, there is a chance that a company may choose to replace older, more open technology with a substitute that is more closed and not conducive to interoperability. A company may also deliberately restrict access to its API as a strategy to deter would-be competitors. Evidence suggests that Facebook has employed this strategy in the past with regards to its API that gave third-party apps the ability to allow users to find and add their Facebook friends on their apps: Facebook turned off its friend-finding API access for Vine (an app owned by Twitter that allowed users to create six-second videos) in 2013 when it began to build out its own video product.41 Facebook said that this policy was geared at cutting off access to its social graph for “apps that [were] using Facebook to either replicate our functionality or bootstrap their growth in a way that create[d] little value for people on Facebook, such as not providing users an easy way to share back to Facebook.”42 The same year, Facebook cut off access to its social graph for MessageMe, a messaging app that had previously been able to allow users to find and add friends from Facebook—just a week after it launched.43 It did the same thing to Voxer, a calling and voice chat communications app that had had access to Facebook’s social graph through its API for over a year before getting cut off.44 It’s worth noting that all three of these competitors ultimately exited the market or shut down—while this loss of competition may be clear, the anticompetitive harm from Facebook restricting its API access in this manner may be more difficult to prove.45

Our current antitrust framework insufficiently addresses the competitive threat of online platforms’ unique gatekeeping ability via control over their own APIs. This practice falls outside of the antitrust theories that have historically addressed similar behaviors from firms: (1) refusal to deal and (2) the essential facilities doctrine.46 Under the former, a monopolist refuses to do business with other firms or prevents customers or suppliers from dealing with the firm’s rivals (i.e., “I refuse to deal with you if you deal with my competitor”) to acquire or maintain its position in the market.47 Under the latter, a monopolist obtains a competitive advantage by denying access to an essential “facility.”48 Neither are entirely applicable to addressing a platform’s control over competitors’ ability to utilize certain aspects of its data and user base to build their own products and services. This distinction is largely because APIs and the underlying data are subject to a variety of other considerations, too, such as the need to protect data security and avoid fraud; these factors require some limitations in the form of access controls and restrictions on usage volume.49 As such, antitrust law is an insufficient tool to address the competitive effects that platforms may raise through their API policies and lack of interoperability.

#### FTC rulemaking on interoperability remedies network effects and facilitates market entry.

Kades & Morton ’20 [Michael Kades and Fiona Morton; Director for markets and competition policy at the Washington Center for Equitable Growth, JD from Wisconsin Law. “Competitive Edge: Remedying monopoly violation by social networks—the role of interoperability and rulemaking”. Washington Center for Equitable Growth. Sept 23 2020. https://equitablegrowth.org/competitive-edge-remedying-monopoly-violation-by-social-networks-the-role-of-interoperability-and-rulemaking/]

All eyes are laser-focused on competition in digital technology platforms such as Amazon.com Inc.’s Marketplace, Apple Inc.’s App store, Facebook Inc.’s eponymous social network, and the search engine operated by Alphabet Inc.’s Google unit. Congress, the Federal Trade Commission, the U.S. Department of Justice, and various state attorneys general are investigating their conduct, and, if press reports are to be believed, both Google and Facebook could soon find themselves as defendants in major monopolization cases. By way of comparison, the previous major monopolization case, United States v. Microsoft, was filed in 1998, when “You’ve got mail,” and that static noise of a dial-up connection were common.

It is, however, past time to think only about whether these technology giants are violating the antitrust laws and ask how to address such antitrust violations if they have occurred. Even in the most successful monopoly prosecutions, such as the antitrust cases against AT&T Inc. in the 1980s and against Microsoft Corp. in the 1990s, the courts struggled to develop and implement effective remedies with various degrees of success. Discussing remedy before there is a case may seem like putting the cart before the horse—but think of it as designing the cart before deciding what horses to use.

Today, we have posted a working paper that proposes a remedy for one type of digital platform: a social network such as Facebook. Our remedy proposal relies on five principles, summarized here and discussed in more detail below:

Social networks, like most digital platforms, have large “network effects.” We discuss this concept in detail below, but the basic idea is that like the telephone system and email, the more people on the same network, the more useful it is to its users. Those network effects create entry barriers, which make it easier for anticompetitive conduct to successfully create and protect monopoly power.

Unless a remedy addresses the entry barriers created by these network effects, it will likely fail to fully restore competition or prevent future violations.

Interoperability refers to the way phones from Verizon Communications Inc., AT&T, and other companies can connect with each other, or users of Gmail and Hotmail can write to each other. In the case of a social network, interoperability would enable social network users on different social networks to seamlessly connect with each other, meaning that interoperability is likely to be critical, although not sufficient, to address harms caused by an antitrust violation.

Implementing interoperability poses challenges for the litigation process. It requires the creation of a technical committee to address the technical details. The committee can’t be manipulated by the dominant players. Policing compliance with the remedy must be efficient. And substantial penalties are needed to deter incentives to violate the remedy order.

The Federal Trade Commission could use its rulemaking authority, outside of any particular litigation, to develop a default interoperability order that could increase the workability and effectiveness of any future interoperability requirement.

Digital platforms are under scrutiny

On Capitol Hill, the Senate Judiciary Committee just held a hearing on Google and online advertising. The House Judiciary Committee will release its report on digital platforms shortly. Jason Furman, a professor of the practice of economic policy at the Harvard Kennedy School and a member of Equitable Growth’s Steering Committee, outlined the role of networks on competition in digital markets in testimony before Congress (available as a Competitive Edge), and Equitable Growth has also summarized research more broadly.

A network effect means a digital platform’s value to users increases as the number of users increases. Take Facebook as an example. As the number of users on Facebook increases overall, any individual will need to be on Facebook to communicate with her friends or family; conversely, no one wants to be on a social network if none of their friends or family use it. Similarly, advertising on Facebook becomes more valuable the bigger Facebook’s user base grows, the longer users are on Facebook, and the more Facebook can help target the ads to those who will most likely respond to them, which is a function of the first two benefits of size.

In turn, this network effect can lead to a winner-take-all (or most) dynamic, also known as tipping. When one social network creates an edge in number of users, either legitimately or through exclusionary conduct, that advantage attracts even more users. The social network may become dominant and earn monopoly returns. Ultimately, the network effect creates an entry barrier. Few will join a new social network until their friends, families, and neighbors do.

Neither entry barriers nor tipping present insurmountable barriers for a new competitor, but they do make it easier to monopolize a market. In a market subject to tipping (even if it is not permanent), the value of excluding a competitor is greater because the prize is bigger. If entry barriers are high, any potential competitor’s chance of success is low. As a result, a social network may be able to inexpensively acquire nascent or potential competitors before they pose a threat to the network’s dominance.

A successful remedy will reduce entry barriers created by network effects

If this type of digital platform has violated antitrust laws, it has engaged in anticompetitive conduct that relies on and exploits the network effect and the entry barriers it creates. Absent intervention, the dominant platform will continue to benefit from its conduct; entry is unlikely and difficult. A divested network can compete with its existing installed base of users, and this will create choice for users—provided their friends move with them. So long as the network effect remains, however, the dominant firm continues to have the same incentives to adopt different and new exclusionary conduct to protect its monopoly. For a remedy to be fully effective, it needs to reduce the network effect and the entry barriers it creates.

Network effects manifest themselves across different types of digital platforms: social networks, online marketplaces, app stores, and online advertising. But they can operate differently in each setting. Network effects can be direct or indirect; platforms can have multiple sides. The effects may be asymmetric, and some may be strong and others weak. A remedy that addresses network effects present in a social network market may be meaningless in addressing network effects in an online marketplace. We use Facebook to explore addressing network effects as a remedy for a monopolization violation involving a social network.

Based on allegations currently being made, assume that Facebook has allegedly acquired a series of nascent or potential competitors to eliminate companies; that it cut off access to Facebook when a company could pose a competitive threat; and that those actions violate the antitrust laws as illegal monopolization. How would one remedy the violation? (Our working paper and this column do not comment on the merits of these allegations.)

Certainly, a court could forbid Facebook from repeating the illegal act and similar acts. Facebook could face fines or have to give up its profits from violating the law. But we are doubtful that those remedies alone would recreate the lost competition and thereby give consumers the competition they were earlier denied. Conduct prohibitions are likely to create an expensive whack-a-mole game, with the government and the dominant firm arguing over both the impact of every new strategy and whether it counts as “similar” to what violated the law.

A more substantial remedy would break up a social network into separate parts and provide real benefits by setting the stage for robust competition. A remedy, for example, could require Facebook to divest its Instagram photo- and video-sharing unit and its messaging unit, WhatsApp. Divestiture would significantly benefit users post-break-up as the divested components would compete with each other to attract users. Each network would innovate and provide better service to win an advantage in the number of users. The competition would likely be fierce. But without additional remedies, the market would likely tip again to one of the competitors, creating another monopoly. Then, the winning social network has both the incentive and ability to engage in exclusionary acts to prevent future threats to its newly established or re-established market dominance.

Interoperability has the potential to lower entry barriers

Requiring interoperability can neutralize or significantly reduce the network effect that the incumbent employed to create and protect its monopoly. By interoperability, we mean that users on other or new social networks should be able to friend Facebook users and vice versa. Posts should flow from a Facebook user to her friend on a new network in much the same way email can be sent and received regardless of whether both parties use Gmail, or phone calls connect people regardless of their carriers.

Interoperability reduces the barriers to entry created by network effects. Let’s say, for example, that one of the divested Facebook companies begins to lose users. It radically changes its business model from advertising-supported to a subscription-based business model and promotes the resulting high-quality user interface. It hopes to attract users because it has no advertising and strong privacy protections. Without interoperability, a user who prefers the subscription model and leaves Facebook to join it will lose contact with all her friends on Facebook and perhaps institutions there, such as her child’s school. Such costs might deter her from joining her preferred network. With interoperability, by contrast, she receives school forms and news of family vacations and college reunions that are sent to her through her new network. In short, with interoperability, each person can choose the network they prefer while staying in touch with their social circles. The network effect ceases to be an entry barrier.

In this world, entering social networks could compete on features outside the standard, such as their user interface, policies concerning news or offensive content, and privacy policies. Consumers could change social networks like they change wireless carriers, without losing the ability to stay in touch with their contacts. The need to compete for consumers on the basis of service quality, such as the amount of advertising and how it is targeted, rather than relying on network effects to keep users, would intensify competition among social networks to the benefit of consumers.

Interoperability could be ordered in addition to other relief, such as a divestiture, and could be complementary to it or stand on its own. It could be an appropriate remedy in any situation in which the dominant social networking firm has exploited network effects by violating antitrust laws. In today’s internet-based network markets, interoperability carries no incremental costs such as the dedicated wires and machines that were required for telecom interoperability in past decades. It requires the establishment of an open standard to exchange commonly used functionalities, such as text, calendars, and images between and among competing social networks.

The challenges of implementing interoperability as a remedy

Although interoperability as a concept is straightforward, effectively implementing it raises challenges. In our working paper, we look back at both the AT&T break-up order, where interoperability was effective, and the remedial order in United States v. Microsoft, where those provisions had little impact. From those cases, we suggest several operational principles.

Substantively, the remedy must establish the technical capability for users to communicate across platforms, balance the needs of multiple actors, promote entry, and enhance the user experience, including protecting privacy. Importantly, the remedy order must prevent the offending, dominant social network (or its divested parts) from manipulating the process. This requires that the remedy include provisions that will deter the defendant from violating the order, require standards that many entrants can meet, and not favor large incumbents.

The remedy also must establish a process for determining whether the defendant has violated the order. That process must be fast enough to provide relief to a harmed competitor before that firm fails, and the penalties must be significant enough that the dominant social network will be worse-off for having violated the remedy order.

From a process perspective, creating a technical committee overseen by an antitrust enforcer is the most promising option to solve these implementation challenges. Judge Harold Green used a similar procedure in the AT&T break-up, and Judge Colleen Kollar-Kotelly relied on a technical committee in Microsoft. Such a committee would include representatives of all relevant industry segments, but the antitrust enforcer engaged in policing the remedy would control the decision-making process to prevent capture by the dominant social network (or its divested parts).

FTC rulemaking can improve the remedy process

The final element of our proposal is that the Federal Trade Commission should use its rulemaking authority to develop a default order for interoperability. Rulemaking provides a number of advantages for developing the groundwork for a successful remedy. A default order derived through rulemaking can identify basic principles to apply in monopolization cases involving strong network effects or issue separate rules on remedies for different types of digital platforms.

In an administrative adjudication, where the Federal Trade Commissioners are the judges, the default order would be a mandatory starting point for a remedy. In cases brought in federal court by the Justice Department’s Antitrust Division, the states, or the Federal Trade Commission (the FTC can either bring cases internally, where it acts as a decisionmaker, or in federal court, where it is the plaintiff), courts would not be required to rely on the default order but would be free to do so.

In any individual case, the decision-maker could adjust the terms as necessary to fit the particular situation, but the default order would save time and effort. The default order would also help focus on the issues in dispute. Parties could appeal any of the decisions we describe to the courts. Given the existence of a carefully crafted, robust order, however, those appeals would likely be less frequent and burdensome than if a court had to resolve every issue from scratch.

Conclusion

The debate over whether any digital platform violates antitrust laws will continue in the press, in the halls of Congress, and, probably, in courtrooms across the country. Antitrust policymakers need not—and should not—wait for a liability determination before considering remedies they can apply today, using current law and existing institutions. Our working paper provides a contribution to the remedy discussion and on the need to address entry barriers as a necessary, but not necessarily a sufficient, goal of a successful remedy.

#### Ex-ante mandates are key.

Cyphers ’21 [Bennett; and Cory Doctorow; Staff Technologist on the Tech Projects team. Special consultant to the Electronic Frontier Foundation, MIT Media Lab Research Affiliate, visiting professor of computer science at the Open University, visiting professor of practice at the University of North Carolina’s School of Library and Information Science, co-founder of the Open Rights Group. “Privacy Without Monopoly: Data Protection and Interoperability”. EFF. Feb 12 2021. https://www.eff.org/wp/interoperability-and-privacy]

3.2. Interoperability Mandates1

The second part of our proposal is a new set of legislative and administrative mandates for specific flavors of interoperability. These mandates are designed to force platforms to open up key parts of their infrastructure to help alleviate the network effects that keep competitors from getting a foothold.

Our proposals are based on the framework laid out in the ACCESS Act of 2019. Legislation is one possible tool for implementing these policies, though they may also be implemented by other means, such as consent decrees or voluntary covenants. We recommend that any new mandates define the behaviors that businesses must support, but not the specific ways they should do it. And while protecting innovation in general is important, regulators and lawmakers must be extremely careful not to hamper companies’ ability to react to new security vulnerabilities or privacy threats.

We endorse new mandates in three areas: data portability, back-end interoperability, and delegability. Together, these give users the power to use platforms on their terms, and allow competitors to use incumbent platforms to launch new, innovative rivals.

Back-end interoperability and delegability mandates are designed to tip the scales away from entrenched platforms and towards smaller competitors, so we recommend that, at least at first, these should only apply to the largest monopolists. On the other hand, portability is a tool for both interoperability and user empowerment, so it should apply to a much wider range of companies.

3.2.1. Data portability

The first and simplest new policy is a universal right of data portability. Users deserve to do what they want with their data, and should have a right to quickly, easily download or move the data that a platform has about them. Compared to the other ideas in this paper, data portability is a relatively easy policy lift: laws have already created partial or full data portability mandates in several jurisdictions. The General Data Protection Regulation (GDPR) and the California Consumer Privacy Act (CCPA) both include some form of data portability mandate; as a result, most companies that do business in either California or Europe already have portability processes in place.

Portability is as much about user rights as it is about interoperability between businesses. Therefore, the scope of a portability mandate should be wide. Most companies that collect or process users’ data should be required to make that data portable. Portability should also be less of a technical lift than the other mandates we discuss below.

Although the central idea of portability mandates is simple to grasp—that users should be able to access their data in a useful, accessible form—companies have clashed with regulators over just what data should be portable. Incumbents have argued that some data implicating other users is too sensitive to allow for simple porting. Conveniently, that “too sensitive” data is often the same data, such as friends’ contact information, that is key to helping small competitors off the ground.

Still, large platforms now generally agree that portability mandates are acceptable, even beneficial. Google, Microsoft, Facebook, and Twitter are among the founding partners of the Data Transfer Project, an attempt to develop secure standards for sending user data from one service to another. Last year, Facebook signaled support for the portability mandate proposed in the ACCESS Act, and requested that regulators tell companies exactly what they need to export.

Who has a right to what data? And what should they have a right to do with it? Those questions are central to getting a portability mandate right.

3.2.2. Back-end interoperability

The second flavor of mandate is back-end interoperability, which has a much more extensive set of requirements. The goal of this kind of mandate is to allow users of small services to interact with users on big platforms. This gets directly at the network effects that make it so easy for Facebook and YouTube to shrug off competition.

A back-end interoperability mandate would require platforms to allow competitors to work with their internal systems on behalf of users whose data lives elsewhere. The core principle of the mandate would be this: any service operated by the platform that allows users to communicate with each other—whether by direct message, public or semi-public posts, comments, or reactions—should allow users that are not signed up with the service to engage in those same kinds of communication.

Think about what it would mean to interact with Facebook as a user of a similar, but distinct, social network. For full, meaningful interoperability, you’d need to be able to read, comment on, and react to content on Facebook in such a way that Facebook users can actually see it. You’d need Facebook to treat you in the same way that it treats its own users, but without controlling the authentication or data storage for your account. Broadly, this would require Facebook to create new connections in two directions: first, it would need to share data from its own users with third-party services; and second, it would need to ingest data from users of those outside services. (Example 2 explores this scenario further.)

This kind of requirement may be burdensome to the companies that are subject to it. Therefore we recommend that, at least at first, these should only apply to dominant platforms that can afford the new costs of compliance. Furthermore, we recommend that policymakers stay away from being overly prescriptive wherever possible—as long as platforms build tools that make the desired data flows possible, and as long as there are appropriate safeguards for user privacy, it should not matter how they do it. This will leave room for future optimization and innovation.

This kind of rule will be hard to do right, and will require ongoing monitoring. Regardless, it is worth doing.

Example 2: Federated social networking

If we break Facebook’s monopoly power in social networking, what comes next? How would we go about breaking that monopoly power in the first place? The answer to both questions could be the same: a truly federated social network, in which users who have signed up for different services can interact with one another freely. To get there, Facebook would need to allow its users to become “friends” with accounts hosted on rival services.

Facebook already has APIs that allows developers to access pretty much all data on behalf of a Facebook user. This lets developers build add-ons to Facebook’s core product, or glue between a user’s Facebook account and their account on another service. But it doesn’t allow developers to access data on behalf of users who are not on Facebook at all.

To federate, Facebook would need to create an interface to allow Facebook users to become friends with off-platform identities. Facebook would have to explain to its users the kinds of data it will be sharing, and with whom. The user must trust at least two different actors: first, the administrator of the service they will be sharing data with, and second, whomever they are trying to connect with on that service. The user must also have an easy way to opt out of sharing data with either or both of those actors at any time. That means a way to “un-friend” the user on the other service, as well as a way to cut off the other service’s access to their data altogether.

On the back end, Facebook would have to set up interfaces for bi-directional data flow between itself and third-party services. Its Graph API already provides (or has in the past) most of what’s needed for moving data out of Facebook: apps can already get programmatic access to a user’s posts, likes, photos, and basic profile information.

The third-party service also needs a way to push data into Facebook. This means Facebook has to consume content from third-party users and distribute that content appropriately. It could accomplish this by letting outside services push updates that are shaped like Facebook data—posts, comments, and reactions—on behalf of their own users. Facebook could then display that content to its users in their regular feeds.

Together, these pieces would change Facebook from a social media pocket universe, where users may only communicate with others inside the system, into a single part of a constellation of social networks. People who are already invested in Facebook—that is, most of us—could try out new services without leaving all their old connections behind.

All of this is unlikely to happen without outside incentive; it is simply not in Facebook’s interests to interoperate with potential competitors. It is more likely that Facebook will only adopt strong interoperability as a result of a legal mandate—or as part of a deal to avoid more dire consequences, like structural separation. Legal mandates—namely, for back-end interoperability—would need to outline what functionality Facebook needs to support, and govern how the company is allowed to moderate access to its new interfaces.

3.2.3. Delegability

The third kind of mandate is delegability, or client-side interoperability. The concept is simple: anything you can do with a mouse or a touch screen to interact with a platform, you should be able to delegate to someone’s code to do on your behalf. Every substantial part of the user interface should be available to automated access. This means that a user could delegate a piece of software—either their own, or a trusted third-party tool—to interact with a platform on their behalf. These “delegated agents” will be able to tip the balance of power between users and platforms so that users come out on top.

Delegability is closely related to ComCom. With a robust competitive compatibility regime, developers would be free to try to build on top of existing user interfaces. Delegability would take this to the next level, and guarantee that developers have stable, usable programmatic interface to act on behalf of users.

Delegability is new to the tech sector, but it’s been pioneered in other industries through right-to-repair laws. Right-to-repair laws generally seek to mandate that manufacturers provide necessary repair and diagnostic information and parts to independent service providers and, sometimes, device owners. Some also go further, such as Massachusetts’ requirement that cars use a standardized interface for pulling diagnostics and communicating with on-board computers. Automotive right-to-repair laws have helped open up huge secondary markets for independent diagnostics, repair, and engine tuning.

A delegability mandate can provide the benefits of client-side APIs without the risk of arbitrary moderation or sudden rollbacks that platforms have historically imposed. This kind of mandate could open space for a whole host of new user-friendly applications, from custom filters on social media feeds to new tools for accessibility, from audits of political ads to independent stewardship of privacy settings. This kind of mandate guarantees that platform interfaces will remain stable and accessible, making it more feasible for users and developers to invest in building on them.

Example 3: Third-party privacy controls

Many sites offer relatively detailed privacy settings. Facebook has several different pages that control data collection, sharing, and use across a suite of (sometimes linked) products. And these settings’ defaults and options change over time, often without notice. Users generally do not want to think about every single setting; many would prefer to have the most privacy-preserving settings turned on by default. An “install-and-forget” privacy setting app would allow users to delegate an intermediary to make sure they are getting the most private experience possible over time.

Competitive Compatibility would make this possible. A browser extension designed around the particular workings of platforms’ privacy pages could automatically load up the page, set the preferred check boxes and sliders, and warn the user when companies deploy dark patterns to get them to “opt back in.”

In a ComCom-based solution, tools would be fragile, and subject to Facebook’s decisions to fight them off. If the company wanted to fight with interoperators, it could deploy many of the same tools it does against ad-blockers and ad fraud networks. That would lead to a technical back-and-forth, with some tools able to stay ahead of Facebook’s maneuvering, and others breaking as they fall behind. In a ComCom world (where Facebook no longer has legal remedies against interoperators) Facebook might arrive at an equilibrium where it offers privacy tools a managed access—or Facebook might decide to fight on, judging that the anger of users who are kicked off of Facebook for violating its terms of service is a price worth paying for continued dominance.

Delegability would set in stone the right to outsource privacy decisions. A delegability mandate guarantees users a right to programmatically interoperate, and Facebook would defy users at its own legal peril. A privacy setting tool isn’t merely possible, it’s simple. It could be integrated into tracker blockers and even browsers themselves. Users could install a pan-platform privacy toolkit to keep them protected across all entities subject to the mandate.

The obvious privacy risk with this kind of tool is that the delegated agent could turn out to be a bad steward of user privacy. But because the tool would be so easy to build, it could be volunteer-developed free software. Users could choose a tool from an actor they trust not to have ulterior motives.

#### Certainty and federal action are key – a thicket of legal defenses discourages interoperating.

Doctorow ’21 [Cory; 4/13/21; Special Consultant @ Electronic Frontier Foundation, Research Affiliate @ MIT Media Lab, Visiting Professor of Computer Science @ Open University, Visiting Professor of Practice in School of Library and Information Science @ University of North Carolina, Co-Founder @ Open Rights Group; “Unfair Use: Anti-Interoperability and Our Dwindling Digital Freedom”; <https://thereboot.com/unfair-use-anti-interoperability-and-our-dwindling-digital-freedom/>; \*GPL = General Public License, “a copyright license for computer programmers who want to share their work”]

Some 40 years later, the world is a very different place. Between software copyrights, anti-circumvention rules, software patents, enforceable terms of service, trade secrecy, noncompete agreements, and the Oracle/Google dispute over API copyrights, any attempt to interoperate with an existing product service without permission from its corporate master is a legal suicide mission, an invitation to almost unlimited civil — and even criminal — litigation. That is to say: if you dare to modify, improve, or replace an existing, dominant software-based product or service, you risk bankruptcy and a long prison sentence.

Forty years ago, we had cake and asked for icing on top of it. Today, all we have left is the icing, and we’ve forgotten that the cake was ever there. If code isn’t licensed as “free,” you’d best leave it alone.

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What is “interoperability,” anyway?

The term is nerdy, technical, obscure. It’s closely related to the slightly more familiar “compatibility,” but the two aren’t quite equivalent. In a technical sense, “interoperability” describes two products or services that can somehow work together with one another. From opening your Microsoft Word documents in Google Docs, to using third-party ink cartridges in your printer, to replacing your watch band, to changing the stereo that came with your car, interoperability is a broad, universal, essential characteristic of all of our technology.

Interoperability is the default state of the world. Anyone’s charcoal will burn in your barbecue, just as anyone’s gas will make your car go. Any manufacturer can make a light bulb that fits in your light socket, and any shoes can be worn with any socks. Some of this is down to standardization: manufacturers, academics, regulators, and interested parties gather in “standards development organizations” to make this process simpler, describing the canonical direction and spacing of a light bulb thread, or the syntax of an HTTP request, or the fittings on the underside of your toilet.

This certainly makes interoperability smoother! Standards for paper, from weight (grams per square meter, or GSM) to size (letter/legal/tabloid; A1, A2, A3, A4, etc.) make it possible for you to reliably buy paper that will work with your printer without requiring additional trimming or other modifications.

A failure to standardize can make life hard for everyone. Early Australian rail barons laid their tracks in several gauges, leading to the “multi-gauge muddle” of a rail system where some cars and engines could not run on some of the tracks.

These barriers to interoperability aren’t insurmountable. If your paper doesn’t fit your envelope, you can fold it; if it doesn’t fit your printer, you can trim it. If the rail gauge doesn’t match your rolling stock, you can modify the undercarriages to allow for multi-gauge operation (a difficult operation to be sure, never implemented despite hundreds of proposals) or you can tear up some of the track and lay new ones (as Australia has done and promises to do more of).

Interoperability lowers “switching costs” — the cost of leaving behind whatever you’re using now in favor of something you think will suit you better. When my grandparents emigrated to Canada from the Soviet Union on a displaced persons ship, they incurred a high switching cost. For more than a decade, they had no contact with their family in Leningrad except through unreliable, slow word of mouth with the rare person who got a visa to travel there.

Contrast this with my move from the UK to Los Angeles in 2015. We are in routine contact with my in-laws in London and Wales, as well as my family in Toronto. My laptop and books came with me, as did our other personal effects. We left most of our appliances behind because they ran on a different voltage, but there were a few things we loved that we brought with and either changed the plugs on or connected to our house’s electrical outlets via transformer or adapters.

Companies like high switching costs. For a would-be monopolist, the best product is one that’s seductively easy to start using and incredibly hard to get rid of. Think of Purdue Pharma’s gleeful internal memos — revealed in leaks and court cases — about the ease with which their “customers” were getting started on opioids, and their contempt for how hard it was for those same people to switch away.

Addiction isn’t the only way to raise switching costs. Facebook makes it incredibly easy for you to get started, historically going so far as to tricking you into giving it access to your electronic contacts list to enmesh you in a network of others who have already signed up for the service. Once you’re on Facebook, it’s very easy to bring in articles from the public web and to link to your friends’ updates on rival networks. You can start by just using Facebook to follow the friends you have there, but over time, the system nudges you toward using Facebook as your primary means of reading the news and even following what your friends are saying on non-Facebook networks.

But when you want to leave Facebook, there’s no easy way to do so. You can’t go to a Facebook rival and follow what your friends post to Facebook from there. You certainly can’t reply to what your Facebook friends post using a rival service.

Interoperability — the thing Facebook uses to slurp stuff in from the open web — is the key to self-determination. Leaving Facebook in the 21st century is like my grandmother leaving the USSR in the 40s. You can go, but your friends and loved ones are all held hostage behind Zuckerberg’s Iron Curtain, so leaving Facebook means leaving your communities, your relationships. That’s not as hard as kicking opioids, but it’s not easy either. And your presence on Facebook is the reason someone else can’t go.

Here’s the thing: everyone wants to minimize risk, from employers to workers, from Big Tech to its users. You want to use Google in ways that make your life better, and you don’t want Google to be able to arbitrarily change or remove the services it provides. (Ask me how bitter I am about Google nuking Reader, its RSS product!) Google wants to ensure that you won’t leave the company or its products and services. It could improve its retention by making you so delighted with its offerings that you’d never consider leaving. But a surer, cheaper way is to interweave its products and services with your life: making sure that your kid can’t go to a public school without creating a Google account; embedding Google search in your mobile OS; releasing web- and app-development frameworks for third parties that quietly harvest the data of their users and send them to Google; etc.

The more freedom you have to leave Google, the bigger a risk you present to Google. The more Google can lock you in, the lower the risk of your departure from the service — and the higher the risk that Google will cease to keep your business by making good products, and instead rely on retaining you because you can’t leave (or because leaving comes at a very high price).

Interoperability improves self-determination by safeguarding your ability to change the current situation by incremental steps. If you like your phone and the apps you have but want an app that’s banned in its default app store, interoperability comes to the rescue, allowing you to add a second app store to your phone’s list of approved software sources. You get to keep your phone, keep your apps, keep all the data on your phone, and you get to install that unauthorized app.

Without interoperability, your choice is “take it or leave it.” If the app store blocks an app you want, the price of getting that app is throwing away your phone, all its apps, and some or all of the data you’ve painstakingly input into your phone. That unauthorized app needs to be pretty darned good before anyone would pay such a high price for it.

Writ large, interoperability encompasses things like democracy. When someone says they like their city but not its bylaws, we don’t tell them that the law is the law and the home comes with these bylaws in a package. Instead, we set out processes for amending or repealing laws that chafe the people they govern. If you fail in your bid to reform your city’s laws, you can also move to another city without having to surrender the possessions in your home or your social relations with your old neighbors. Interoperability lets you replace the laws and keep your house, or replace your house and find new laws.

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This whole line of thought started with a reflection of the history of the free software movement: the largely forgotten time in which the default condition of software was freedom. In the absence of copyright, patent, anti-circumvention, terms of service, noncompetes, confidentiality, and other commonplaces of today’s software marketplace, anyone who could figure out how to reverse engineer a program could improve it, replace some or all of it, read or write its files, compete with it, or sideline it.

Today, this is no longer the case. In fact, today’s software marketplace is so unlike our previous “cake-and-icing” world — where the default was software freedom (cake) and the free software movement began its audacious demand for freely reusable source code as a means of making software freedom as frictionless as possible (icing) — that it’s virtually impossible to imagine such an environment.

The thicket of anti-interoperability rules that has sprung up around interoperability has a catch-all name: “intellectual property.” Now, free software advocates — and free culture advocates — hate the term “intellectual property.” The argument against IP rails against its imprecision and its rhetorical dishonesty.

Prior to the rise of “intellectual property” as an umbrella term, the different legal regimes it refers to were customarily referred to by their individual names. When you were talking about patents, you said “patents,” and when you were talking about copyrights, you said “copyrights.” Bunching together copyrights and trademarks and patents and other rules wasn’t particularly useful, since these are all very different legal regimes. On those rare instances in which all of these laws were grouped together, the usual term for them was “creator’s monopolies” or “author’s monopolies.”

The anti-IP argument leans into the differences between the underlying rationale for each of these rules:

US copyrights exist to “promote the useful arts and sciences” (as set out in the US Constitution); that is, to provide an incentive to the creation of new works of art: copyright should offer enough protection to create these incentives, but no more. Copyright does not extend to “ideas” and only protects “expressions of ideas.”

Patents exist as incentive for inventors to reveal the workings of their inventions; to receive a patent, you must provide the patent office with a functional description of your invention, which is then published. Even though others may not copy your invention during the patent period, they can study your patent filings and use them to figure out how to do the same thing in different ways, or how to make an interoperable add-on to your invention.

Trademarks exist as consumer protection: trademarks empower manufacturers to punish rivals who misleadingly market competing products or services that are likely to cause confusion among their customers. It’s not about giving Coca-Cola the exclusive right to use the work “Coke” — it’s about deputizing Coca-Cola to punish crooks who trick Coke drinkers into buying knockoffs. Coke’s trademark rights don’t cover non-deceptive, non-confusing uses of its marks, even if these uses harm Coca-Cola, because they do not harm Coke drinkers.

Seen in this light, “intellectual property” is an incoherent category. When you assert that your work has “intellectual property” protection, do you mean that you can sue rivals to protect your customers from deception; or that the government will block rivals if you disclose the inner workings of your machines; or that you have been given just enough (but no more) incentive to publish your expressions of your ideas, with the understanding that the ideas themselves are fair game?

When you look at how “IP” is used by firms, a very precise — albeit colloquial — meaning emerges: “IP is any law that I can invoke that allows me to control the conduct of my competitors, critics, and customers.”

That is, in a world of uncertainty, where other people’s unpredictability can erode your profits, mire you in scandal, or even tank your business, “IP” is a means of forcing other people to arrange their affairs to suit your needs, even if that undermines their own needs.

There are some ways in which this is absolutely undeniable. Take digital rights management, or DRM. These are the digital locks in our devices that prevent us from using them in ways that the manufacturer dislikes. Your printer uses DRM to force you to buy ink that the manufacturer has approved; your phone uses DRM to force you to buy apps that the manufacturer has approved. Ventilators from Medtronic and tractors from John Deere use DRM to force you to get them repaired by the manufacturer — and to scrap them when the manufacturer decides it’s time for you to buy a new one.

Copyright laws — that is, “IP laws” — ban tampering with DRM, making it a serious, jailable felony to provide others with tools to bypass DRM. From Section 1201 of the US Digital Millennium Copyright Act to Canada’s Bill C-32 to Article 6 of the EU Copyright Directive, countries around the world have imposed indiscriminate bans on breaking DRM.

These are all copyright laws but, tellingly, the ban on breaking DRM is not limited to copyright infringement. Bypassing DRM to get your printer to accept third-party ink is not a copyright violation: you’re not reproducing its code, nor are you duplicating the traces etched into its chips. But even though you’re not breaking copyright when you jailbreak your phone, you’re still breaking copyright law. The law bans legal conduct, if you have to break DRM to engage in it. This isn’t copyright protection — it’s felony contempt of business-model.

It’s not just DRM. Take “Goldman Sans,” a free font released by the finance giant and global supervillain Goldman Sachs. Goldman Sans is a copyrighted work, and it comes with a copyright license that you “agree” to when you download the font. Among the license terms for Goldman Sans is a non-disparagement clause — that is, a clause that prohibits you from using the font to criticize Goldman Sachs. Goldman Sachs doesn’t need copyright law to prevent people from copying its font. It gives the font away for free. Goldman Sachs needs copyright law so it can boss people around — so it can tell them what they may (and may not) say.

The risks to free expression and self-determination have always been latent in copyright, patent, and trademark laws, and these laws have historically been designed to minimize those risks. Each one has its own “escape valve” that, theoretically, stops “IP owners” from using their rights to take away your rights.

Copyright has “fair use” (“fair dealing,” in most non-US English-speaking countries), which allows for many kinds of copying, adapting, displaying, and even selling of others’ copyrighted expressions, provided that these activities promote a free and robust discourse by transforming, commenting on, or analyzing the copyrighted work. Fair use doesn’t depend on a copyright holder’s permission — you can make fair uses even (especially!) if the rights holder doesn’t want you to.

Patent has its own escape valve: publication. To receive a patent, you must disclose how your invention works, and those disclosures are on display from the start, where anyone can study them and use them as inspiration for their own inventions. Patents allow you to punish people who duplicate your invention, but they also require that you tell people exactly what steps they must take to effect such a duplication, and also provides a roadmap for replicating your invention’s functions without violating your patent.

Trademark has two important escape valves. First, trademark holders are limited to enforcing their marks against rivals who use them in deceptive ways likely to cause public confusion. Second, trademark is subject to the “nominative defense” — it’s not a violation of a trademark to use that mark to describe the goods or services it’s associated with. You can put a sign in your shop window reading, “We fix iPhones” or “Cheap ink for HP printers” or “Our cola tastes better than Coke!” and there is nothing the trademark holder can do about it.

These escape valves have been a lot less durable than we might have hoped. It turns out that much of their efficacy depends on there being robust competition in the marketplace, so that when one company tries to narrow, say, fair use in court, other companies that depend on fair use spring up to defend it. Through the past four decades of massive consolidation in every industry, a consensus has emerged among the shareholder and managerial classes that these escape valves are defects in otherwise excellent laws, and they have set to work creating legal precedents, new laws, and new legal tactics to jam these valves shut.

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This is how we went from having software freedom cake to just having the icing: new copyright laws (like the ones that ban breaking DRM); new copyright precedents (like the one Oracle just failed to win in its lawsuit against Google); and new tactics for combining copyrights, patents, trademarks, DRM, trade secrets, and other IP so that what trademark permits, copyright prohibits, and what copyright permits, patent blocks, and so on — until all the certainty has been moved onto the manufacturer’s side of the deal, and all the risk has been moved onto yours.

### 1AC – Middleware

#### Advantage two: Middleware

#### Platforms’ power over information collapses democracy and ensures spread of misinformation – clickbait and inflammatory content spread because they sell.

Fukuyama ’21 [Francis; Mosbacher Director @ Stanford’s Center on Democracy, Development and the Rule of Law; “Making the Internet Safe for Democracy,” *Journal of Democracy*, 32(2), p. 37-44]

Many people have come to see the internet as one of the chief threats to contemporary democracy. The internet, and large platforms such as Google, Facebook, and Twitter in particular, have been blamed for the rise of Donald Trump and the populism he represents, the proliferation of conspiracy theories and fake news, and the intense political polarization afflicting the United States as well as many other democracies. Across the world, politicians with authoritarian leanings, such as Rodrigo Duterte in the Philippines and Narendra Modi in India, have made effective use of Facebook and Twitter to reach their followers and attack opponents.

There is, nonetheless, a great deal of confusion as to where the real threat to democracy lies. This confusion begins with a question of causality: Do the platforms simply reflect existing political and social conflicts, or are they actually the cause of such conflicts? The answer to that question will in turn be key to finding the appropriate remedies.

This issue came to a head in the aftermath of the 6 January 2021 mob assault on the U.S. Congress that was instigated by the outgoing President Trump. In the wake of that violence, Twitter shut down Trump’s account, cutting him off from the primary channel that he had used to communicate with his followers. While many people applauded this decision and even saw it as overdue, others worried about the sheer power that Twitter had amassed. President Trump was indeed effectively muzzled in the days following the ban. Conservatives immediately castigated the move—and the parallel actions by Facebook, Google, and Amazon that soon followed—for what they labeled “censorship.” And while one may approve of Twitter’s decision as a short-run response to the danger of violent incitement, conservative critics of this move raise legitimate points about the dangers of platform power.

Legally speaking, the censorship charge falls flat. In U.S. law, the First Amendment’s prohibition of censorship applies only to government actions; the Amendment actually protects the right of private parties such as Twitter and Facebook to publish whatever content they want. Beyond these protections, online platforms have been shielded from certain forms of liability by Section 230 of the 1996 Communications Decency Act. The problem we face today, however, is one of scale: These platforms are so large that they have come to constitute a “public square” within which citizens contest issues and ideas. There are plenty of private corporations that curate the information they publish; these are media companies, with names such as the New York Times or the Wall Street Journal. But none of these legacy media companies is as dominant or reaches as many people as Twitter, Facebook, and Google. The scale of these internet platforms is great enough that decisions made by their owners could impact the outcome of democratic elections in a way that legacy media companies� decisions could not.

The other big problem with the large internet platforms is one of transparency. While Twitter publicly announced its ban of President Trump, it, Facebook, and Google make literally thousands of content-curation decisions each day. The great mass of takedowns are relatively uncontroversial, as with those targeting terrorist incitement, child pornography, or overt criminal conspiracies. But some decisions to flag or remove posts have been either more contentious or simply erroneous, particularly since the platforms began to rely increasingly on artificial-intelligence (AI) systems to moderate content during the covid-19 pandemic. An even more central question concerns not what content social-media platforms remove, but rather what they display. From among the vast number of posts made on Twitter or Facebook, the content we actually see in our feeds is selected by complex AI algorithms that are designed primarily not to protect democratic values, but to maximize corporate revenues. It is thus unsurprising that these platforms have been blamed for propagating conspiracy theories, slander, and other toxic forms of viral content: This is what sells. Users do not know why they are seeing what they see on their feeds, or what they are not seeing because of the decisions of an invisible AI program.

Harms

We thus need to be precise about the nature of the threat that the large platforms pose to modern liberal democracy. It does not lie in the mere fact that they carry “fake news” or conspiracy theories or other kinds of harmful political content. The U.S. First Amendment protects the right of citizens to say whatever they want, short of promoting violence or sedition. Other democracies are less absolute in their free-speech protections, but nonetheless agree on the underlying principle that there should be an open marketplace of ideas in which the government should play a minimal role.

The real problem centers around the platforms’ ability to either amplify or silence certain messages, and to do so at a scale that can alter major political outcomes. Any policy response should not aim at silencing speech deemed politically harmful. The notion that Donald Trump won the 2020 presidential vote in a landslide and that the Democrats stole the election through massive fraud is false and terribly damaging to U.S. democracy. But it is also sincerely believed by tens of millions of Americans, and it is neither normatively acceptable nor practically possible to prevent them from expressing opinions to this effect. For better or worse, people holding such views need to be persuaded, and not simply suppressed.

What policy needs to target instead is the dominant platforms’ power to either amplify or silence certain voices in the political sphere. Up to now we have been relying on people such as Twitter’s CEO Jack Dorsey or Facebook’s Mark Zuckerberg to “do the right thing” and curate harmful political content. This is a response that may work in the short run, when the nation is faced with an imminent threat of political violence. But it is not a long-term solution to the underlying problem, which is one of excessively concentrated power.

#### Interoperability enables middleware startups that ride on top of platforms but alter their content moderation decisions – competition is key because dominant platforms have no incentive to police information.

Fukuyama ’21 [Francis; Mosbacher Director @ Stanford’s Center on Democracy, Development and the Rule of Law; “Making the Internet Safe for Democracy,” *Journal of Democracy*, 32(2), p. 37-44]

Remedies

How can we reduce the underlying power of today’s internet platforms? I believe that a potential solution to this problem lies in using both technology and regulation to outsource content curation from the dominant platforms to a competitive layer of “middleware companies.” I advance this proposal not because I am certain that it will work, but because the alternative approaches that have been suggested are likely to be less effective.

The first and most obvious of these approaches is to use antitrust law to break up Facebook and Google, much as the telephone giant AT&T was broken up in the 1970s. After a prolonged period of lax enforcement of antitrust laws, there is a growing consensus that they need to be applied to the big tech companies, and suits have been brought against these platforms by the European Commission, the Justice Department, the Federal Trade Commission, and a coalition of state attorneys-general.

Breaking up these companies would indeed reduce their power over politics. But under current U.S. and EU laws, reaching a decision in the courts could take over a decade, as past antitrust cases against IBM and Microsoft did. More important, network externalities suggest that a baby Facebook emerging out of such a breakup could grow much faster than AT&T did when it was divided, and quickly reach the size of its parent. Antitrust law in any case is designed primarily to remedy the familiar harms stemming from concentrations of economic power, not the novel political risks produced by social media. What might realistically come out of current antitrust initiatives will be constraints on the platforms’ acquisition of startups, or on their recourse to vertical-tying agreements (policies that compel users of a product offered by one of the tech giants to procure a related service from that same company). Yet outcomes of this kind will not address the political problems posed by platform scale.

A second obvious remedy is government regulation, something that both the EU and individual EU member states have already sought to put in place. Germany’s NetzDG law, for example, imposes hefty fines on companies which fail to remove content that is illegal in that country within a day once it has been reported. There are precedents in the United States for government regulation of the content distributed by major media platforms. Back in the 1960s, when the television networks enjoyed an oligopolistic control over political discussion somewhat similar to the growing dominance of today’s social-media platforms, the Federal Communications Commission (FCC) used its licensing power to enforce the Fairness Doctrine, which required large media outlets to present competing points of view. The Fairness Doctrine’s constitutionality was upheld in the 1969 Supreme Court decision in Red Lion Broadcasting Co. v. FCC, but was relentlessly attacked thereafter by Republicans who felt that the FCC was biased against conservatives. The Fairness Doctrine was rescinded in 1987 through an administrative decision by the FCC, and attempts by Democrats to restore it were unsuccessful. While some European democracies retain enough of a social consensus to muster a mandate for content regulation, the United States today is far too polarized to be able to authorize the FCC or any other government body to determine what is “fair and balanced” and enforce such strictures against the internet platforms. Regulation therefore seems to be a dead end in the United States at the present moment.

A third approach to reducing platform power that has been put forward is data portability. The idea is that individual users own their data and should be able to move it to alternate platforms, just as they transfer their mobile-phone numbers from one carrier to another. While this approach sounds like an appealing way to increase competition among platforms, it runs into immediate difficulties involving both property rights and technical feasibility. For the platforms’ purposes, the most important data that they hold is not personal data voluntarily surrendered to them by users, but the mountains of metadata created by the users’ interaction with their platforms. It is legally not clear who owns metadata, and the platforms will fight to keep control over such data since this is the bedrock of their business models. Moreover, these data are hugely heterogeneous and platform-specific. Data portability is therefore not a way of addressing the political threat that platform power poses.

Finally, some have suggested that platform power might be kept in check by applying privacy legislation to keep the platforms from using data collected in one sphere, such as book retailing, in another, such as selling groceries or diapers (something that Amazon has done), without getting explicit consent from users. Such restrictions are already built into Europe’s General Data Protection Regulation (GDPR). Experience with that law, however, indicates that such rules are very hard to enforce; in any event, the United States does not have a privacy regime comparable to GDPR in place at the national level. Moreover, when it comes to the power of existing tech giants, the cat is already out of the bag, so to speak: Google and Facebook have already amassed huge databases on their users which privacy restrictions limiting future data collection would not touch.

Middleware

Given the inadequacy of these various approaches, it is worth taking a closer look at the alternative remedy that the Stanford Working Group on Platform Scale has labeled “middleware.” Middleware is software that rides on top of a platform and affects the way in which users interact with the data that the platform carries. A properly constructed middleware intermediary could, for example, filter platform content not just to label but to eliminate items deemed false or misleading, or could certify the accuracy of particular data sources. At one extreme, middleware could take over the entire user interface of a Facebook or Google, relegating those platforms to the status of “dumb pipes” that simply serve up raw data, much like the telephone companies. At the other extreme, middleware could operate with a light touch, labeling but otherwise not affecting the content-curation decisions being made by the platforms. This would resemble steps that Twitter has already taken to label certain types of content deemed misleading, including election news in the runup to the November 2020 U.S. elections, but would allow users to choose from a broader menu of labeling options. There currently exist third-party services, such as NewsGuard, that plug into web browsers to offer users ratings of the credibility of news sources that they encounter. Middleware could perform a similar function while plugging directly into the social media platforms. It could also transform the relationship between users and platforms in more fundamental ways.

Middleware could reduce the platforms’ power by taking away their ability to curate content, and outsourcing this function to a wide variety of competitive firms which in effect would provide filters that would be tailorable by individual users. When you signed up to Facebook or Google, you would be given a choice of middleware providers that would allow you to control your feed or searches, just like you now have a choice of browsers. In place of a nontransparent algorithm built into the platform, you could decide to use a filter provided by a nonprofit coalition of universities that would vouch for the reliability of data sources, or one that limited the display of products to those manufactured in the United States, or those that are environmentally friendly.

One of the likely objections to the middleware concept is that it will simply reinforce the “filter bubbles” that already exist on the platforms. Alt-right ideologues and conspiracy theorists could construct filters of their own that would keep out contrary views, leading to a further fragmentation of the political space. But as noted above, the objective of policy should not be to suppress harmful content. The latter, if it falls short of calling for violence, is constitutionally protected. In any event, it will be technologically very hard to eliminate such content. After the January 6 attack on the U.S. Capitol, extremists began to move to the new platform Parler (which prided itself on a minimalist approach to moderation), and then, when Parler was temporarily offline after being dropped by Amazon’s web-hosting service, to encrypted messaging services such as Telegram or Signal.

Much as we may regret this fact, hate speech and conspiracy theories are embedded in the broader society, and middleware will do little to stamp them out. But that is not a proper policy objective in a society that values free speech. What middleware might do instead is dramatically dilute the power of the platforms to amplify fringe views and take them mainstream. We might think of this in terms of an infectious-disease analogy: Instead of encouraging infected people to mingle in the broader society, we should seek to isolate them in spaces they share with the already infected.

Middleware will not spontaneously arise out of market forces. While there is demand for such services, there is no clear business model that will make them viable today. The platform owners may be happy to be relieved of responsibility for making controversial political decisions in their content moderation; in fact, Twitter’s Jack Dorsey himself has recently suggested “giving more people choice around what relevance algorithms they�re using,” adding: “You can imagine a more market-driven and marketplace approach to algorithms.”1 On the other hand, big tech will not like the loss of control that middleware intermediation creates. This means that the creation of a vibrant and competitive middleware sector will depend on government regulation, both to establish rules for the application programming interfaces (APIs) by which such companies would plug into the platforms, and to set revenue-sharing mandates that will ensure a viable business model for middleware purveyors. These are all issues that need to be fleshed out in greater detail as we think through the consequences of the political crisis we have faced.

Prospects

More and more people are coming to the realization that modern technology has created something of a monster, a communications system which bypasses the once-authoritative institutions that used to structure democratic discourse and provide citizens with a common base of factual knowledge over which they could deliberate. The private companies that are responsible for this outcome are now among the largest in the world. They possess not only enormous wealth which they can use to protect their interests, but also something of a chokehold over the communications channels that facilitate democratic politics. They benefit from economies of scale that are inherent in networked systems, and there is no easy way to prevent them from getting even larger. The covid-19 pandemic that struck the world in 2020 has vastly increased their power and importance.

Up to now, the large platforms have not seen it as in their interests to deliberately manipulate political outcomes or electoral results. Their commercial interests have, however, motivated them to privilege certain forms of viral content that more often than not are fake, conspiracy-laden, and harmful to democratic practice. What we should be worried about in terms of democratic health is the underlying power that these platforms possess. Public policy needs to be deployed to reduce that power, which otherwise might well one day come under the control of owners who do want to deliberately manipulate elections.

#### International enforcement responds to global reach of platforms in fragile democracies.

Fukuyama ’21 [Francis; Mosbacher Director @ Stanford’s Center on Democracy, Development and the Rule of Law; “Making the Internet Safe for Democracy,” *Journal of Democracy*, 32(2), p. 37-44]

Many people have come to see the internet as one of the chief threats to contemporary democracy. The internet, and large platforms such as Google, Facebook, and Twitter in particular, have been blamed for the rise of Donald Trump and the populism he represents, the proliferation of conspiracy theories and fake news, and the intense political polarization afflicting the United States as well as many other democracies. Across the world, politicians with authoritarian leanings, such as Rodrigo Duterte in the Philippines and Narendra Modi in India, have made effective use of Facebook and Twitter to reach their followers and attack opponents.

There is, nonetheless, a great deal of confusion as to where the real threat to democracy lies. This confusion begins with a question of causality: Do the platforms simply reflect existing political and social conflicts, or are they actually the cause of such conflicts? The answer to that question will in turn be key to finding the appropriate remedies.

This issue came to a head in the aftermath of the 6 January 2021 mob assault on the U.S. Congress that was instigated by the outgoing President Trump. In the wake of that violence, Twitter shut down Trump’s account, cutting him off from the primary channel that he had used to communicate with his followers. While many people applauded this decision and even saw it as overdue, others worried about the sheer power that Twitter had amassed. President Trump was indeed effectively muzzled in the days following the ban. Conservatives immediately castigated the move—and the parallel actions by Facebook, Google, and Amazon that soon followed—for what they labeled “censorship.” And while one may approve of Twitter’s decision as a short-run response to the danger of violent incitement, conservative critics of this move raise legitimate points about the dangers of platform power.

Legally speaking, the censorship charge falls flat. In U.S. law, the First Amendment’s prohibition of censorship applies only to government actions; the Amendment actually protects the right of private parties such as Twitter and Facebook to publish whatever content they want. Beyond these protections, online platforms have been shielded from certain forms of liability by Section 230 of the 1996 Communications Decency Act. The problem we face today, however, is one of scale: These platforms are so large that they have come to constitute a “public square” within which citizens contest issues and ideas. There are plenty of private corporations that curate the information they publish; these are media companies, with names such as the New York Times or the Wall Street Journal. But none of these legacy media companies is as dominant or reaches as many people as Twitter, Facebook, and Google. The scale of these internet platforms is great enough that decisions made by their owners could impact the outcome of democratic elections in a way that legacy media companies� decisions could not.

The other big problem with the large internet platforms is one of transparency. While Twitter publicly announced its ban of President Trump, it, Facebook, and Google make literally thousands of content-curation decisions each day. The great mass of takedowns are relatively uncontroversial, as with those targeting terrorist incitement, child pornography, or overt criminal conspiracies. But some decisions to flag or remove posts have been either more contentious or simply erroneous, particularly since the platforms began to rely increasingly on artificial-intelligence (AI) systems to moderate content during the covid-19 pandemic. An even more central question concerns not what content social-media platforms remove, but rather what they display. From among the vast number of posts made on Twitter or Facebook, the content we actually see in our feeds is selected by complex AI algorithms that are designed primarily not to protect democratic values, but to maximize corporate revenues. It is thus unsurprising that these platforms have been blamed for propagating conspiracy theories, slander, and other toxic forms of viral content: This is what sells. Users do not know why they are seeing what they see on their feeds, or what they are not seeing because of the decisions of an invisible AI program.

Harms

We thus need to be precise about the nature of the threat that the large platforms pose to modern liberal democracy. It does not lie in the mere fact that they carry “fake news” or conspiracy theories or other kinds of harmful political content. The U.S. First Amendment protects the right of citizens to say whatever they want, short of promoting violence or sedition. Other democracies are less absolute in their free-speech protections, but nonetheless agree on the underlying principle that there should be an open marketplace of ideas in which the government should play a minimal role.

The real problem centers around the platforms’ ability to either amplify or silence certain messages, and to do so at a scale that can alter major political outcomes. Any policy response should not aim at silencing speech deemed politically harmful. The notion that Donald Trump won the 2020 presidential vote in a landslide and that the Democrats stole the election through massive fraud is false and terribly damaging to U.S. democracy. But it is also sincerely believed by tens of millions of Americans, and it is neither normatively acceptable nor practically possible to prevent them from expressing opinions to this effect. For better or worse, people holding such views need to be persuaded, and not simply suppressed.

What policy needs to target instead is the dominant platforms’ power to either amplify or silence certain voices in the political sphere. Up to now we have been relying on people such as Twitter’s CEO Jack Dorsey or Facebook’s Mark Zuckerberg to “do the right thing” and curate harmful political content. This is a response that may work in the short run, when the nation is faced with an imminent threat of political violence. But it is not a long-term solution to the underlying problem, which is one of excessively concentrated power.

No democracy can rely on the good intentions of particular powerholders. Numerous strands of modern democratic theory uphold the idea that political institutions need to check and limit arbitrary power regardless of who wields it. This principle is implicit in John Rawls’s concept of the “veil of ignorance,” according to which fair rules in a liberal society must be drawn up without regard to knowledge of the person or persons to whom they apply. The 1780 Constitution of the State of Massachusetts, drafted by John Adams, Samuel Adams, and James Bowdoin, stated that “the executive shall never exercise the legislative [or] judicial powers . . . to the end it may be a government of laws and not of men.” James Madison’s famous Federalist 51 lays the ground for a system of divided powers by arguing that “in framing a government which is to be administered by men over men, the great difficulty lies in this: you must first enable the government to control the governed; and in the next place oblige it to control itself.” The only practical solution to this problem was to comprehend “in the society so many separate descriptions of citizens as will render an unjust combination of a majority of the whole very improbable, if not impracticable.” In other words, power could be controlled only by dividing it, through a system of checks and balances.

The authors of these strictures were taking aim at state power, but their concerns apply doubly to concentrations of private power. Private power faces no checks comparable to popular elections; it can be controlled only by the government (through regulation) or by competition among power holders. Due to a traditional suspicion of state power, market competition has generally been the preferred means of controlling and limiting private power in the United States. Fear of monopoly power’s economic and political consequences, among other concerns, inspired passage of the legislation making up the backbone of U.S. antitrust law—the Sherman (1890), Clayton (1914), and Federal Trade Commission (1914) Acts.

Remedies

How can we reduce the underlying power of today’s internet platforms? I believe that a potential solution to this problem lies in using both technology and regulation to outsource content curation from the dominant platforms to a competitive layer of “middleware companies.” I advance this proposal not because I am certain that it will work, but because the alternative approaches that have been suggested are likely to be less effective.

The first and most obvious of these approaches is to use antitrust law to break up Facebook and Google, much as the telephone giant AT&T was broken up in the 1970s. After a prolonged period of lax enforcement of antitrust laws, there is a growing consensus that they need to be applied to the big tech companies, and suits have been brought against these platforms by the European Commission, the Justice Department, the Federal Trade Commission, and a coalition of state attorneys-general.

Breaking up these companies would indeed reduce their power over politics. But under current U.S. and EU laws, reaching a decision in the courts could take over a decade, as past antitrust cases against IBM and Microsoft did. More important, network externalities suggest that a baby Facebook emerging out of such a breakup could grow much faster than AT&T did when it was divided, and quickly reach the size of its parent. Antitrust law in any case is designed primarily to remedy the familiar harms stemming from concentrations of economic power, not the novel political risks produced by social media. What might realistically come out of current antitrust initiatives will be constraints on the platforms’ acquisition of startups, or on their recourse to vertical-tying agreements (policies that compel users of a product offered by one of the tech giants to procure a related service from that same company). Yet outcomes of this kind will not address the political problems posed by platform scale.

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A third approach to reducing platform power that has been put forward is data portability. The idea is that individual users own their data and should be able to move it to alternate platforms, just as they transfer their mobile-phone numbers from one carrier to another. While this approach sounds like an appealing way to increase competition among platforms, it runs into immediate difficulties involving both property rights and technical feasibility. For the platforms’ purposes, the most important data that they hold is not personal data voluntarily surrendered to them by users, but the mountains of metadata created by the users’ interaction with their platforms. It is legally not clear who owns metadata, and the platforms will fight to keep control over such data since this is the bedrock of their business models. Moreover, these data are hugely heterogeneous and platform-specific. Data portability is therefore not a way of addressing the political threat that platform power poses.

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Middleware

Given the inadequacy of these various approaches, it is worth taking a closer look at the alternative remedy that the Stanford Working Group on Platform Scale has labeled “middleware.” Middleware is software that rides on top of a platform and affects the way in which users interact with the data that the platform carries. A properly constructed middleware intermediary could, for example, filter platform content not just to label but to eliminate items deemed false or misleading, or could certify the accuracy of particular data sources. At one extreme, middleware could take over the entire user interface of a Facebook or Google, relegating those platforms to the status of “dumb pipes” that simply serve up raw data, much like the telephone companies. At the other extreme, middleware could operate with a light touch, labeling but otherwise not affecting the content-curation decisions being made by the platforms. This would resemble steps that Twitter has already taken to label certain types of content deemed misleading, including election news in the runup to the November 2020 U.S. elections, but would allow users to choose from a broader menu of labeling options. There currently exist third-party services, such as NewsGuard, that plug into web browsers to offer users ratings of the credibility of news sources that they encounter. Middleware could perform a similar function while plugging directly into the social media platforms. It could also transform the relationship between users and platforms in more fundamental ways.

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One of the likely objections to the middleware concept is that it will simply reinforce the “filter bubbles” that already exist on the platforms. Alt-right ideologues and conspiracy theorists could construct filters of their own that would keep out contrary views, leading to a further fragmentation of the political space. But as noted above, the objective of policy should not be to suppress harmful content. The latter, if it falls short of calling for violence, is constitutionally protected. In any event, it will be technologically very hard to eliminate such content. After the January 6 attack on the U.S. Capitol, extremists began to move to the new platform Parler (which prided itself on a minimalist approach to moderation), and then, when Parler was temporarily offline after being dropped by Amazon’s web-hosting service, to encrypted messaging services such as Telegram or Signal.

Much as we may regret this fact, hate speech and conspiracy theories are embedded in the broader society, and middleware will do little to stamp them out. But that is not a proper policy objective in a society that values free speech. What middleware might do instead is dramatically dilute the power of the platforms to amplify fringe views and take them mainstream. We might think of this in terms of an infectious-disease analogy: Instead of encouraging infected people to mingle in the broader society, we should seek to isolate them in spaces they share with the already infected.

Middleware will not spontaneously arise out of market forces. While there is demand for such services, there is no clear business model that will make them viable today. The platform owners may be happy to be relieved of responsibility for making controversial political decisions in their content moderation; in fact, Twitter’s Jack Dorsey himself has recently suggested “giving more people choice around what relevance algorithms they�re using,” adding: “You can imagine a more market-driven and marketplace approach to algorithms.”1 On the other hand, big tech will not like the loss of control that middleware intermediation creates. This means that the creation of a vibrant and competitive middleware sector will depend on government regulation, both to establish rules for the application programming interfaces (APIs) by which such companies would plug into the platforms, and to set revenue-sharing mandates that will ensure a viable business model for middleware purveyors. These are all issues that need to be fleshed out in greater detail as we think through the consequences of the political crisis we have faced.

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More and more people are coming to the realization that modern technology has created something of a monster, a communications system which bypasses the once-authoritative institutions that used to structure democratic discourse and provide citizens with a common base of factual knowledge over which they could deliberate. The private companies that are responsible for this outcome are now among the largest in the world. They possess not only enormous wealth which they can use to protect their interests, but also something of a chokehold over the communications channels that facilitate democratic politics. They benefit from economies of scale that are inherent in networked systems, and there is no easy way to prevent them from getting even larger. The covid-19 pandemic that struck the world in 2020 has vastly increased their power and importance.

Up to now, the large platforms have not seen it as in their interests to deliberately manipulate political outcomes or electoral results. Their commercial interests have, however, motivated them to privilege certain forms of viral content that more often than not are fake, conspiracy-laden, and harmful to democratic practice. What we should be worried about in terms of democratic health is the underlying power that these platforms possess. Public policy needs to be deployed to reduce that power, which otherwise might well one day come under the control of owners who do want to deliberately manipulate elections.

The objective of public policy should not be to control speech. Modern democracies abjured such control when they committed themselves to protecting freedom of expression. What we want, rather, are public policies that prevent private actors from using their power to artificially amplify or suppress certain types of speech, and that maintain a level playing field on which ideas can compete.

While much of the discussion here has focused on the United States and the current crisis in U.S. democracy, excessive platform power has worldwide repercussions. Facebook and Twitter are even more politically important in smaller countries around the globe, where they have become the major channel of public and private communication. In the wake of Twitter’s de-platforming of Donald Trump, critics immediately asked why similar decisions were not being made to curtail the antidemocratic behavior of other politicians around the world, from elected populists to rulers in autocracies, who have used incendiary rhetoric online. In India, for example, Facebook has been singled out for its failure to take down posts decried for fomenting violence against Muslims.

It is clear that these giant U.S. companies do not have anywhere near the capacity to make nuanced political judgements about the acceptability of speech in the roughly 150 countries in which they operate. It is very hard to see what would give them the incentive to acquire such capacity in the future. More important, they do not have the legitimacy to control speech in their home country, the United States, much less in other countries around the world.

This is why the diminution of platform power is critical for the survival of democracy around the world. While Europeans have made efforts to curb platform power, Americans up to now have been complacent about the issue. Now that there is a general consensus that the large platforms pose a danger to U.S. democracy, it is vital to understand precisely where that threat lies, and what remedies are both politically and technologically realistic.

#### Interoperability-enabled open data remedies algorithmic discrimination by providing real-time access to algorithms – sector-specific regulations and transparency fail.

Marsden ’19 [Chris; 9/19/19; Professor of Internet Law @ University of Sussex, PhD @ Essex; and Rob Nicholls; Associate Professor in Regulation and Governance @ UNSW Business School, PhD @ UNSW; “Interoperability: A solution to regulating AI and social media platforms”; <https://www.scl.org/articles/10662-interoperability-a-solution-to-regulating-ai-and-social-media-platforms>; \*Acronyms Expanded in Brackets]

Introduction

In the space of a few short years, Artificial Intelligence (AI) has leapt from the pages of science fiction to become a part of our everyday lives. Digital Era governance means decisions are taken about our lives by both government and private actors by their AI systems that can have potentially profound implications1. AI technologies “aim to reproduce or surpass abilities (in computational systems) that would require intelligence if humans were to perform them”2. AI is an advanced deployment of Machine Learning (ML). AI is the latest iteration of Machine Learning but is a very early stage of any defined Artificial General Intelligence that may achieve the hypothetical ‘singularity’ of self-consciousness as made infamous over fifty years ago by Stanley Kubrick’s cinematic interpretation of Arthur C. Clarke’s HAL90003. ML is in some respects a subset of human-computer interaction (HCI): that is algorithms applied to (big) data to aid human decisions.

AI is already deployed in ways that we may not even be aware of with incidents of abuse of that data reported daily. In this article, we argue there is a better, broad way to prevent abuse: interoperability. “Computer says no” cannot be the final answer to our quest for justice in such decisions. We argue that what is needed most urgently is a remedy to dominant consumer-facing platforms deploying AI in non-transparent systems. AI is being used in many systems, with little to no transparency, from facial recognition cameras in public spaces to removal of ‘fake news’ from social media platforms, yet consumers have no visibility of these technologies nor remedy if their rights are potentially infringed.In our view the answer is not just a temporary dose of transparency, which may not be feasible or even desirable4, but an interoperability remedy that lets regulators and potential rivals see inside the ‘black box’ to judge the AI for themselves5. There is a caveat: regulation may not be suitable, appropriate or feasible for many algorithms but for those that regulators have most concern about, in sectors that provide the most sensitive socioeconomic decisions, it is a remedy that can be explored. Sensitive public facing sectors may include: banking/credit, insurance, healthcare & medical research, social care, policing and security, education, transport (AI-guided airliners & automated vehicles), social media, telecommunications6. This is a non-exclusive list that may be altered by emerging public techno-socio-policy concerns.

How is AI governed in practice?

At present, AI is largely governed through self-regulation and the technology giants, including the GAFAM/FAANG platform operators7, appear set on persuading us that self-regulation remains the only effective route to legal accountability for machine learning systems. Such an attitude jeopardises the sustainable introduction of smart contracts, permitting algorithmic discrimination and compromising the implementation of privacy law8.

Recent public policy focus on digital decision-making has led to a wider debate about computer-aided adjudication. Legal focus has exposed discrimination that occurs in machine learning parsed into their interaction9. Discriminatory data is likely to lead to discriminatory results. Discriminatory algorithms - as well as those not designed to filter out discrimination - can make those results more discriminatory. Justice requires that lawyers study algorithmic outcomes in order to ascertain such discrimination, which may be highly inefficient as well as outrageous to natural justice and fundamental rights. Public administration has generic solutions. Administrative law requires natural justice, or at least, ‘reasonableness’. A right to explanation and / or remedy should apply, and anti-discrimination law also applies to corporate decisions. AI decision making has raised the question: is the decision maker AI or human?

The case of UK Visa applications demonstrates that AI is not a trustworthy contributor to what was already never a happy or exact science. The UK government minister (at the time of writing) claimed that use of AI in visa applications was acceptable as humans made the final decision: “Sifting is not decision making”10. The Council of Europe in principle disagrees: while to err is human, inducing AI complexity does not absolve the operator of responsibility for harms11.

Our focus in this article is on the private activities of private companies, particularly in networked industries that affect consumers at scale. We now have a variety of pro-consumer/citizen laws that extend rights and obligations far beyond classical freedom of contract, including: anti-discrimination and equality laws; financial regulation; consumer contract law; and telecommunications regulation. Specialist technology law is deployed in many fields that now make up the Information Society: biomedical/nanotechnology deployment; railways, roads, and telecoms; data protection12. Judges may solve problem in tort/contract, though this took 100 years in case of railways litigation, and it would require many technologically savvy judges, and a large number of leading cases in common law jurisdictions to achieve the same outcome. In contrast, the largest civil law system, European Union consumer law, is pressing ahead with legislation to combat AI injustice before the end of 2019, President-elect Von der Leyen stating: “In my first 100 days in office, I will put forward legislation for a coordinated European approach on the human and ethical implications of Artificial Intelligence.”13 The new President also promised a new Digital Services Act to regulate large digital platforms. Our proposed solution will approach both issue areas coherently.

Transparency, replicability and general data protection are incomplete solutions to AI

Transparency is the first requirement of legal recourse (though some algorithms can be reverse engineered without transparency “under the hood” of the machine). It is not sufficient, however, for several reasons. Claims that the ability to study an algorithm and its operation provides a remedy for users who suffer as result of decisions falls short for one simple reason: both the training data and the algorithm itself will change constantly. For instance, it is impossible to forecast real time outcomes of Google searches; a vast Search Engine Optimization business attempts approximations without complete accuracy. The only remedy that can be achieved is replicability – taking an ‘old’ algorithm and its data at a previous point in time to demonstrate whether the algorithm and data became discriminatory. This is an incomplete a remedy as it in effect it uses a ‘slow motion replay’ while the game rushes onwards.

Wagner argues for the need for systematic redress by an external agency to instil confidence in AI decision making14. He uses AI deployment case studies to illustrate the point: self-driving cars, police searches using social media/Passenger Name Records, Facebook content moderation. All require minimal regulation for the public to get some trust in using these technologies (some of which are compulsory to use services or even enter countries). ‘Ethics washing’ is undertaken by technology companies and their professional advisors, where attempts are made to persuade policy makers that self-regulation is the only effective route to legal accountability for Machine Learning systems15. If this means the public distrusts AI and any system claiming to use AI, it may be jeopardizing the sustainable introduction of smart contracts, permitting algorithmic discrimination and compromising implementation of data protection law. Regulators are wise to these tricks. Ethics washing will fail16. Cursory research into history of communications regulation and Internet law demonstrates the falsity of this self-regulation proposition17.

The EU right to data portability (“RTDP”) under the GDPR18 might be seen as a partial solution to combat market concentration in EU. The current version of RTDP might be too limited, as portability only applies when the data subject herself provided the data, yet data is often a shared service with multiple owners and creators (consider a selfie photo of best friends, posted by both online in separate accounts with separate tags and hashtags). Further, it cannot be a general instrument of economic policy in digital markets, as data is “unlocked” solely if the data subject invokes RTDP under GDPR.19Edwards and Veale indicate RTDP is not enough and “regulation to promote true interoperability is vital”.20

Competition or communications/media regulation: What can and should be done?

Interoperability enables more free data flow, an essential but not sufficient input for data-driven innovation21. Open and interoperable standards can help to increase competition in digital markets. UK’s Open Banking Standards, designed to enhance competition in the banking sector by enabling fintech entrepreneurs entry to market, could be an appropriate example.22 However, interoperability will not always leads to more innovation and competition.23 Interoperability through uniform standards and interfaces, might limit companies development of their own innovative goods and services with specific components since they have to comply with the requirements of interoperability.24 Implementation of a maximum level of interoperability could also cause privacy harms. If technical and consumer control mechanisms are not well designed, interoperability might increase the risk of misuse of personal data due to multiple service providers access to user’s personal data. Therefore, open and interoperable standards should avoid overstandardization and serve pro-competitive goals.25

We therefore suggest three regulatory options for consumer-deployed AI regulation, though we only propose two should be made operational.

1. Ethical standards for all AI deployed in the ‘wild’ to the public. ISO standards should be implemented with basic privacy/human rights impact assessment.

2. Interoperability for public communications providers – Instant Messaging/Search/Social Media companies

3. API (Application Programming Interface) opened to dominant (Significant Market Power: SMP) operators. This is based on Microsoft remedies in longest, most expensive antitrust case in EC history: a case which started in 1993 and whose remedies, imposed in 2004, only expired at the end of 2014. The later Google antitrust case, started in 2009, is ongoing a decade later26.

Ethical standards for all AI deployed in ‘wild’ – to public

An industry standard could be a baseline for deploying sensitive technologies with cybersecurity and human rights impacts. ISO standards are being formed, and can be quite powerful influencers (see ISO27001 on cybersecurity for example). Typically technical engineering is a realm not considered suitable for normative standards.

However standards embedded in national laws can become a weak coregulatory signal. Basic privacy/human rights impact assessment has been proposed by UN Rapporteur Prof. David Kaye, and AI impact assessment suggested by Mantelero for the Council of Europe27. Standards Australia is chairing an ISO Working Party28.

More broadly, ethics standards for AI deployment have been suggested by many organisations. The European Union29 & OECD Guidelines may receive the widest acceptance30. Many other guidelines exist, such as: the US 2019 Executive Order on AI; UK Centre for Data Ethics and Innovation (CDEI) at Turing Institute31. Hosanagar advocates the creation of an independent Algorithmic Safety Board, modelled on the Federal Reserve Board32.

Why interoperate?

Connectivity and communication are an essential part of contemporary life whether it be individuals using social media or telecommunications, businesses interacting with one another or across government departments. Interoperability at its most basic level can be defined as the ‘ability of two or more systems or components to exchange information and to use the information that has been exchanged.’33

Interoperation is driven by economics: there is nothing less valuable than a network with one user. Interoperability results in increased value of several networks and promotes efficient investment in and use of infrastructure. It permits new entrants to compete with existing operators and promotes entry. Network effects of interoperability are based on a heuristic called Metcalfe's law. Metcalfe hypothesised that while the cost for the network to grow the number of connections is linear, its value would be proportional to the square of the number of users.34 The users and operators of each network gain according to more users of that network, and lose where users switch away to a more popular network.

There are social benefits of interoperability. It eliminates the consumer need to acquire access to every network or the tendency to a winner-takes-all outcome. This is inelegant from a device design perspective too: readers may remember when the US had different mobile design standards to the EU (CDMA rather than GSM). In Instant Messaging (IM), arguably the winner-takes-all is Facebook/WhatsApp/Instagram without interoperability – with all IMs inside the corporation becoming interoperable35.

Interoperability can be divided into technical or non-technical. Technical interoperability includes communications, electronic, application, and multi-database interoperability whilst non-technical interoperability includes organisational, operational, process, cultural and coalition interoperability.

Regulatory intervention can be applied to either but addressing the technological aspects of interoperability provides predictable regulation.

Interoperability option for public communications providers (PCPs)

Interoperability is not radical as a regulatory requirement. It is required for broadcasters to enable Electronic Programme Guides (EPGs), and telecoms companies for telephone numbering schemes. Co-regulatory standards are often used. A PCP interoperability proposal would not regulate public communications providers as utilities but as media providers, and this is not common carrier regulation nor equivalent to energy/postal providers. It is intended to regulate operators as printers, not publishers, with primary content liability remaining with individual user/authors. We note that attempts to impose ‘Duty of Care’ fiduciary in the UK and the US are highly inappropriate and anomalous to the entire history of Internet and analogue free speech and content regulation36.

Not all PCPs will wish to interoperate, not least because the large platform PCPs have been found to have insecure communications and compromised protocols, so smaller PCPs may refuse to interoperate even were the option available. A good example is data security and minimalization philosophy deployed by the founder of Signal (Cryptographer and Open Whisper Systems founder Moxie Marlinspike), a perspective that is shared in part by Telegram37. The PCP interoperability option can therefore only be adopted towards specific dominant operators, not all PCPs, without compromising cybersecurity innovation and the freedom of choice of individual users.

Opening Dominant operators’ APIs

Opening up the API enables brokers, comparator programmes, regulators to access algorithms in real time & controlled conditions, in order to observe the algorithm’s behaviour. Where an operator is found to be dominant, interoperability could be applied as a consumer remedy, not a competition one. EU Commissioner Vestager recently described her policy on interoperability and large platforms:

“Making sure that products made by one company will work properly with those made by others – can be vital to keep markets open for competition. Microsoft’s takeover of LinkedIn approval depended on agreement to keep Office working properly, not just with LinkedIn, but also with other professional social networks. The Commission will need to keep a close eye on strategies that undermine interoperability”38.

Recently, in a contested decision, the Australian ACCC found dominance by Facebook and Google39. Interoperability would only apply to platform aspects of their business, for example mobile app stores not Apple or Android phones. Three models have been proposed:

Model 1: Must-carry obligations, as used for regulating EPGs

Model 2: API disclosure requirements, as with Microsoft from EC rulings40.

Model 3: Interconnect requirements, which are applied to telecoms, especially operators with SMP41. Interoperability can be separated into three types, as identified in a recent study for DG Competition42:

Protocol interoperability: this provides the ability of services/products to interconnect technically. It is the ‘usual’ from of interoperability seen in competition policy, as between the Microsoft Windows operating system and the APIs of Internet browsers such as Firefox and Chrome.

Data interoperability: Recalling Mayer-Schonberger/Cukier and their remedy to ‘Big Data’ monopolists in their eponymous book, this would provide a slice of data to competitors43.

Full protocol interoperability, is what telecoms regulators often think of as full interconnection.

In principle, providing access to APIs is likely to be in the best interest of the service provider. That is, the provider gets the same network effect advantage set out above. However, if a service provider with SMP [significant market power] chooses to make an API private, this may represent a barrier to entry. If a service provider with SMP [significant market power] chooses not to make an API available, this may also represent a barrier to entry. If either of these conducts has the potential to substantially lessen competition, then an ex ante access regime to an API is a potential regulatory solution.

The requirements for such an access regime would be consistent with usual practice associated with either essential facilities or bottlenecks in networked industries. However, there will need to be slight differences in the regime, depending on whether access is to an otherwise private API or to an API that was required to be created as part of the ex ante regulation. The regulatory language required to impose the API obligation is similar to that required in telecommunications. The API provider is referred to as the access provider and the person seeking to use the API is referred to as an access seeker. As such, a preliminary stage of the ex ante regulation might well be to have a regime in which an access provider can make a standing API access offer by having either a public or private API to which access is offered on a non-discriminatory basis where the terms and conditions of access are set out in a Standard API Access Agreement (SAAA). The SAAA would form an offer, capable of acceptance by any member of a class of those qualified to become access seekers.

If there is no such SAAA, then the regulatory access obligation would be in the form set out below.

If the access provider has an API, then the access provider must, if requested to do so by an access seeker:

(a) supply access to the API to the access seeker;

(b) take all reasonable steps to ensure that the technical and operational quality of the API supplied to the access seeker is equivalent to that which the access provider provides to itself; and

(c) take all reasonable steps to ensure that the access seeker receives, in relation to the API, fault detection, handling and rectification of a technical and operational quality and timing that is equivalent to that which the access provider provides to itself.

If the access provider has created an API, then the access provider must, if requested to do so by an access seeker:

(a) supply access to the API to the access seeker; and

(b) take all reasonable steps to ensure that the access seeker receives, in relation to the API, equivalent technical, operational and data access outcomes to those that the access provider provides to itself.

The price of access to an API would usually be based on a building block model approach. In any case, it should return a normal profit to the access provider based on that access provider’s weighted cost of capital. There may be a requirement to provide a safety net set of non-price access terms and conditions in the absence of a SAAA.

Conclusion From Interoperability for Social Media Platforms Deploying AI to Broader Remedy?

We have explained in this article that AI is too dynamic an environment for transparency and replicability to provide a comprehensive solution for users who have suffered injustices. To really help the regulatory environment work in the public interest, we need to introduce interoperability for users and regulators to see ‘inside the black box’ of AI decision makers. Interoperability is not radical as a regulatory requirement and is required for broadcasters and telecoms companies to enable EPGs and telephone numbering schemes respectively. Co-regulatory standards are often used. This proposal would not regulate public communications providers as utilities but as media providers, and this is not common carrier regulation nor equivalent to energy/postal providers. It is intended not to regulate operators as publishers but as printers, with primary content liability remaining with individual user/authors. We are agnostic as to the location of an ‘interoperability regulator’ beyond noting that the deployment of AI is predicted to become so widespread throughout socio-economic arenas that a generic regulator may rapidly be more useful than a communications specific regulator. More research is needed as to whether ‘Ofcom’ should be supplanted or supplemented by ‘OffData’44.

Many research questions for digital competition remain. Interoperability is extensively used in sectors with which we are most familiar. Is this interoperability remedy more broadly applicable? Can self-driving vehicles or banking, insurance, medical algorithmic ‘AI’ be regulated using interoperability? It depends on a variety of socio-economic factors. Many sectors have regulators working on ‘regulatory sandpit’ solutions.

#### Unchecked algorithmic discrimination cause extinction.

Thomas ’21 [Mike; 7/21/21; Citing Stuart Russell, Professor of Computer Science and Smith-Zadeh Professor in Engineering @ UC Berkeley, Former Vice-Chair of Council on AI and Robotics @ World Economic Forum, PhD in Computer Science @ Stanford; Max Tegmark, PhD in Physics @ UC Berkeley, Professor of Physics @ MIT, Gold Medal Recipient @ Royal Swedish Academy of Engineering Sciences for AI research; “The Future of AI: How Artificial Intelligence Will Change the World”; <https://builtin.com/artificial-intelligence/artificial-intelligence-future>]

“There are several major breakthroughs that have to occur, and those could come very quickly,” Russell said during his Westminster talk. Referencing the rapid transformational effect of nuclear fission (atom splitting) by British physicist Ernest Rutherford in 1917, he added, “It’s very, very hard to predict when these conceptual breakthroughs are going to happen.”

But whenever they do, if they do, he emphasized the importance of preparation. That means starting or continuing discussions about the ethical use of A.G.I. and whether it should be regulated. That means working to eliminate data bias, which has a corrupting effect on algorithms and is currently a fat fly in the AI ointment. That means working to invent and augment security measures capable of keeping the technology in check. And it means having the humility to realize that just because we can doesn’t mean we should.

“Our situation with technology is complicated, but the big picture is rather simple,” Tegmark said during his TED Talk. “Most AGI researchers expect AGI within decades, and if we just bumble into this unprepared, it will probably be the biggest mistake in human history. It could enable brutal global dictatorship with unprecedented inequality, surveillance, suffering and maybe even human extinction. But if we steer carefully, we could end up in a fantastic future where everybody’s better off—the poor are richer, the rich are richer, everybody’s healthy and free to live out their dreams.”

#### Disinformation creates a breeding ground for Russian fake news campaigns – the plan inhibits Russian operatives.

Hendrickson ’17 [Clara; 12/7/17; Research Analyst @ Brookings; and William Galston; Ezra K. Zilkha Chair and Senior Fellow in Governance Studies @ Brookings; “Big technology firms challenge traditional assumptions about antitrust enforcement”; https://www.brookings.edu/blog/techtank/2017/12/06/big-technology-firms-challenge-traditional-assumptions-about-antitrust-enforcement/; AS]

THE NEW TECHNOLOGY TRUSTS

So while fear that big tech can wield excessive influence in our democracy may reflect broader misgivings outside the realm of antitrust law and enforcement, some political concerns about big tech appropriately fall under the purview of antitrust regulation. As Sally Hubbard, a Senior Editor at the Capitol Forum who covers monopolization issues, recently stated in an interview with Vox’s Sean Illing, “Companies like Facebook and Google have had an outsize effect on political discourse because of the ways their algorithms help to promote and spread fake news and propaganda. Even if it’s not their intent, their business model invariably contributes to this problem.” More competition between rival platforms would have introduced a greater number of algorithms for Russian operatives to navigate, and probably would have mitigated the impact of the fake news that successfully targeted voters during the 2016 U.S. election.

Similarly, because the services offered by the likes of Google and Facebook are free (or low cost in the case of Amazon), tech companies have escaped the predatory pricing concerns typically triggered by anticompetitive high prices. However, Financial Times columnist Rana Foroohar has argued that we incur non-monetary costs when we use these services, handing over our attention and personal data.

Of course these two examples do not immediately elicit a clear solution for antitrust enforcement reform one way or the other, but they do illustrate that the dynamics of the tech era will require an updated conception and application of current antitrust law. While what this looks like remains unclear, a consensus is emerging that the Chicago School consumer welfare framework, formulated by Robert Bork and Richard Posner among others, has failed to capture today’s market power. In a widely-read note published in the Yale Law Journal, Lina Khan, a fellow at the Open Markets Institute, shows that the focus on low prices as the exclusive goal of antitrust cannot account for Amazon’s dominance.

#### Russian propaganda campaigns cause miscalc – goes nuclear.

Trenin ’18 [Dmitri; 1/25/18; Director @ Carnegie Moscow Center; “Avoiding U.S.-Russia Military Escalation During the Hybrid War”; https://carnegiemoscow.org/2018/01/25/avoiding-u.s.-russia-military-escalation-during-hybrid-war-pub-75277; AS]

FEATURES OF THE HYBRID WAR

This Hybrid War’s most distinguishing feature is that it is being fought in a truly global, virtually borderless environment. International interaction is no longer restricted by walls or other state-imposed barriers. Traditional distinctions between strategy and tactics have been all but erased. The hybrid warriors include many more players than was the case during the Cold War—from national governments and transnational corporations to nongovernmental actors and even private individuals.

The war is being fought simultaneously in a number of spheres, on different levels, and in the never-ending, twenty-four-hour news cycle. This aspect of warfare is particularly true of the field of information, which is of prime importance in the Information Age that emerged with the end of the Cold War. From cyber conflicts and the use of artificial intelligence to the predominance of propaganda and fake news, the main battles of the Hybrid War are taking place outside of the purely physical realm and in the domain of new information technologies. Just as important to the Hybrid War is economics, which has been the key driver of globalization that paralleled the rise of these innovative information technologies. The prominence of the U.S. media and the United States’ immense financial power give it a huge advantage in both fields. As a result, the weapons of choice in the Hybrid War are those that use information and economic power to discredit and sanction one’s adversaries.3

Politically, the Hybrid War includes the outside stimulation of political changes in other countries through street activism and the promotion of specific values, parties, or popular movements. It has been characterized by interference in elections, political transitions, and other political processes, including various efforts to hack sensitive information, spread compromising or damaging materials and fake news, encourage character assassinations, and impose personal and other noneconomic sanctions (for example, restrictions on travel, seizure of assets, imprisonment, or deportation) on opponents. The existence of a common information space makes waging political warfare on foreign territory much easier and more attractive than ever before. Cross-border promotion of democracy and support for the color revolutions that dominated the 2000s (for example, the 2003 Rose Revolution in Georgia and the 2004 Orange Revolution in Ukraine) have now found counterparts in emerging solidarity among those who espouse more conservative and traditionalist values, such as political systems based on authoritarian models and strict national sovereignty.4

Military power is not out of the picture—though its use is different than in the Cold War. The static standoff of million-strong armies in Europe and the long shadow of the nuclear arms race have drawn down or faded. Nuclear deterrence between Russia and the West remains in place but at lower and more stable levels than during the Cold War. Today’s risks of miscalculation derive from potential incidents involving conventional forces. A token military standoff has reemerged along Russia’s border with NATO countries, but, to date, this standoff bears no resemblance in either scale or scope to the forces that faced each other during the Cold War. The main focus is on developing new military technologies and novel means and ways of prosecuting warfare—from outer space to cyberspace—that blur or eliminate the distinction between wartime and peacetime. Like its predecessor, the Hybrid War is a war in the time of peace. Even more than in the past, however, the onus is on national leaderships to minimize the number of casualties, ideally to zero.

Russian military strategists had developed the concept of hybrid warfare even before the actual conflict broke out in earnest between the United States and Russia in early 2014. Analyzing the experience of the post-Soviet color revolutions and the 2011 Arab Spring, Chief of the General Staff Valery Gerasimov wrote in February 2013 that the “consequences of new conflicts are comparable to those of a real war”; in many cases, nonmilitary methods “are substantially more effective than the power of arms,” and greater emphasis is placed on “political, economic, information, humanitarian, and other nonmilitary means” and “covert military measures,” including “information warfare and actions by special forces.” In this environment, “overt use of military force, often in the form of peacekeeping or crisis management, takes place only at a certain stage, mainly to achieve final success in a conflict.” With regard to the U.S.-Russia confrontation, another key feature has surfaced: asymmetry between the sides’ capabilities.

POWER ASYMMETRIES AND ASYMMETRIC ACTIONS

Although Gerasimov was referring to a hybrid war when discussing new means and methods of warfare, this analysis uses the newly fashionable term to describe the current U.S.-Russia confrontation. Unlike its Cold War predecessor, this conflict is asymmetrical. At least since the 1970s, the Soviet Union was the United States’ equal in terms of both nuclear and conventional military power. Even beyond its own vast land mass and immediate sphere of influence in Eastern Europe, it wielded considerable ideological power in many Western countries and in the Third World and presided over a system of alliances in Africa, Asia, Europe, Latin America, and the Middle East. The Russian Federation, by contrast, has few formal allies, no satellite states, and a handful of protectorates, if one includes the self-proclaimed states of Abkhazia, Donbass, South Ossetia, and Transnistria. It has no ideology to compare with the comprehensive dogma of Marxism-Leninism, and although it is still a nuclear superpower, it lags far behind the United States in non-nuclear military capabilities. Economically, Russia—with its estimated 1.5 percent of the global gross domestic product—is a dwarf.

Neither the balance nor the correlation of forces, however, will determine the outcome of this confrontation. Despite the glaring asymmetries in the national power of the two sides of the conflict, the course of events is not predetermined. As a nonlinear, highly asymmetrical conflict, the outcome likely will result from domestic developments in Russia or the United States or both. Both countries are facing serious problems that could prove decisive in the final calculations of the Hybrid War.

The United States is going through a triple crisis of its political system, exemplified but not caused by the arrival of President Donald Trump and the virulent domestic opposition to him and his policies. A crisis of social values lies beneath this political crisis and points to a widening gap between the more liberal and the largely conservative parts of the country. At the same time, the United States faces a crisis within its own foreign policy as it struggles to reconcile the conflict between the more inward-looking U.S. national interest and the international liberal order of the U.S.-led global system.

Russia, though outwardly stable, is approaching its own major crisis as the political regime created by Putin faces an uncertain future after the eventual departure of its figurehead. Putin’s Kremlin is already working on a political transition that would rejuvenate the elite and improve its competence and performance, but, at the same time, Russian society is also changing and Putin’s heirs cannot take its support for granted. Gross inequality, sluggish economic growth, low vertical mobility, and high-level corruption will present a range of serious challenges to the future Russian leadership.

The eventual outcome of the Hybrid War could be reminiscent of the downfall of the Soviet Union, which was far less the result of the U.S.-Soviet Cold War than of a misguided effort to reform the Soviet Union itself. Russia might break down and break up again, or it might decide on a foreign policy more geared toward its economic needs than to a certain concept of world order. As for the United States, it might decide to limit its global commitments and redesign its international role as the world’s preeminent but no longer dominant state. Yet, in doing so, it will need to accept that its change in status will come with a certain price and that it will not be able to take advantage of the benefits of the position it once enjoyed.

Asymmetries in power lead to asymmetric actions, which as Gerasimov suggested are intended to “neutralize the enemy’s superiority in warfare” or “identify and exploit the enemy’s vulnerabilities.”5 By an order of magnitude—or more—Russia is outgunned, outmanned, and outspent by the combined forces of the United States and its allies. To stay in the fight, it must rely on its few comparative advantages and seek to use them to maximum effect. These advantages include the geographical proximity of some of the main theaters of operation, such as Crimea and eastern Ukraine, where Russia has escalation dominance; the Russian political system, which allows for secretive, swift, and decisive action; and Moscow’s willingness to take much higher risks in view of the disproportionally higher stakes involved for the Russian leadership and a national culture that historically has tolerated higher losses in defense or protection of the Motherland. Through swift decisions and actions, made without prior warning, Russia is capable of surprising its adversaries and keeping them off-balance. This situation promises an uncertain, hard-to-predict, and risky environment, where miscalculation can lead to incidents or collisions that, in turn, lead to escalation. Granted, these incidents would be of a different kind than the tank standoff at Berlin’s Checkpoint Charlie in late October 1961 or the Cuban Missile Crisis barely a year later. Escalation resulting from miscalculation would not be automatic, but the wider damage it could cause needs to be taken seriously.

#### Facebook omnipresence causes Tatamadaw insurgency.

Hamilton ’22 [Rebecca J., Professor of Law, American University Platform-Enabled Crimes; (Nov 12, 2021). B.C. L. Rev (forthcoming 2022), Available at SSRN: https://ssrn.com/abstract=3905351 or http://dx.doi.org/10.2139/ssrn.3905351]

Key acts of commission by Facebook that facilitated the Tatmadaw’s crimes include the pursuit of a monopolization strategy in Myanmar, and the design of its Newsfeed algorithm.243 Distinct from the acts of omission addressed above, which fall primarily under the rubric of content moderation, the acts of commission are inseparable from Facebook’s current business model. To the extent the goal of survivors is to achieve “robust protections against future depredations” it may be necessary to consider regulatory options to address these policies and practices that would cover, but also go beyond, Facebook itself.244 While survivors themselves cannot determine regulatory action taken by domestic governments or international bodies, their voices can lend powerful support to officials seeking to move social media companies away from the highly self-regulated space in which they currently reside. And at present, there is growing political interest in strengthening public oversight of social media companies in general.

In 2021 alone, members of the U.S. Congress introduced six different bills aimed at reducing monopolistic behavior by major technology companies, including Facebook.245 Some of these bills could help new social media platforms enter the Myanmar market and, if they could dilute Facebook’s omnipresence in Myanmar’s digital space, help reduce the impact of future Tatmadaw efforts to use the platform to incite genocide. Unfortunately such efforts face an uphill battle with respect to Myanmar because Facebook’s existing monopoly has already given it a near-impenetrable “network effect” that may prevent existing users leaving Facebook, even with new social media platforms available to them.246 Still, such reforms could have a preventative effect in other conflict-prone regions outside Myanmar where no existing social media company has an established monopoly. All six bills passed through markup in the House Judiciary Committee in June, and have some degree of bipartisan support, notwithstanding intense lobbying efforts in opposition to them from the technology sector.247

Finally on the U.S. regulatory front, it seems important to note the impact that the 2021 Facebook whistleblower, Frances Haugen, both in terms of building political will for increased regulation of Facebook, and in providing leaked internal documents that can support efforts by legislators, prosecutors, and civil litigants. Going forward, U.S. legislators might consider how to strengthen protections for whistleblowers as part of a package of reforms to improve regulation of social media companies.248

Moving outside of the U.S., the recent EU resolution discussed in Part I.C, which would not only mandate, but also oversee compliance with due diligence work by corporations, has the potential to serve the goal of preventing recurrence.249 Because it is an EU initiative, one can expect the focus of oversight to be in relation to European users. However, the “Brussels effect” —as described by Anu Bradford, may lead corporations like Facebook, which would have to improve their due diligence work for the EU regulations, to make the same improvements across their global operations. 250

Overall, there is no single piece of legislation that can prevent the recurrence of Facebook or another platform enabling atrocities in Myanmar or elsewhere. But the passage of a number of laws, including some of those currently being debated, can directly and/or by opening social media companies to the threat of mass civil litigation, reduce the likelihood of platforms being complicit in international crimes. And such work could be helpfully supplemented by criminal litigation to further increase scrutiny of the policies and practices that can facilitate serious harms.

#### Instability causes US-China war.

Roy ’20 [Chiraag; School of Humanities and Social Sciences, Deakin University, Victoria, Australia; "China’s grand strategy and Myanmar’s peace process," OUP Academic, https://academic.oup.com/irap/article/22/1/69/5939832?rss=1]

China’s grand strategy is seen, by some, as a set of broad, long-term goals rather than an orchestrated or well-defined policy, intertwining political, social, and economic realities with power (Breslin, 2013; Silove, 2018). More prominently, however, scholars echoing Kang highlight the critical historical dimension embodied in China’s contemporary foreign policy behavior manifest in its engagement with peripheral countries. With reference to history, it appears that a core tenet of China’s grand strategy has been, traditionally, to engage deeply with its periphery in order to mitigate any risk of attack upon the Chinese heartland by potential adversaries (Swaine and Tellis, 2000). Recognizing this, scholars have accordingly reasoned that the importance of the periphery for China’s international engagement continues to be a key determinant in its foreign policy approach (Xinbo, 2016; Yunling, 2016; Ploberger, 2017; Smith, 2019).

Using this perspective then, the current trend of focusing primarily on China–US dynamics or relations with other great powers appears to be problematic. Even if scholars recognize the importance of China’s periphery for its foreign policy, this is more often than not framed through a China–US counterbalancing paradigm (Li, 2016; Xinbo, 2016, p. 851). This paradigm is especially problematic in an environment such as Myanmar, where Japan, for example, has proven to be an influential political and economic actor and a potential rival and counter (Er, 2016) to China’s burgeoning influence. The alternative, historically inclined perspective places an emphasis on China’s traditional role as a cultural, bureaucratic, and economic hegemon, presiding over its periphery, recalling the tributary relationship imperial China shared with its peripheral kingdoms, where patronage and protection were given in exchange for compliance (Swaine and Tellis, 2000; Smith, 2019). Significantly, the tributary system was largely peaceful and noncoercive, eschewing territorial expansionism, though it was nonetheless rooted in the belief that China was culturally superior to its peripheral states (Shambaugh, 2004, 2018). While strict adherence to this tradition may not necessarily continue, this historical memory arguably has an influence over the modern Chinese state, which retains many ideas of the traditional empire and has demonstrated a broader desire to export a Sinocentric world view (Swaine and Tellis, 2000; Goldstein, 2008; Beeson, 2018).

### 1AC – Plan

#### The United States federal government should promulgate the standard of digital platform interoperability.

#### War goes nuclear – China escalates.

Cunningham ’19 [Fiona; Poli Sci @ GW; and Taylor Fravel; Arthur and Ruth Sloan Professor of Political Science and Director of the Security Studies Program at the Massachusetts Institute of Technology; “Dangerous Confidence? Chinese Views on Nuclear Escalation” *International Security* 44 (2) p. EBSCO]

Overconfidence about Controlling Nuclear Escalation?

In light of their confidence about avoiding nuclear escalation, how much control do Chinese experts believe that their leaders would have over escalation in both conventional conflict and from a conventional war to a nuclear war? Although their views vary, Chinese experts likely overstate the ability of China’s leaders to control escalation, even if nuclear weapons are not used.[161] Their confidence is also an exception to China’s generally skeptical views about nuclear escalation control, because it reflects a belief similar to that of the Cold War proponents that Chinese and U.S. perceptions of each other’s desire to avoid nuclear war would be robust even once a conflict began. Chinese experts hold these beliefs not because they share the views of proponents about controlling nuclear escalation, but because they underplay the pressures to escalate to a nuclear war that could result from interactions between the United States and China in a conventional conflict.

One reason why the amount of control is likely overstated is that Chinese experts may equate the CCP’s strict control over the PLA, and its nuclear forces in particular, with a corresponding ability to control escalation once a crisis or conflict erupted. In addition to the PLA’s centralized command structure, the presence of political commissars, officers who are tasked with ensuring party decisions are implemented within the PLA, is seen as strengthening escalation control by ensuring that subordinates comply with the intent of China’s top military decisionmakers on the CMC.[162] More generally, a recent defense policy study guide for party cadres underscores that China’s nuclear missiles and ballistic missile submarines “are under the direct control of the CMC.” Thus, all command decisions flow from the CMC: “When the country is under a nuclear threat, according to the commands of the CMC, [they will] increase alert status, make good preparations for nuclear counterattack, prevent the enemy from using nuclear weapons against us; when the country receives a surprise nuclear attack, [they will] use nuclear missile weapons to carry out a resolute counterattack against the enemy.”[163] Given the CMC’s tight control, and how it is discussed, it is more difficult for experts to imagine accidents and mistakes involving nuclear weapons. In addition, in some campaigns the CMC may also directly control the conventional missile force.[164] Some PLA texts also suggest that anti-satellite weapons and strategic cyberattacks would be similarly strictly controlled.[165] Chinese leaders’ strict control over strategic weapons, however, is not the same as strict control over how an adversary acts in a conflict or how a crisis unfolds.

A second reason why the amount of control exercised by China’s national leaders may be overstated is that many written sources and some experts do not consider how China’s actions in a crisis or war could be misperceived and increase the odds of nuclear escalation by the United States. The 2004 Science of Second Artillery Campaigns, for example, suggests arming an ICBM with a conventional warhead to attack an opponent’s homeland as a way to signal resolve and counter air raids against China. The goal would be to “to shock the adversary psychologically, and create terror in the strong adversary’s population, making the strong adversary’s domestic anti-war sentiment increase sharply.”[166] Of course, such a launch would be indistinguishable from a nuclear attack to the U.S. early warning system, creating great risks (however unwanted) of nuclear escalation. Although there are no indications that China is preparing to use ICBMs in this way, the point is that sources like the 2004 Science of Second Artillery Campaigns do not assess the potential consequences of the actions that they propose.

A third reason why the amount of control exercised by China’s national leaders may be overstated is that Chinese sources and experts tend to assume that conventional escalation can be controlled because an adversary will respond proportionately to China’s actions. An adversary’s response can be accurately predicted if its intentions and interests in the conflict are well understood. Chinese sources do not generally acknowledge the possibility that an adversary could respond in a crisis or war with a disproportionate counterattack. For example, the 2017 Science of Military Strategy argues that long-range warning shots, most likely using conventional missiles or air strikes, would need to be calibrated to prevent an adversary overreaction or underreaction. The strike would require “a small amount of intimidation [oderniz zhenshe] to affect a military or political target that is clear, relatively isolated and easy to attack, and does not injure the population.” As the purpose of the strike is not war but deterrence, “it is necessary to precisely judge the situation, strictly control the means and scope of the attack to prevent the action from escalating and expanding to develop into war.”[167] Likewise, the 2004 NDU text Coercive Warfare, authored by missile force officers, noted that it is necessary to “strictly control the intensity of deterrence at the precise deterrence opportunity.” China must be able to select the correct intensity of escalation for the circumstances, but regarding high-intensity actions, “it is necessary to know when to stop [shike erzhi], you do not want to make the situation expand.” Optimistically, the book states that if China considers adversary interests and intentions, “only then can employing a certain level of escalation be sufficient to affect [chongdong] the adversary’s psychology.”[168]

A fourth reason, also related to misperceptions, concerns China’s nuclear signaling. In general, Chinese sources indicate that China would engage in nuclear signaling to prevent nuclear coercion or to deter an imminent nuclear strike.[169] An adversary, however, might view such signals as preparations to use nuclear weapons in a crisis or conflict. An example is the “strategic deterrence” step of “implementing movements of land-based and sea-based strategic nuclear weapons” when war is imminent. This action is described in the 2017 Science of Military Strategy as one way of “adjusting deployments” of different military capabilities.[170] Such actions could be taken to ensure the survivability of the arsenal, but they could be mistaken as preparations to conduct a first strike.[171] A textbook for party cadres on defense policy indicates that “when the country suffers a nuclear threat, according to the order of the CMC, [nuclear missile units and ballistic missile submarine units] increase their alert status and prepare for a nuclear counterattack, to stop [shezhi] an enemy from using nuclear weapons against us,” which could involve such signaling. The text states, however, that only “when our country suffers a nuclear attack, [will they] use nuclear weapons to carry out a resolute counterattack.”[172] This distinction between nuclear signaling and preparations for first use could, however, easily be lost on U.S. decisionmakers who are skeptical that China will adhere to its no-first-use policy in an actual conflict. Chinese experts’ confidence in their country’s no-first-use policy makes them less likely to recognize the risks of nuclear escalation that could arise from misperceptions of intent and unintended consequences of Chinese and U.S. actions.[173]

#### Independently, democracy caps all existential risk.

Eaton ’20 [George; 9/17/20; Senior Online Editor @ New Statesman; Citing Noam Chomsky; Laureate Professor in the Department of Linguistics @ University of Arizona, Professor Emeritus @ MIT, PhD in Linguistics @ UPenn; “Noam Chomsky: The world is at the most dangerous moment in human history”; https://www.newstatesman.com/politics/2020/09/noam-chomsky-the-world-is-at-the-most-dangerous-moment-in-human-history]

Noam Chomsky has warned that the world is at the most dangerous moment in human history owing to the climate crisis, the threat of nuclear war and rising authoritarianism. In an exclusive interview with the New Statesman, the 91-year-old US linguist and activist said that the current perils exceed those of the 1930s.

“There’s been nothing like it in human history,” Chomsky said. “I’m old enough to remember, very vividly, the threat that Nazism could take over much of Eurasia, that was not an idle concern. US military planners did anticipate that the war would end with a US-dominated region and a German-dominated region… But even that, horrible enough, was not like the end of organised human life on Earth, which is what we’re facing.”

Chomsky was interviewed in advance of the first summit of the Progressive International (18-20 September), a new organisation founded by Bernie Sanders, the former US presidential candidate, and Yanis Varoufakis, the former Greek finance minister, to counter right-wing authoritarianism. In an echo of the movement’s slogan “internationalism or extinction”, Chomsky warned: “We’re at an astonishing confluence of very severe crises. The extent of them was illustrated by the last setting of the famous Doomsday Clock. It’s been set every year since the atom bombing, the minute hand has moved forward and back. But last January, they abandoned minutes and moved to seconds to midnight, which means termination. And that was before the scale of the pandemic.”

This shift, Chomsky said, reflected “the growing threat of nuclear war, which is probably more severe than it was during the Cold War. The growing threat of environmental catastrophe, and the third thing that they’ve been picking up for the last few years is the sharp deterioration of democracy, which sounds at first as if it doesn’t belong but it actually does, because the only hope for dealing with the two existential crises, which do threaten extinction, is to deal with them through a vibrant democracy with engaged, informed citizens who are participating in developing programmes to deal with these crises.”

Chomsky added that “[Donald] Trump has accomplished something quite impressive: he’s succeeded in increasing the threat of each of the three dangers. On nuclear weapons, he’s moved to continue, and essentially bring to an end, the dismantling of the arms control regime, which has offered some protection against terminal disaster. He’s greatly increased the development of new, dangerous, more threatening weapons, which means others do so too, which is increasing the threat to all of us.

“On environmental catastrophe, he’s escalated his effort to maximise the use of fossil fuels and to terminate the regulations that somewhat mitigate the effect of the coming disaster if we proceed on our present course.”

“On the deterioration of democracy, it’s become a joke. The executive branch of [the US] government has been completely purged of any dissident voice. Now it’s left with a group of sycophants.”

Chomsky described Trump as the figurehead of a new “reactionary international” consisting of Brazil, India, the UK, Egypt, Israel and Hungary. “In the western hemisphere the leading candidate is [Jair] Bolsonaro’s Brazil, kind of a small-time clone of President Trump. In the Middle East it will be based on the family dictatorships, the most reactionary states in the world. [Abdel al-]Sisi’s Egypt is the worst dictatorship that Egypt has ever had. Israel has moved so far to the right that you need a telescope to see it, it’s about the only country in the world where young people are even more reactionary than adults.”

He added: “[Narendra] Modi is destroying Indian secular democracy, severely repressing the Muslim population, he’s just vastly extended the terrible Indian occupation of Kashmir. In Europe, the leading candidate is [Viktor] Orbán in Hungary, who is creating a proto-fascist state. There are other figures, like [Matteo] Salvini in Italy, who gets his kicks out of watching refugees drown in the Mediterranean.”

# 2AC

## APIs

### 2AC – AT: Innovation DA

#### Small firms – interoperability allows them to piggyback off of existing innovations. Current failures are because starting from the ground up is impossible. That’s Kades, AND...

Bennett Cyphers and Cory Doctorow 21. Staff Technologist on the Tech Projects team. Special consultant to the Electronic Frontier Foundation, MIT Media Lab Research Affiliate, visiting professor of computer science at the Open University, visiting professor of practice at the University of North Carolina’s School of Library and Information Science, co-founder of the Open Rights Group. “Privacy Without Monopoly: Data Protection and Interoperability”. EFF. Feb 12 2021. https://www.eff.org/wp/interoperability-and-privacy

Competitive compatibility means that competitors can interoperate with bigger services and platforms without having to negotiate with them, ask their permission, or risk breaking a number of computer crime and intellectual property laws. Interoperability mandates go further to make that interoperability usable, stable, and accessible for users: data portability would make it easy for users to move from one platform to another; back-end interoperability would create the infrastructure for users from one platform to interact with users on another; and delegability would give users the ability to delegate an external tool to interact with a platform for them.

3.1. Competitive Compatibility

We support a legal regime that will unlock and encourage competitive compatibility (ComCom): the ability of a competitor to interoperate with an incumbent’s products or services without permission.

ComCom is absolutely essential for innovation. Overwhelmingly, the technologies we rely on today were not established as full-blown, standalone products; rather, they started as adjuncts to the incumbent technologies that they eventually grew to eclipse. The first cable TV service grew out of hobbyist efforts to bring big-city TV networks to their small-market towns. Modems were unsanctioned add-ons to Ma Bell’s ubiquitous copper phone lines. Before the Web, a tool called Gopher defied network operators’ intentions and made information from around the Internet accessible to the masses. Printers, ad-blockers, tape-deck audio jacks, and personal finance empires grew and thrived—not because anyone deliberately let them, but because nobody could stop them.

We propose that users and companies should have the right to build around, and on top of, incumbent tools and services. Start-ups should have the right to engage with users on their competitors’ platforms, to chip away at the network effects that would keep them down. Users should have the right to engage with the platforms they use in any way they want, including through third-party tools that tune their experience. Nobody should receive a cease-and-desist for sharing a browser extension to improve a product they spend all day using.

#### Big firms – diversified platform marketplace forces them to innovate to keep consumers. That’s Schulman, AND...

Cory Doctorow 21. Special consultant to the Electronic Frontier Foundation, MIT Media Lab Research Affiliate, visiting professor of computer science at the Open University, visiting professor of practice at the University of North Carolina’s School of Library and Information Science, co-founder of the Open Rights Group. “Unfair Use: Anti-Interoperability and Our Dwindling Digital Freedom”. The Reboot. Apr 13 2021. <https://thereboot.com/unfair-use-anti-interoperability-and-our-dwindling-digital-freedom/>

Interoperability lowers “switching costs” — the cost of leaving behind whatever you’re using now in favor of something you think will suit you better. When my grandparents emigrated to Canada from the Soviet Union on a displaced persons ship, they incurred a high switching cost. For more than a decade, they had no contact with their family in Leningrad except through unreliable, slow word of mouth with the rare person who got a visa to travel there.

Contrast this with my move from the UK to Los Angeles in 2015. We are in routine contact with my in-laws in London and Wales, as well as my family in Toronto. My laptop and books came with me, as did our other personal effects. We left most of our appliances behind because they ran on a different voltage, but there were a few things we loved that we brought with and either changed the plugs on or connected to our house’s electrical outlets via transformer or adapters.

Companies like high switching costs. For a would-be monopolist, the best product is one that’s seductively easy to start using and incredibly hard to get rid of. Think of Purdue Pharma’s gleeful internal memos — revealed in leaks and court cases — about the ease with which their “customers” were getting started on opioids, and their contempt for how hard it was for those same people to switch away.

Addiction isn’t the only way to raise switching costs. Facebook makes it incredibly easy for you to get started, historically going so far as to tricking you into giving it access to your electronic contacts list to enmesh you in a network of others who have already signed up for the service. Once you’re on Facebook, it’s very easy to bring in articles from the public web and to link to your friends’ updates on rival networks. You can start by just using Facebook to follow the friends you have there, but over time, the system nudges you toward using Facebook as your primary means of reading the news and even following what your friends are saying on non-Facebook networks.

But when you want to leave Facebook, there’s no easy way to do so. You can’t go to a Facebook rival and follow what your friends post to Facebook from there. You certainly can’t reply to what your Facebook friends post using a rival service.

Interoperability — the thing Facebook uses to slurp stuff in from the open web — is the key to self-determination. Leaving Facebook in the 21st century is like my grandmother leaving the USSR in the 40s. You can go, but your friends and loved ones are all held hostage behind Zuckerberg’s Iron Curtain, so leaving Facebook means leaving your communities, your relationships. That’s not as hard as kicking opioids, but it’s not easy either. And your presence on Facebook is the reason someone else can’t go.

Here’s the thing: everyone wants to minimize risk, from employers to workers, from Big Tech to its users. You want to use Google in ways that make your life better, and you don’t want Google to be able to arbitrarily change or remove the services it provides. (Ask me how bitter I am about Google nuking Reader, its RSS product!) Google wants to ensure that you won’t leave the company or its products and services. It could improve its retention by making you so delighted with its offerings that you’d never consider leaving. But a surer, cheaper way is to interweave its products and services with your life: making sure that your kid can’t go to a public school without creating a Google account; embedding Google search in your mobile OS; releasing web- and app-development frameworks for third parties that quietly harvest the data of their users and send them to Google; etc.

The more freedom you have to leave Google, the bigger a risk you present to Google. The more Google can lock you in, the lower the risk of your departure from the service — and the higher the risk that Google will cease to keep your business by making good products, and instead rely on retaining you because you can’t leave (or because leaving comes at a very high price).

Interoperability improves self-determination by safeguarding your ability to change the current situation by incremental steps. If you like your phone and the apps you have but want an app that’s banned in its default app store, interoperability comes to the rescue, allowing you to add a second app store to your phone’s list of approved software sources. You get to keep your phone, keep your apps, keep all the data on your phone, and you get to install that unauthorized app.

Without interoperability, your choice is “take it or leave it.” If the app store blocks an app you want, the price of getting that app is throwing away your phone, all its apps, and some or all of the data you’ve painstakingly input into your phone. That unauthorized app needs to be pretty darned good before anyone would pay such a high price for it.

#### Khan.

Issie Lapowsky 22. Protocol's chief correspondent, covering the intersection of technology, politics, and national affairs. “'Enforcers are not gonna back down': Lina Khan talks rewriting the rules of antitrust”. Protocol. Jan 19 2022. https://www.protocol.com/bulletins/lina-khan-cnbc-interview

In her first TV interview since becoming chair of the Federal Trade Commission, Lina Khan had a message for business executives who think their money, lawyers and lobbyists will shield them from antitrust scrutiny: "Enforcers are not gonna back down."

Over the course of a lengthy CNBC interview Wednesday, Khan expounded on the ways in which she believes antitrust enforcement in America needs to change, a process that is already underway at the FTC. This week, Khan and Jonathan Kanter, the Department of Justice's top antitrust cop, announced a plan to review policies related to mergers, signaling their intention to scrutinize more deals that once flew under the radar.

"The project of potentially revising the guidelines is to basically identify: What are the blind spots right now?" Khan said during Wednesday's interview.

She went on to explain why she thinks such a review is long overdue, saying that Congress first determined that mergers that "substantially lessen competition or tend to create a monopoly" are illegal back in 1914. "What that means in practice is going to change depending on the economy," she said. "As we've seen, the growth of new technologies, the market dynamics have changed, and so we need to make sure that the tools we're using, the frameworks we're using, the questions that we're asking, are actually still mapping onto the reality."

That reality, Khan argued, includes massive digital operations that offer their services for free, but often cost consumers their privacy. Those kinds of harms — see also, labor harms and quality degradation — haven't traditionally factored into antitrust discussions, which have focused primarily on whether companies are using their market power to raise prices. Khan said she wants to refocus enforcers' attention on a broader spectrum of harm, and pointed to the FTC's recently amended case against Facebook (now Meta) as evidence of that approach. Earlier this month, a federal judge allowed the complaint to proceed.

"There was an important discussion in that opinion around the ways in which the courts can understand non-price harms," Khan said Wednesday. "Certain types of quality degradation, certain types of harms to privacy, those could be recognized as harms, even if you're not seeing an increase in the dollar price that people are are paying."

Even as this new approach potentially broadens the scope of enforcement actions the FTC could take, however, Khan noted that the commission is as constrained as it's ever been in terms of funding. "We are severely under-resourced," she said.

That means that the FTC will continue to have to prioritize certain cases over others. Khan said cases that stand to have a deterrence effect or an impact on a broader market beyond a single company will be a top priority. So will cases involving "intermediaries or companies that may be facilitating bad practices going upstream," Khan said. Khan emphasized that this work will not be exclusive to the tech industry, despite her well-known reputation as a tech critic, particularly when it comes to Amazon. And she said enforcement may also need to apply retroactively to deals that didn't get adequate scrutiny the first time around.

#### Consumer-facing innovation doesn’t affect tech race. Military contracting solves.

Noah Smith 21. Former Bloomberg Opinion columnist and assistant professor of finance at Stony Brook University. “Why is China smashing its tech industry?”. Noahpinion. Jul 24 2021. https://noahpinion.substack.com/p/why-is-china-smashing-its-tech-industry

Those who pay attention to business news have probably noted an interesting and curious phenomenon over the past few months: China is smashing its internet companies. It started — or at least, most people in the U.S. started noticing it — when the government effectively canceled the IPO of Ant Financial, then dismantled the company. Jack Ma, the founder of Ant and of e-commerce giant Alibaba, was summoned to a meeting with the government and then disappeared for weeks. The government then levied a multi-billion dollar antitrust fine against Alibaba (which is sometimes compared to Amazon), deleted its popular web browser from app stores, and took a bunch of other actions against it. The value of Ma’s business empire has collapsed.

But Ma was only the most prominent target. The government is also going after other fintech companies, including those owned by Didi (China’s Uber) and Tencent (China’s biggest social media company). As Didi prepared to IPO in the U.S., Chinese regulators announced they were reviewing the company on “national security grounds”, and are now levying various penalties against it. The government has also embarked on an “antitrust” push, fining Tencent and Baidu — two other top Chinese internet companies — for various past deals. Leaders of top tech companies (also including ByteDance, the company that owns TikTok) were summoned before regulators and presumably berated. Various Chinese tech companies are now undergoing “rectification”.

For those outside China’s byzantine, opaque nexus of party, government, and big business, it’s very difficult to figure out what’s going on. Just who is ordering these actions is not clear, or what the ultimate result of the crackdown will be. That makes it very hard to figure out why it’s happening. Some observers see this as an antitrust campaign, similar to the ones going on in the U.S. or the EU. China’s leaders famously want to prevent the emergence of alternative centers of power, but is the West so different in this regard? One of the driving motivations behind the new antitrust movement in the U.S. is to curb the political power of Big Tech companies specifically; if you wanted to, you might see the Chinese tech crackdown as simply a Neo-Brandeisian movement on steroids.

But the breadth of the Chinese crackdown suggests a major difference. The U.S. has slapped down a few of its corporate giants before — Microsoft, AT&T, Standard Oil — but ultimately it didn’t crush the industries these companies were a part of. We’re unlikely to see major action against all the U.S. internet companies at once, and broad EU action will likely take the form of new rules rather than a sweeping crackdown. China’s attack on its tech companies, in contrast, seems far more comprehensive — it’s not just attacking the biggest internet companies, it’s attacking the entire sector. (Update: An important piece of evidence here is that China also appears to be reducing venture funding. If you want more competition you don't squash new entrants!) For whatever reason, China is suddenly not a fan of the industry we call “tech”.

This is strange because for years, it was conventional wisdom in the Western media that having a “tech” sector was crucial to innovation and growth etc. In fact, for many years American pundits argued that China’s economy would be held back by the government’s insistence on control of information, because it would make it impossible for China to build a world-class tech sector! Then China did build a world-class tech sector anyway, and now it’s willfully smashing the world-class tech sector it built. So much for U.S.-style “innovation”.

But notice that China isn’t cracking down on all of its technology companies. Huawei, for example, still seems to enjoy the government’s full backing. The government is going hell-bent-for-leather to try to create a world-class domestic semiconductor industry, throwing huge amounts of money at even the most speculative startups. And it’s still spending heavily on A.I. It’s not technology that China is smashing — it’s the consumer-facing internet software companies that Americans tend to label “tech”.

Why do Americans equate “tech” with companies like Google, Amazon, and Facebook, anyway? One reason is that the consumer internet industry is something America is really good at — unlike our electronics hardware industries, consumer software is something that hard-driving Asian competitors haven’t yet been able to beat us at. Another reason is that software companies make a lot of profit — Facebook made over $18 billion in 2020, three times Micron or Honeywell and six times Cisco. With their low overhead, network effects, troves of intellectual property, strong brand value, and differentiated products, successful software companies naturally tend to generate high margins. That’s true for smaller software companies as well as big ones. And since in America we often tend to equate profit with value, this means we think of the consumer-facing software industry as being our industrial champion, generating a huge amount of economic value for our nation.

China may simply see things differently. It’s possible that the Chinese government has decided that the profits of companies like Alibaba and Tencent come more from rents than from actual value added — that they’re simply squatting on unproductive digital land, by exploiting first-mover advantage to capture strong network effects, or that the IP system is biased to favor these companies, or something like that. There are certainly those in America who believe that Facebook and Google produce little of value relative to the profit they rake in; maybe China’s leaders, for reasons that will remain forever opaque to us, have simply reached the same conclusion.

But in fact I suspect that there is something else going on here. If you’re interested in China and its economy, one analyst you should definitely read is GaveKal Dragonomics’ Dan Wang. And in Dan’s 2019 letter, I noticed the following passage:

I find it bizarre that the world has decided that consumer internet is the highest form of technology. It’s not obvious to me that apps like WeChat, Facebook, or Snap are doing the most important work pushing forward our technologically-accelerating civilization. To me, it’s entirely plausible that Facebook and Tencent might be net-negative for technological developments. The apps they develop offer fun, productivity-dragging distractions; and the companies pull smart kids from R&D-intensive fields like materials science or semiconductor manufacturing, into ad optimization and game development.

The internet companies in San Francisco and Beijing are highly skilled at business model innovation and leveraging network effects, not necessarily R&D and the creation of new IP….I wish we would drop the notion that China is leading in technology because it has a vibrant consumer internet. A large population of people who play games, buy household goods online, and order food delivery does not make a country a technological or scientific leader…These are fine companies, but in my view, the milestones of our technological civilization ought to be found in scientific and industrial achievements instead.

Dan’s job is to keep his ear to the ground, figure out what the movers and shakers in China think, and relay those thoughts to us. So when he started talking about the idea that consumer internet tech isn’t real “tech”, I immediately wondered if China’s leaders were thinking along the same lines. And then in his 2020 letter, Dan wrote:

It’s become apparent in the last few months that the Chinese leadership has moved towards the view that hard tech is more valuable than products that take us more deeply into the digital world. Xi declared this year that while digitization is important, “we must recognize the fundamental importance of the real economy… and never deindustrialize.” This expression preceded the passage of securities and antitrust regulations, thus also pummeling finance, which along with tech make up the most glamorous sectors today.

In other words, the crackdown on China’s internet industry seems to be part of the country’s emerging national industrial policy. Instead of simply letting local governments throw resources at whatever they think will produce rapid growth (the strategy in the 90s and early 00s), China’s top leaders are now trying to direct the country’s industrial mix toward what they think will serve the nation as a whole.

And what do they think will serve the nation as a whole? My guess is: Power. Geopolitical and military power for the People’s Republic of China, relative to its rival nations.

If you’re going to fight a cold war or a hot war against the U.S. or Japan or India or whoever, you need a bunch of military hardware. That means you need materials, engines, fuel, engineering and design, and so on. You also need chips to run that hardware, because military tech is increasingly software-driven. And of course you need firmware as well. You’ll also need surveillance capability, for keeping an eye on your opponents, for any attempts you make to destabilize them, and for maintaining social control in case they try to destabilize you.

It’s easy for Americans to forget this now, but there was a time when “ability to win wars” was the driving goal of technological innovation. The NDRC and the OSRD were the driving force behind government sponsorship of research and technology in World War 2, and the NSF and DARPA grew out of this tradition. Defense spending has traditionally been a huge component of government research-spending in the U.S., and many of America’s most successful private-sector tech industries are in some way spinoffs of those defense-related efforts.

After the Cold War, our priorities shifted from survival to enjoyment. Technologies like Facebook and Amazon.com, which are fundamentally about leisure and consumption, went from being fun and profitable spinoffs of defense efforts to the center of what Americans thought of as “tech”.

But China never really shifted out of survival mode. Yes, China’s leaders embraced economic growth, but that growth has always been toward the telos of comprehensive national power. China’s young people may be increasingly ready to cash out and have some fun, but the leadership is just not there yet. They’ve got bigger fish to fry — they have to avenge the Century of Humiliation and claim China’s rightful place in the sun and blah blah.

And so when China’s leaders look at what kind of technologies they want the country’s engineers and entrepreneurs to be spending their effort on, they probably don’t want them spending that effort on stuff that’s just for fun and convenience. They probably took a look at their consumer internet sector and decided that the link between that sector and geopolitical power had simply become too tenuous to keep throwing capital and high-skilled labor at it. And so, in classic CCP fashion, it was time to smash.

#### Tech race loss now.

Graham Allison et. al 12/7/21. Douglas Dillon Professor of Government and Founding Dean at the Harvard Kennedy School. Kevin Klyman, Research Assistant at the Belfer Center. Karina Barbesino and Hugo Yen, former Research Assistants at the Belfer Center. “The Great Rivalry: China vs. the U.S. in the 21st Century”. Harvard Belfer Center for Science and International Affairs. Dec 7 2021. https://www.belfercenter.org/publication/great-rivalry-china-vs-us-21st-century

Today, China’s rapid rise to challenge U.S. dominance of technology’s commanding heights has captured America’s attention. The rivalry in technology is what the Director of the Central Intelligence Agency, Bill Burns, spotlights as the “main arena for competition and rivalry with China.”5 It has displaced the U.S. as the world’s top high-tech manufacturer, producing 250 million computers, 25 million automobiles, and 1.5 billion smartphones in 2020.6 Beyond becoming a manufacturing powerhouse, China has become a serious competitor in the foundational technologies of the 21st century: artificial intelligence (AI), 5G, quantum information science (QIS), semiconductors, biotechnology, and green energy.7 In some races, it has already become No. 1. In others, on current trajectories, it will overtake the U.S. within the next decade.

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President Xi Jinping has declared, “Technological innovation has become the main battleground of the global playing field, and competition for tech dominance will grow unprecedentedly fierce.”8 Emphasizing the need to “develop indigenous capabilities, decrease dependence on foreign technol- ogy, and advance emerging technologies,” the Chinese government’s most recent Five-Year Plan identifies key performance indicators, sets deadlines for outcomes, and holds provincial and local governments accountable for delivering results.9

One of America’s most respected leaders in advancing and applying tech- nology, Eric Schmidt, who led Google to become one of the world’s leading technology companies, has been candid about his views. Noting that “many Americans still have an outdated vision of China,” he believes “the United States now faces an economic and military competitor in China that is aggressively trying to close our lead in emerging technologies.”10 In his assessment: “Unless these trends change, in the 2030s we will be competing with a country that has a bigger economy, more research and development investments, better research, wider deployment of new technologies, and stronger computing infrastructure.”11

To take stock of the state of the technology race, this report examines the progress made by the U.S. and China in each key technology over the past 20 years.

To begin with our bottom lines up front:

• In the advanced technology likely to have the greatest impact on economics and security in the decade ahead—AI—China is now a “full-spectrum peer competitor” in the words of Eric Schmidt.

• In 5G, according to the Pentagon’s Defense Innovation Board, “China is on a track to repeat in 5G what happened with the United States in 4G.”12 Despite advantages in 5G standards and chip design, America’s 5G infrastructure rollout is years behind China’s, giving China a first-mover advantage in developing the 5G era’s platforms.

• In quantum information science, America has long been viewed as the leader, but China’s national push presents a clear challenge. China has already surpassed the U.S. in quantum communication and has rapidly narrowed America’s lead in quantum computing.

• America retains its position of dominance in the semiconductor industry, which it has held for almost half a century. But China’s decades-long campaign to become a semiconductor powerhouse has made it a serious competitor that may soon catch up in two key arenas: semiconductor fabrication and chip design.

• The U.S. has seven of the ten most-valuable life sciences companies, but China is competing fiercely across the full biotech R&D spectrum. Chinese researchers have narrowed America’s lead in the CRISPR gene editing technique and surpassed it in CAR T-cell therapy.

• Though America has been the primary inventor of new green energy technologies over the past two decades, today China is the world’s leading manufacturer, user, and exporter of those technologies, cementing a monopoly over the green energy supply chain of the future. Consequently, America’s green push relies on deepening its dependence on China.

• China’s whole-of-society approach is challenging America’s traditional advantages in the macro-drivers of the technological competition, including its technology talent pipeline, R&D ecosystem, and national policies. As the National Security Council’s Senior Director for Technology and National Security Tarun Chhabra and the Center for Security and Emerging Technologies have recognized, “The United States is no longer the global science and technology (S&T) hegemon.”

## Middle Ware

### 2AC – AT: Hikes

#### It won’t decline in 2022

Siegel 1/12 – Rachel Siegel, economics reporter covering the Federal Reserve for the Washington Post, “December prices rise 7 percent compared with a year ago, as 2021 inflation reaches highest in 40 years,” 1/12/22, https://www.washingtonpost.com/business/2022/01/12/december-cpi-inflation/

Looking ahead, Fed leaders expect inflation will fall to 2.6 percent by the end of 2022 and 2.3 percent by the end of 2023, according to Fed projections from December.

Yet some economists are skeptical that inflation will drop so precipitously, even once inflation measures reach their peak. Their concern is that even once prices start to tick down, the trend will be gradual and uneven, rather than a plunge toward the Fed’s 2 percent annual target.

Constance Hunter, chief economist for the financial firm KPMG, said that while supply issues will linger as long as the pandemic looms over the economy, the demand side of the equation should ease up this year as fiscal stimulus, and support from the Fed, fades away.

But going into a third year of pandemic life, there’s no guarantee of what’s to come.

“Looking forward, if we can confidently say that omicron is the last hurrah, we could confidently forecast the path,” Hunter said. “But unfortunately that’s just not where we are. That’s not within our capability.”

#### Inteorpabiltiy would not cause the fed to hike rates – card is about meatpakcking firms

Thomas **Barrabi 12-28** – reporter, citing larry summers “Biden-backed antitrust crackdown could worsen inflation, Larry Summers warns” <https://nypost.com/2021/12/28/biden-backed-antitrust-crackdown-could-worsen-inflation/>

The Biden administration’s push to crack down on antitrust violations **could cause the ongoing inflation crisis to worsen** rather than improve, **economist Larry Summers warned** this week. Summers, the Treasury secretary during the Clinton administration, said proposed antitrust actions were “more likely to raise than lower prices.” President Biden has called for scrutiny of top meat industry firms and US oil companies, arguing that a lack of competition has contributed to artificially high consumer prices during the COVID-19 pandemic. “The emerging claim that antitrust can combat inflation reflects ‘science denial,’” Summers wrote on Twitter. “There are many areas like transitory inflation where serious economists differ. Antitrust as an anti-inflation strategy is not one of them.” US consumer prices surged 5.7 percent in November compared to the same month one year earlier, marking the fastest increase in four decades, according to Commerce Department data. An ongoing labor shortage and supply chain issues have contributed to the problem. Surging inflation has put pressure on American workers by effectively erasing wage gains and raising the cost of everyday goods. Biden has pushed back on critics who argue his pandemic-era economic policies are stoking inflation. In November, Biden asked the Federal Trade Commission to consider opening a probe into whether “illegal conduct” was contributing to higher gas prices. He has repeatedly called out meat providers over increased profits during the pandemic. Summers said he “strongly” supports the Biden administration’s push to ensure fair competition in business. However, the Harvard University economist asserted some measures, such as a Biden-backed **push to crack down** on prominent meatpacking firms, **would result in reduced supply and higher prices.** “**Monopoly may lead to high prices but there is no reason to expect it to lead to rising prices unless it is increasing**,” Summers added. “There is no basis whatsoever thinking that monopoly power has increased during the past year in which inflation has greatly accelerated.” Summers argued the labor shortage will be the “primary root” of inflation over time. He proposed a different approach to addressing the crisis, including a reduced emphasis on buying American-made products, lower tariffs and a cutback on regulatory delays. Summers has been a vocal critic of the Treasury’s handling of the current inflation surge. In October, Summers engaged in a war of words with Treasury Secretary Janet Yellen after she said he was “wrong” to claim the US faced a risk of runaway inflation without proper action. “I don’t think we’re about to lose control of inflation,” Yellen said at the time. “I agree, of course, we are going through a period of inflation that’s higher than Americans have seen in a long time, and it’s something that’s obviously a concern and worrying them, but we haven’t lost control.” Summers fired back, arguing there was “less than a 50/50 chance” that Yellen was correct in her assessment that inflation would soon return to target levels. Yellen long argued rising inflation was transitory in nature and would return to the 2% level the Federal Reserve deems acceptable by 2022. But she reversed course earlier this month, telling lawmakers she was “ready to retire the word transitory” given the rise of new COVID-19 variants.

## AT: T

### 2AC – AT: T-Exemptions

#### We meet – patents are an exemption, plan narrows it. That’s Doctorow.

Tejas Narechania 15. Julius Silver Research Fellow, Columbia Law School. “Patent Conflicts”. 103 Geo. L.J. 1483. August 2015. Lexis.

The intersection of patent and antitrust provides familiar terrain for the exploration of patent conflicts. The competing scopes of intellectual property rights and antitrust laws have proved to be fertile grounds for research and legal development, 17 as scholars have long wrestled with the scope of a patent's exception to the antitrust laws. Some have argued that the monopoly grant of a patent is absolute, while others have suggested exclusions that may be enforceable in antitrust. 18 In an important work on this relationship, Louis Kaplow hypothesized the effect of two "extreme doctrinal regimes" that could dictate the resolution of conflict between patent and antitrust. 19 In one, antitrust might "reign supreme," with the practical effect of rendering any action by a patentee that violates antitrust law illegal, regardless of whether the action might be authorized by the patent's right to exclude. 20 Alternatively, patent might be thought to have absolute priority over antitrust, thereby granting a patentee permission to use her patent to engage in anticompetitive behavior, so long as such behavior is within the patent's scope. 21

#### Counterinterp – expand means to increase the scope.

Merriam-Webster ‘ND [“Expand” https://www.merriam-webster.com/dictionary/expand; AS]

2: to increase the extent, number, volume, or scope of : ENLARGE

#### Scope of FTC Section 5 is determined by the FTC.

Joshua Wright 15. FTC Commissioner. “Section 5 Revisited: Time for the FTC to Define the Scope of Its Unfair Methods of Competition Authority”. Symposium on Section 5 of the Federal Trade Commission Act. Feb 26 2015. https://www.ftc.gov/system/files/documents/public\_statements/626811/150226bh\_section\_5\_symposium.pdf

The vague and ambiguous nature of Section 5 is well known. Proposed definitions for what constitutes an “unfair method of competition” have varied substantially over time and belief that the modern FTC has now somehow moved beyond this inherent product of its institutional design are no more than wishful thinking. Indeed, for at least the past twenty years, commissioners from both parties have acknowledged that a principled standard for the application of Section 5 would be a welcome improvement. The lack of institutional commitment to a stable definition of what constitutes an “unfair method of competition” leads to two sources of problematic variation in the agency’s interpretation of Section 5. One is that the agency’s interpretation of the statute in different cases need not be consistent even when the individual Commissioners remain constant. Another is that as the members of the Commission change over time, so does the agency’s Section 5 enforcement policy, leading to wide variations in how the Commission prosecutes “unfair methods of competition” over time. In short, the scope of the Commission’s Section 5 authority today is as broad or as narrow as a majority of commissioners believes it is.

#### Intent to define – this is a table of contents nicety with zero legal meaning. Arbitrary interps incent T over substance.

Christopher Sagers and Anthony Trufanov 21. Sagers is JD and MPP, Michigan. James A. Thomas Distinguished Professor of Law at Cleveland State University. Truf is Truf. “Antitrust Question.” ADT NU Debate. Dec 6 2021. https://nudebateadt.blogspot.com/2021/12/antitrust-question.html

A. What I Really Think

To me, the problem is that this idea of the "scope" of antitrust has no established legal meaning and very little practical significance. It isn't really used in actual practice and it would rarely have any legal significance in an actual antitrust case. It was a convenient shorthand that I came up with for organizing the materials in that book, and it also had one theoretical value to me, but that's pretty much it. Most antitrust lawyers I've worked with understand it what I meant by it, but it doesn't have any precise meaning or doctrinal significance. I don't think the term was even really used before that book. I almost literally made it up.

So, it sounds like participants in this competition are getting hung up on whether particular exclusions from antitrust liability are issues of "scope" or issues of something else, but I don't believe there is any good reason to worry about it. It almost literally doesn't matter, except maybe in the one theoretical sense that I mentioned. (I'll say something about that in a second.) For example, you mentioned this issue of zero-price products, and your students are evidently asking whether the legality of those things should be thought of as involving "limits" on the "scope" of antitrust. But I find myself asking . . . so what? What difference would it make if that is a matter of "scope" or it is something else?

## AT: States CP

### 2AC – AT: States CP

#### Adaptability – the aff relies on the FTC to constantly update interoperability requirements and act with a unified voice to dictate policy. The CP cannot – process of having the 50 states agree then enforce lacks clarity. Lack of clarity and standardization prevents market entrance – firms don’t know about fiat and perceive legal suicide from interoperating. That’s Doctorow. Getting details wrong worsens anticompetitive practices.

James Mancini 21. Competition Expert at OECD, MSc in Economics from LSE. “Data Portability, Interoperability and Digital Platform Competition”. OECD. 2021. https://www.oecd.org/daf/competition/data-portability-interoperability-and-digital-platform-competition-2021.pdf

3.2. Risks and limitations of data portability measures in digital platform markets

The term data portability refers to a broad range of functionality and initiatives, ranging from a one-time download of unformatted data provided after a significant delay, to broad, real-time data sharing between digital services using a common API. Thus, the devil is in the details, and the effectiveness of data portability will in large part depend on the context of the market, the design of the measure and the existence of complementary measures. In some situations, data portability may do little to promote competition in digital platform markets, and may even lead to anticompetitive outcomes, in stark contrast to successful applications in other sectors (such as mobile telephone mobility, described above).

#### Patents and copyright – they’re federal defenses to interoperability that state law can’t circumvent – that’s Doctorow. Means the CP gets pre-empted.

Richard Samp 14. Chief Counsel, Washington Legal Foundation. JD from M\*chigan. “The Role of State Antitrust Law in the Aftermath of Actavis”. 15 Minn. J.L. Sci. & Tech. 149. Winter 2014. Lexis, accessed thru Dartmouth.

On the other hand, state antitrust laws--like all state laws--are subject to the restrictions imposed by the Supremacy Clause of the U.S. Constitution, 15 and are impliedly preempted [\*153] to the extent that they conflict with federal law. 16 Such a conflict arises when "compliance with both federal and state regulations is a physical impossibility," 17 or when a state law "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress." 18 On a number of occasions, the Supreme Court has concluded that state antitrust law is preempted because it conflicts with a federal statute other than federal antitrust law. 19

The Court has been particularly quick to find preemption when state antitrust law has an impact on labor law, an area in which federal law is pervasive. 20 Indeed, on at least one occasion, the Court found that a claim arising under state antitrust law was preempted by federal labor law even though the Court concluded that the conduct that gave rise to the state claim could proceed as a claim under federal antitrust law. 21 The Court explained that "Congress and this Court have carefully tailored the antitrust statutes to avoid conflict with the labor policy favoring lawful employee organization, not only by delineating exemptions from antitrust coverage but also by adjusting the scope of the antitrust remedies themselves." 22 The Court said that state antitrust laws "generally have not been subjected to this process of accommodation" and thus that "[t]he use of state antitrust law . . . [must] be pre-empted because it creates a substantial risk of conflict with policies central to federal labor law." 23

Accordingly, in any challenge to a "reverse payment" patent settlement arising under state antitrust law, a court will likely be required to address whether the claim conflicts with the "balance" between federal antitrust law and federal patent law established by the Supreme Court's Actavis [\*154] decision. If such state-law antitrust claims stand as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress in adopting the patent laws, it will be preempted by federal law.

#### Federalism isn’t zero-sum.

Ryan 19 Erin Ryan, Law Professor at Florida State University, former clerk for Judge James R. Browning, Appeals for the 9th Circuit. [Federalism as Legal Pluralism, from the Oxford Handbook on Global Legal Pluralism, 2-8-19, https://ssrn.com/abstract=3323066]//BPS

Rejecting Zero-Sum Federalism. The entrenched role of negotiation in American federalism reveals a dynamic relationship between state and federal power that departs from the stylized, strict separationist model that predates it, one which I previously coined “zerosum” federalism. 164 The zero-sum model of federalism, which predominated the American federalism discourse until relatively recently, assumes that jurisdiction is a finite and fixed-sum competitive resource, in which more for one competitor necessarily means less for the other.165 Focusing on sovereign antagonism within the federal system, it envisions the federal and state governments as locked in a bitter, winner-takes-all struggle for power, in which every jurisdictional gain by one side represents a loss for the other. 166 By contrast, the dynamic federalism model acknowledges sovereign competition while also recognizing the ways in which engagement enhances the ability of both sovereigns to achieve their regulatory goals and obligations.167 Countless real-world examples of interjurisdictional governance reveals that the boundary between state and federal authority is less a bright line and more an ongoing project of negotiation, taking place on levels both large and small.168

## AT: Regulate CP

### 2AC – AT: Ex-Ante Regs CP

#### Perm do both – regulator obviates need for antitrust enforcement. AND, counterplan removes antitrust liability.

Howard Shelanski 18. Professor of Law, Georgetown University; Partner, Davis Polk & Wardwell LLP. “Antitrust and Deregulation”. 127 Yale L.J. 1922. May 2018. Lexis.

The Trinko Court stated that one key factor in deciding whether to recognize an antitrust claim against a regulated firm "is the existence of a regulatory structure designed to deter and remedy anticompetitive harm" because "[w]here such a structure exists, the additional benefit to competition provided by antitrust enforcement will tend to be small." 84 That prudential consideration for precluding antitrust claims against a regulated firm has little to do with whether the plaintiff pleaded a valid antitrust claim or whether that claim could conflict with the regulatory scheme. Indeed, it suggests that even when a plaintiff does plead a cognizable, nonconflicting antitrust claim, courts should still preclude the claim on grounds of enforcement efficiency if a regulatory structure could address the harm. This consideration marked a clear departure from Otter Tail and Gordon, which allowed antitrust intervention even where redundant to existing regulatory authority, absent "plain repugnancy" between the two. By introducing "small additional benefit" as grounds for precluding non-conflicting antitrust claims, the Court potentially undermined the long-standing doctrine favoring antitrust as a complement to regulation. The Court clearly took a skeptical view of such complementarity by finding little benefit from antitrust unless "[t]here is nothing built into the regulatory scheme which performs the antitrust function." 85 The Court thereby suggests that it would displace antitrust if the regulation contains anything that addresses competition,

even if it is addressed in only a limited way.

Three years after Trinko, the Court decided Credit Suisse Securities (USA) LLC v. Billing. 86 The plaintiffs in Credit Suisse claimed that the defendants violated Section 1 of the Sherman Act, which prohibits "every contract, combination . . . , or conspiracy, in restraint of trade," 87 by setting securities prices through joint conduct that went beyond what securities laws allow. 88 They also alleged that the defendants had violated antitrust and securities laws by impermissibly engaging in tying and similar activities. 89 Importantly, the Court accepted as given [\*1943] that the securities law did, and "inevitably" would, render defendants' conduct unlawful, so in principle there was no conflict between the antitrust claims and the regulatory statute. 90 The Court nonetheless held that even where a correctly construed antitrust claim would not actually conflict with regulation, the antitrust claim could still be barred on potential conflict grounds. 91 The Court reasoned that "only a fine, complex, detailed line separates activity that the SEC permits or encourages (for which respondents must concede antitrust immunity) from activity that the SEC must (and inevitably will) forbid." 92 Therefore, the Court expanded the notion of plain repugnancy to incorporate not just the genuine conflict that arises when antitrust could bar conduct that regulation might allow, but even conflict between antitrust and regulation that could arise only from judicial mistake or confusion.

Credit Suisse thus went beyond prior implied immunity cases to establish a rule that blocks some claims even when they rely on legitimate antitrust principles, are consistent with securities laws, and, correctly read, would not interfere with the applicable regulatory scheme. Where the underlying conduct is similar enough to regulated conduct that a judge might confuse the two and create a conflict with regulatory authority, the Court chose to err on the side of barring antitrust claims.

The effect of Trinko and Credit Suisse was to render antitrust and regulation more like substitutes and less like complements. The competitive practices, market structure, and market performance of regulated industries are thus more likely to develop without the constraints of antitrust, reflecting instead the potentially different requirements and prohibitions of a regulatory agency's competition-related rules. With antitrust less able to act in parallel or as a complement, the enforcement of competition in regulated industries will depend on the nature of the relevant rules, the agency's commitment to enforcement, and the kinds of sanctions the agency can impose. As agencies repeal such rules or back off from actively administering them, the resulting competition enforcement gap could be greater because antitrust has been sidelined as an available supplement or complement. The doctrinal shift in the relationship between antitrust and regulation that resulted from Trinko and Credit Suisse therefore magnifies the competition enforcement consequences of strong deregulatory cycles.

#### Internet nascence – Section 5 allows the FTC to update norms and definitions constant as the market changes, which is crucial in an ever-evolving Internet marketplace.

Lisa Jose Fales and Ellen Berge 12. Partner with Venable LLP in Washington D.C.. Of counsel with Venable LLP. “The More Things Change, The MoreThey Stay the Same: Applying Section 5 to Emerging Marketing Practices”. Antitrust, Vol. 27, No. 1, Fall 2012. https://www.venable.com/-/media/files/publications/2012/12/the-more-things-change-the-more-they-stay-the-same/files/applying-section-5-to-emerging-marketing-practices/fileattachment/antitrust\_fall2012\_fales\_berge.pdf

AS TREMENDOUS ADVANCEMENTS in new media and marketing technologies have transformed electronic commerce over the last twenty-five years, the Federal Trade Commission has continued to protect American consumers from fraud with a statutory directive that has remained unchanged since the earliest computers were employed in the late 1930s, back when no one envisioned that computers would be used to sell products and services. The consumer protection prong of Section 5 of the Federal Trade Commission Act, declaring unfair or deceptive acts or practices unlawful, is as deliberately broad and general as the antitrust prong’s prohibition on unfair methods of competition.1 The wording of Section 5 allows the Federal Trade Commission to nimbly adapt its application in the consumer protection context as technologies change and innovative platforms for advertising and marketing emerge, and the Commission has done precisely that.

The last decade has seen an explosion of advertising practices involving new technologies, from cell phones to the Internet. To adapt Section 5 to these ever-evolving practices the FTC can prescribe trade regulation rules identifying the specific acts or practices that constitute a violation of Section 5.2 However, given the stringent requirements of FTC rule- making, the Commission has instead applied Section 5 to these newer practices through strategic enforcement actions, typically resulting in consent orders, and agency guidelines.3 Although these methods have the benefit of being flexible and relatively quick, the downside is that they do not nec- essarily provide clear rules of the road for these new adver- tising mediums.

## AT: Stocks DA

### 2AC – AT: Stock Market DA

#### Stock market collapsing now and will stay low due to structural factors.

William Edwards, 1-22-2022, "A notorious market bear who called the 2000 and 2007 crashes unloads on the Fed for creating 'the most extreme financial bubble in US history' — and warns of a 70% drop in the S&P 500 just to return to normal valuation levels," Business Insider, https://www.businessinsider.com/stock-market-crash-expert-warns-sp500-drop-bubble-taper-hussman-2022-1

A notorious market bear who called the 2000 and 2007 crashes unloads on the Fed for creating 'the most extreme financial bubble in US history' — and warns of a 70% drop in the S&P 500 just to return to normal valuation levels

John Hussman says stocks are at their most extreme level in history.

He blames the Federal Reserve's easy monetary policy for creating a bubble.

He also warns stocks would have to fall roughly 70% to return to normal valuation levels.

When the Federal Reserve decides on its monetary policy — like ramping up its quantitative easing efforts, slashing interest rates, or reversing those measures to cool the economy down — John Hussman thinks they're acting haphazardly.

Since the financial crisis, and especially since the start of the pandemic, the central bank has increasingly pumped liquidity into the economy and kept interest rates low. Now, with inflation at near-40-year highs, they're taking steps to tighten policy quickly.

To Hussman, the president of the Hussman Investment Trust, these actions appear to be taken on the fly, absent any framework of a system that produces consistent policy. And it poses massive risk to investors in terms of prospects for future returns, he said in a recent commentary.

Hussman has built up a reputation in the financial community for being able to call out moments of speculative excess. He did so correctly is 2000 and 2008. Things are worse now than they were in those instances, he said.

"We enter 2022 amid the most extreme financial bubble in U.S. history, driven by yield-seeking speculation, amplified by a Federal Reserve that has abandoned any tether to systematic monetary policy," Hussman wrote.

That's a big statement. Hussman backs it up with a few charts showing the current state of valuations.

One is the ratio of the total market cap

of US firms, excluding the financial sector, to their total revenues. Hussman calls this his most reliable valuation measure in terms of predicting future returns. It's currently at its highest level ever.

market cap to revenue

Hussman Funds

Then he looked at the valuation levels of each decile in the S&P 500. This is a way of measuring the breadth of a bubble. Notice, for example, during the dot-com bubble, that the top decile was much more pronounced relative to the other nine than it is now. Each decile is currently at historic highs.

Another variation on measuring breadth compares the price-to-revenue ratios of the top 10% of firms in the S&P 500 by market cap to bottom 10%. The index's median, as well as the bottom 10% of firms, have much higher valuations now than in 2000 or 2008.

According to Hussman, these high valuations set the market up for dismal returns over the next decade. The prospects for returns over the next 10 years are worse than in prior bubbles, he showed in the chart below. Prospects get better after the bubbles burst and the market bottoms, it showed.

For valuations to return to their regular trend level, the S&P 500 would have to fall about 70%. With stocks selling off since he published the commentary on January 14, it would still have another 68% to go, to around 1,400.

He's correctly called such sell-offs before.

"Having correctly projected the extent of prospective market losses at the 2000 and 2007 extremes (including a March 2000 projection of an 83% loss in technology stocks), we can project that the S&P 500 would have to lose about 70% of its value here – simply to touch the run-of-the-mill valuation norms that have historically been associated with expected long-term nominal returns of about 10% annually," Hussman said.

Hussman's track record — and his views in context

Hussman has company when it comes to his criticism of valuations.

Morgan Stanley's Chief US Equity Strategist Mike Wilson said in a note earlier this week that he expects the S&P 500 to sell off 10-20% in the first half of the year given how high valuations are and how quickly the Fed is moving to tighten.

Bank of America's Savita Subramanian has said she expects the index to post negative returns over the next decade considering valuations. She also said in November that growth expectations were too high, and that this has indicated, based on the past, that the S&P 500 would fall 20% sometime before November 2022.

Others have talked down high valuations, however. Sharmin Mossavar-Rahmani, CIO of Goldman Sachs' Investing Strategy Group, listed in a note earlier this month several reasons why valuations don't pose a threat to stocks this year. One reason was there seems to be little proof that the Shiller CAPE ratio reverts to an established average.

Markets are at an uncertain point. Stocks have undergone their biggest sell-off in over a year, with the S&P 500 now down 8.3% since the start of 2022 as the Fed prepares to tighten and bond yields jump. It's still unclear if the economy has enough juice to propel share prices higher.

Unemployment continues to fall, but job gains have been lackluster. Inflation also continues to rise, meaning the Fed could continue to increase its pace of tightening. Monetary tightening tames economic excess and reduces liquidity in the market.

Hope for more fiscal firepower also waned as Senators failed to approve President Joe Biden's Build Back Better initiative.

#### No internal link – the stock market is not the economy.

Boushey ’20 [Heather; President of The Washington Center for Equitable Growth; https://www.washingtonpost.com/outlook/stock-market-unemployment-disconnect/2020/09/09/087374ca-f306-11ea-bc45-e5d48ab44b9f\_story.html]

The president and his supporters are ignoring what former Federal Reserve chair Janet Yellen forcefully explained recently: “The stock market isn’t the economy. The economy is production and jobs, and there are shortfalls in virtually every sector.” How have stocks remained so resilient in the face of such a severe shock? In part, it’s because of inequality. Stocks are overwhelmingly owned by the top 1 percent, which means speculation has been able to continue even as more people have lost their jobs than at any time since the Great Depression.

What’s more, measures such as the Dow and the S&P 500 reflect only the very largest U.S. companies, which can weather steep slumps in demand in a way that Main Street enterprises can’t — while the relief packages Congress passed this spring were better at shielding large companies from economic harm than smaller ones. Given how troubling the underlying economic data are, the immunity of the markets can’t continue (as this past week’s decline may suggest).

When we compare the stock market with jobs data, the numbers are sobering. Spring’s temporary job losses — caused at first by the shutdowns — are settling into a long-term pattern of economic malaise that could reduce low-income and middle-class families’ earnings for years to come. Although the unemployment rate has dropped from its height of 14.7 percent in April, the Sept. 4 jobs report from the Labor Department’s Bureau of Labor Statistics indicates that losses once thought to be temporary are becoming permanent.

If the stock market doesn’t reflect the health of our economy, what does it measure? Most directly, it indicates the financial health of the richest among us. Overall, about 55 percent of Americans own stocks, according to Gallup, but ownership is heavily skewed toward the wealthy. According to Federal Reserve data, the top 1 percent of U.S. households own 39 percent of equities and mutual fund shares, and the top 10 percent own 83 percent — which leaves workers in the bottom 90 percent owning just 17 percent.

#### Their card is about the squo triggering the link!

Delavigne 21 (Lawrence, Writer for Reuters, “U.S. big tech dominates stock market after monster rally, leaving investors on edge”, 8/28/21 https://www.reuters.com/article/us-usa-markets-faangs-analysis/u-s-big-tech-dominates-stock-market-after-monster-rally-leaving-investors-on-edge-idUSKBN25O0FV)

BOSTON, MA.(Reuters) - U.S. technology giants are increasingly dominating the stock market in the midst of the coronavirus pandemic, even as they draw accusations of unfair business practices, and some investors fear the pump is primed for a tech-fueled sell-off.

The combined value of the S&P 500's five biggest companies - Apple Inc AAPL.O, Amazon.com Inc AMZN.O, Microsoft Corp MSFT.O, Facebook Inc FB.O and Google parent Alphabet Inc GOOGL.O - now stands at more than $7 trillion, accounting for almost 25% of the index's market capitalization. That compares with less than 20% pre-pandemic.

The quintet’s burgeoning share prices reflect a transition to an increasingly technology-driven economy that has been accelerated by the coronavirus outbreak, as doorways fill with Amazon packages, homebound families stream movies and friends commiserate on Facebook.

Yet the companies are drawing opposition. U.S. lawmakers are accusing them of stifling competition, a charge also leveled in recent days against Apple by Epic Games, creator of the popular game Fortnite.

Some investors worry the companies powering this year’s equity rally could become the market’s Achilles’ heel if a legal assault, a shift to undervalued names or a move higher in bond yields dries up appetite for technology stocks.

“People see these companies as winners and investors are willing to pay any price to own them,” said Michael O’Rourke, chief market strategist at JonesTrading. “That’s always a risk.”

LEGAL THREAT

One potential threat comes from an array of investigations and legal actions.

The latest came Monday, when a federal judge temporarily blocked Apple from cutting off all the developer accounts of Epic Games, pending a full hearing on the issue. It was a partial win for Epic, which had called Apple’s rules an anticompetitive abuse of power.

The standoff centers on Apple’s App Store, which forms the centerpiece of a $46.3 billion-per-year services business that has helped buoy the company’s share price.

The decision “is just a first battle of many on the horizon,” said Dan Ives, an analyst at Wedbush Securities. “From a valuation perspective, there’s clearly an overhang around antitrust.”

Wedbush nevertheless raised its target price for Apple on Wednesday to $700 a share in a “bull case” scenario, citing a “once in a decade” opportunity to take advantage of as many as 950 million potential iPhone upgrades worldwide.

Apple shares on Thursday closed at $500.04.

Still, this week’s Apple court decision may be a taste of things to come for technology giants, whose influence has been one of the few issues capable of galvanizing bipartisan interest among lawmakers.

Alphabet, Facebook, Amazon and Apple face a series of federal government probes into allegations that they unfairly defend their market share, with litigation against Alphabet possible later this year.

“These few behemoths dominate their industry and can set the rules of the global economy,” said U.S. Senator Richard Blumenthal, a Democrat who has been outspoken about antitrust issues. “This kind of concentrated power is always dangerous.”

The opposition is a worry for investors hoping the companies will continue delivering robust growth that justifies their valuations.

Amazon said it operates in a “fiercely competitive” market, citing U.S. Census Bureau data that only about 10% of U.S. retail sales occur online.

Apple declined comment. The company previously said it competes vigorously against Samsung Electronics Co Ltd 005930.KS and other Android device makers in the smart phone markets.

Alphabet declined comment. It previously said it competes with Amazon, Microsoft, Comcast Corp CMCSA.O, AT&T Inc T.N and many others.

Facebook and Microsoft had no immediate comment.

INVESTMENT DILEMMA

For some investors, the companies embody a dilemma that has dogged them at various times during the last decade. Many have found that cutting exposure to tech-related shares has limited portfolio performance over the long term.

The Big Five have seen their shares jump 22% or more to record highs this year, with Amazon soaring 86%. By comparison, the median stock performance across the S&P 500 year-to-date is a 4% drop.

The companies’ “increased market share ... provides potentially huge opportunities supporting growth prospects over many years,” said David Polak, equity investment director at $1.7 trillion Capital Group, which owns shares of big technology companies.

Still, some worry that a bad patch in the companies’ widely owned shares could trigger violent swings in broader markets.

Goldman Sachs analysts said in a recent report that the S&P 500 “has never been more dependent on the continued strength of its largest constituents.”

Another risk is a broad-based economic rebound boosting earnings of companies that have underperformed during the pandemic, potentially making their shares more competitive with tech stocks, said Edwin Jager, head of fundamental equities at hedge fund firm DE Shaw & Co, which oversees more than $50 billion.

In addition, a sustained rise in bond yields could make growth stocks less attractive, Jager said. Longer-term Treasury yields hit multi-month highs on Thursday after the Federal Reserve announced a shift in monetary strategy.

A change of sentiment toward big tech could take a comparatively heavier toll on the shares of less profitable technology companies that have rallied alongside the market’s giants.

#### New merger guidelines kill biz con

Feiner 1/18 – Lauren Feiner, tech policy reporter at CNBC, “FTC, DOJ seek to rewrite merger guidelines, signaling a tougher look at large deals,” 1/18/22, https://www.cnbc.com/2022/01/18/ftc-doj-seek-to-rewrite-merger-guidelines.html

Now, with both Kanter and Khan in place, the agencies are embarking on a potential overhaul of existing guidelines for businesses seeking to close deals. It comes amid a surge in mergers that has overwhelmed the under-resourced agencies and led the FTC to take unusual steps, like warning some businesses that it will continue to look into their deals after the period of time the parties are required to wait to close.

Kanter made clear that the two agencies are aligned in their approach.

“Way too much has been made of the purported divergence between the DOJ and the FTC on the treatment of vertical mergers,” Kanter said. “The Antitrust Division shares the FTC’s substantive concerns regarding the vertical merger guidelines. Those guidelines overstate the potential efficiencies of vertical mergers and fail to identify important but relevant theories of harm.”

While ultimately any deals the agencies choose to challenge will be up to a court to decide whether to block or allow to close, increased deal scrutiny has the potential to ward off some deals that businesses simply feel are more trouble than they’re worth. Some deals come with hefty breakup fees should they not close, for example, which some businesses may be more hesitant to take on should the risks to closing on time pile up. Still, some antitrust experts believe businesses are likely to continue to push ahead with deals they feel are truly strategic.

#### No shock – firms want interoperability because of upstream benefits of aggregating user data.

Chinmayi Sharma 19. JD, UVA Law. “Concentrated Digital Markets, Restrictive APIs, and the Fight for Internet Interoperability”. 50 U. Mem. L. Rev. 441. Winter 2019. Lexis. Gendered language [corrected].

The symbiotic relationships fostered by APIs enhances competition in the digital marketplace. Interoperability can have three types of effects on competitive markets:

(1) Direct, in which increased use increases the value of the product itself; (2) indirect, in which increased use leads to development of complementary products, such as applications for a specific platform, which in turn increases the value of the product; and (3) two-sided, in which increased use by one set of users increases the value of a complementary product and vice-versa. 44

Economists widely recognize the formidable hurdle of entering online markets as a feat that "requires either building up strong brand recognition to draw users to an independent site," a resource intensive route, "or using an existing platform," 45 an option made possible by permissive APIs. Innovative products and new startups built off existing platforms use permissive APIs to gain a foothold in a tumultuous market. In turn, the original platforms increase in value and experience an influx of new users. As the saying goes, "rising tides raise all ships."

Interoperability also lowers the barrier of entry to the online marketplace by encouraging the development of complementary platforms. 46At the early stages of the Internet, online platforms were united in their pursuit for active, loyal user bases and collaborated with [\*454] each other to accomplish these goals. 47APIs helped broker these cooperative, pro-competitive strategies. For example, Instagram has witnessed the advent of Instagram celebrities, or individuals who appear to have accumulated overnight fandom teaching people to "be yourself." 48In reality, they are the success stories of third-party apps that allow for planned posts, 49follower analytics, 50and trend-worthy Boomerangs. 51These third-party apps rely on Instagram's API to pull information about users and push information such as curated content. Instagram and these third-party apps mutually benefit from the traffic generated. Security apps have also flourished because platforms like Instagram are reliant on them, 52recognizing platforms sink when users feel unsafe.

The pro-competitive benefits of this "rising tides raise all ships" approach to API design extend beyond encouraging the development of complementary products. Platforms with more universally beneficial services or information can offer access to their APIs for a fee. 53 [\*455] This type of open access to platforms allows for more options to flood the market, theoretically driving out poor quality options that are unable to generate sufficient value to bear the cost of using the API. For example, Google provides its Maps product to developers at a price based on use. 54This allows developers to put Google Maps on their websites and enables users to get directions to a location directly from their app without going to Google. 55The developer pays for this use at a cost proportional to the traffic his or her [their] third-party product generates. 56 This has created an economy of map-based applications that detect potholes, warn of anomalous traffic, and suggest new restaurants, without the new companies having to recreate Google Maps from the ground up. 57

#### No impact.

**Walt 20** – Stephen Walt, International Relations Professor at Harvard University. [Will a Global Depression Trigger Another World War? 5-13-20, https://foreignpolicy.com/2020/05/13/coronavirus-pandemic-depression-economy-world-war/]

On balance, however, I do not think that even the extraordinary economic conditions we are witnessing today are going to have much impact on **the likelihood of war**. Why? First of all, if depressions were a powerful cause of war, there would be **a lot more of the latter**. To take one example, the United States has suffered **40 or more recessions** since the country was founded, yet it has fought **perhaps 20 interstate wars**, most of them **unrelated** to the state of the economy. To paraphrase the economist Paul Samuelson’s famous quip about the stock market, if recessions were a powerful cause of war, they would have predicted “nine out of the last five (or fewer).”

Second, states do not start wars unless they believe they will win a quick and relatively cheap victory. As John Mearsheimer showed in his classic book Conventional Deterrence, national leaders **avoid** war when they are convinced it will be **long**, **bloody**, **costly**, and **uncertain**. To choose war, political leaders have to convince themselves they can either win a quick, cheap, and decisive victory or achieve some limited objective at low cost. Europe went to war in 1914 with each side believing it would win a rapid and easy victory, and Nazi Germany developed the strategy of blitzkrieg in order to subdue its foes as quickly and cheaply as possible. Iraq attacked Iran in 1980 because Saddam believed the Islamic Republic was in disarray and would be easy to defeat, and George W. Bush invaded Iraq in 2003 convinced the war would be short, successful, and pay for itself.

The fact that each of these leaders miscalculated badly does not alter the main point: No matter what a country’s economic condition might be, its leaders will **not** go to war unless they think they can do so **quickly**, **cheaply**, and with **a reasonable probability of success**.

Third, and most important, the primary motivation for most wars is the desire for **security, not economic gain**. For this reason, the odds of war increase when states believe the long-term balance of power may be shifting against them, when they are convinced that adversaries are unalterably hostile and cannot be accommodated, and when they are confident they can reverse the unfavorable trends and establish a secure position if they act now. The historian A.J.P. Taylor once observed that “every war between Great Powers [between 1848 and 1918] … started as **a preventive war**, not as **a war of conquest**,” and that remains true of most wars fought since then.

The bottom line: Economic conditions (i.e., a depression) may affect the broader political environment in which decisions for war or peace are made, but they are **only one** factor among **many** and **rarely the most significant**. Even if the COVID-19 pandemic has large, lasting, and negative effects on the world economy—as seems quite likely—it is **not likely** to affect **the probability of war very much**, especially in the short term.

## AT: Politics

### 2AC – AT: Agenda Politics

#### No PC and nothing passes.

The Guardian 1-21-22 lexis

A year into his term, the Biden administration is in shambles. Joe Manchin and Kyrsten Sinema's support for the legislative filibuster has killed the Democratic voting rights push. Biden's Build Back Better plan, a massive reconciliation package containing initiatives on issues from climate change to childcare is, for now, dead in the water; Manchin and Sinema will determine whether any of its provisions survive in attenuated form. Immigration reform and healthcare reform, both central to Democratic intra-party debates during the 2020 primaries, have fallen entirely off the radar. The US supreme court may overturn Roe v Wade in the coming months. The latest wave of the coronavirus pandemic is still ravaging the country thanks not only to Covid denialists and vaccine skeptics on the right, but an administration that has struggled to keep its pledges on easy access to tests. Abroad, Biden's courageous withdrawal from Afghanistan ?- a kept promise even the president's harshest critics on the left were willing to give him credit for ?- has been marred by economic sanctions that have left 23 million Afghans without enough to eat, and the media is already itching to blame Biden for a Russian invasion of Ukraine. None of this is to say that Biden's first year in office has been bereft of real accomplishments or positive press. But neither the bipartisan Infrastructure Investment and Jobs Act nor the American Rescue Plan ?- the president's two great legislative victories thus far ?- have resonated with the electorate. Biden now holds the second lowest approval rating of any president at this point in their term ?- the record is still held by his predecessor Donald Trump. It's clear across the polls that voters are faulting Biden for inflation and a supposed inattention to the economy. But elevated inflation has been a global phenomenon ?- and here, one of the proximate causes has been the strength of an economic recovery boosted by the American Rescue Plan. Really, Biden's been focused on the economy to the exclusion of nearly everything else on the Democratic agenda ?- his recent pivot to voting rights came only after the collapse of negotiations on the Build Back Better plan which, in its initial form , was easily the among the most ambitious economic packages ever proposed in Washington. Messaging on the plan plainly hasn't worked. The major individual components of Build Back Better are far more popular than the overall package ?- late last year, Politico and Morning Consult found that 47% of registered voters supported it, while increasing funding for affordable housing and expanding Medicaid to cover hearing services registered 65% and 75% support respectively. That's not terribly surprising given that voters have probably heard much more about the intractability of negotiations over the plan in Congress than they have about the plan's substance. While Manchin and Sinema bear most of the blame for this, some commentators have also taken Biden himself to task for overpromising on his legislative agenda and deviating from the centrism he'd been known for. "The president should remember that he won as a moderate and a unifier," the New York Times' Bret Stephens warned on Tuesday. "Biden would do better to move on from defeat and draft legislation with bipartisan appeal." But as these critics know full well, there's extremely little that both parties still agree on, and even modest bipartisan proposals like universal gun background checks have been doomed to failure by the legislative filibuster, which forces the 50-member Democratic caucus to win over not just some, but at least 10 Republicans to pass anything outside of budget reconciliation. Biden's supporters and his centrist critics both have an interest in framing him as a visionary. But he isn't one - the enlarged agenda the centrists disdain has been the fruit of internal party pressure and the sheer scale of our public health and economic crises. There's plenty of evidence that Biden still favors moderation and restraint, especially in the administration's executive actions and, on certain issues, executive inaction ?- there, the White House has spent the year frustrating party activists on issues including student debt, immigration and policing. The notion that American unity was within Biden's capacity to achieve was simply a lie ?- one of many he's told about the state of our country

#### Plan popular.

Lande & Vaheesan ’20 [Robert; Professor of Law @ University of Baltimore School of Law and Sandeep; Legal Director @ Open Markets Institute, JD @ Duke; “Preventing the Curse of Bigness Through Conglomerate Merger Legislation,” *Ariz. St. LJ* 52; AS]

B. Growing Political and Public Concern About Corporate Power

Public recognition of, and concern about, corporate political power is growing. An increasing number of politicians and public figures are focused on the political and social—as well as economic—power of large businesses. This concern is not limited to one portion of the political spectrum. A diverse set of voices and organizations are calling for tackling monopoly and oligopoly power in American society.

Prominent liberal and progressive voices have demanded action to curb the economic and political power of large corporations. Many Democrats have made strengthening anti-merger and anti-monopoly law a key pillar of their agenda.80 As mentioned in the introduction, Senator Amy Klobuchar introduced an anti-merger bill that would establish a presumption of illegality involving mergers that combined more than $5 billion in assets.81 This bill would target corporate size directly, although it features a large exemption for pure conglomerate mergers.82

Senator Bernie Sanders weighed in against the AT&T/Time Warner merger and identified the further agglomeration of power as a principal evil of the combination. 83 He stated this consolidation “represents a gross concentration of power that runs counter to the public good.”84 And in early October 2018, Sanders introduced a bill that would break up the largest financial institutions in the United States and establish a cap on size going forward.85 Senator Sanders also promised to combat the excesses of large firms in the agricultural sector, stating that they are devastating to the small farmer and are a direct cause of mass unemployment, lower wages, massive wealth inequality, and a host of social problems. 86 In his October 2019 Corporate Accountability and Democracy plan, presidential candidate Sanders condemned the present system in which “a small group of ultrawealthy CEOs are making the decisions that increasingly determine our economic, environmental and political future.”87

Senator Elizabeth Warren has offered extensive critiques of corporate power, citing undue political influence as one of the evils of corporate bigness.88 In a keynote address at a conference hosted by the Open Markets Institute in December 2017, Senator Warren warned that “[c]oncentrated market power also translates into concentrated political power—the kind of power that can capture our government. And that’s exactly what’s happening, as President Trump and the Republicans in Congress bow to the power and influence of these industrial giants and financial titans.”89 Warren promised that if elected president, she would break up Amazon, Facebook, and Google.90 She published a detailed plan to break up big tech companies, including the creation of a threshold of $25 billion in annual revenue, above which companies would be subject to restrictions and regulations including mandatory divestitures of certain portions of the company. 91 Facebook allegedly removed Warren’s political ads posted on Facebook that called for breaking up Facebook.92

Warren also called for breaking up some of the biggest farming corporations “so that they not only do not have that kind of economic power, so that they’re wiping out competition, so they’re taking all the profits for themselves . . . but also so that they don’t have that kind of political power.”93

These figures are not outliers but are representative of a growing antimonopoly philosophy among Democrats, liberals, and progressives. Others have echoed the concerns expressed by Senators Klobuchar, Sanders, and Warren. (Former) Representative (and current Minnesota Attorney General) Keith Ellison and sitting Representative Ro Khanna established an Antitrust Caucus and called for antitrust enforcers to look beyond just consumer welfare. 94 Alexandria Ocasio-Cortez, the Democratic representative for New York’s 14th Congressional district, has repeatedly voiced concerns about the political might of large financial institutions.95 Senator Cory Booker has lamented the “incredible concentration of economic and political power in this country” 96 and introduced a bill that would establish a moratorium on corporate mergers in agriculture. 97 Former Colorado governor and former presidential candidate John Hickenlooper has called for a major revival in antimonopoly enforcement.98

Indeed, many Democrats have criticized the political power of banks since at least the 2007–08 financial crisis. In early 2009, just six months after the collapse of Lehman Brothers and the start of the worst financial crisis in eighty years, Senator Richard Durbin famously observed that “the banks— hard to believe in a time when we’re facing a banking crisis that many of the banks created—are still the most powerful lobby on Capitol Hill. And they frankly own the place.”99

Among academics and commentators, Joseph Stiglitz and Paul Krugman have repeatedly sounded the alarm about the pervasive market power problem. Stiglitz has opined that “America has a monopoly problem—and it’s huge” and cited the political power of large corporations as subverting democracy. 100 Krugman has similarly recognized the corrosive political power of large corporations. 101 Former Secretary of Labor, Harvard professor, and political commentator Robert Reich applauded Elizabeth Warren’s announced intention to break up big tech and predicted that breaking them up would allow for more privacy, decentralization of information, and more innovation. 102 Barry Lynn, director of the Open Markets Institute think tank, has sounded the alarm that tech giants like Google and Facebook are a threat to core democratic institutions.103 Zephyr Teachout, a progressive law professor, promised that if elected Attorney General of New York she would explore breaking up Google and Facebook using New York state antitrust laws.104

Conservatives in the United States are generally supportive of, and deferential toward, big business interests. Conservative thinkers have indeed played a major role in weakening the antitrust laws and allowing consolidation and monopolization across the economy.105 In the name of “free markets,” conservative politicians and commentators typically favor policies that support large corporations and place few restrictions on them.106

Nonetheless, more and more conservative voices are starting to raise concerns about corporate power. At present, many of the attacks reflect anger at certain companies, more than corporate power in general. Much of the conservative criticism appears driven by the perceived politics of their executives and employees more than a distrust of large corporations and their power in general. For example, Google is viewed as supportive of the Democratic Party and some liberal causes and it has drawn significant criticism from the right. 107 Whatever the underlying motivation though, skepticism of large corporations, or at least a subset of them, is a growing strand of thought on the right.

At least on the surface, the Trump administration reflects this rising antimonopoly tendency among conservatives. President Trump has repeatedly attacked certain powerful corporations.108 He has criticized the power of Amazon and its founder and chief executive officer, Jeff Bezos. 109 He has also condemned vertical integration in telecommunications—specifically calling out the completed merger between Comcast and NBC Universal and the now-completed merger between AT&T and Time Warner—for threatening to “destroy democracy.”110 His former chief strategist and right-wing icon, Steve Bannon, called for public utility regulation of tech platforms like Facebook and Google.111 Former Attorney General Jeff Sessions called for remedying the perceived liberal bias of these same tech platforms.112

Others on the right have sounded similar fears about corporate power. Senator Ted Cruz, who has been a major recipient of campaign contributions from large corporations,113 has endorsed using the antitrust laws against the power of tech platforms. 114 Senator (and former Representative) Marsha Blackburn has criticized platforms like Google and YouTube for failing to practice viewpoint neutrality and called them out for apparent bias against individuals and organizations expressing conservative opinions. 115 Representative Jim Jordan (R-OH) expressed similar concerns and insinuated that stronger governmental measures should be applied to curb the power of giant social media companies.116 Senator Josh Hawley (R-MO) previously served as Missouri’s attorney general and, during his tenure, opened an antitrust investigation into Google.117

Some conservative media outlets have in recent years been vocal critics of corporate power. Breitbart, the hard-right news outlet formerly run by Steve Bannon, has championed antitrust enforcement against large corporations.118 The American Conservative, a nativist right outlet that supports economic populism, has become a consistent critic of corporate power and supporter of renewed antitrust enforcement.119 Tucker Carlson, a commentator on Fox News, has endorsed public checks on Facebook and Google.120

Conservative talk radio icon Rush Limbaugh described what he saw as a pernicious aspect to corporate ownership of media.121 He stated that large, non-media corporations or their CEOs, for example Jeff Bezos purchasing The Washington Post, acquire media to shape policy and thereby increase their power. 122 Even anti-government conspiracy theorist Alex Jones has called on the Trump administration to break up big technology companies because the supposedly left-leaning Silicon Valley titans are using their massive power to stifle conservative viewpoints.123

With rising awareness of, and opposition to, corporate power, an antimerger law that directly targeted corporate size could attract significant popular and political support. Senator Klobuchar’s bill has already introduced size-based limits on consolidation into the political debate.124 Many liberals and progressives appear ready to embrace this idea.125 On the right, support for such a possibility is much less certain.126 Yet, a growing tide of criticism from conservative figures suggests at least one faction on the right may be open to preventing corporate growth through extremely large mergers and acquisitions.127

#### Winners win – legislative blitz key to success

Waldman 20

(Paul, <https://www.washingtonpost.com/opinions/2020/12/02/joe-biden-has-move-fast/>, 12-2)

For every day of his presidency, Joe Biden will be restrained and bedeviled by Republican power. Republicans will probably retain control of the Senate, and even if they don’t, they will do everything they can to sabotage Biden’s agenda. They will obstruct and delay, whether it’s on legislation, appointments or anything else, to make sure Biden has as little as possible to show for his time in office. Unfortunately, Biden is naturally inclined to respond in just the way Republicans are counting on. He’s a compromiser, a dealmaker — a man who wants to believe that there are bipartisan solutions to be found. That’s not to say that Biden is naive about what he faces, just that he will always be vulnerable to some of the same mistakes that President Barack Obama made early in his tenure, mistakes that come from thinking Republicans just might be operating in good faith and with the proper persuasion they can be dealt with. But a realization of the full implications of our current polarization may just prove liberating for the new administration. There are at least some encouraging signs that Biden understands the situation; here’s a report from Politico on how his transition is thinking about personnel: Concerned about Republicans slow-walking confirmation hearings for Cabinet appointees and hollowed-out federal agencies, Biden and his aides are eager to place mid- to lower-level officials across the federal government, particularly in national security roles, to ensure his administration can begin to enact his agenda immediately, according to three people familiar with the situation. Slow-walking will absolutely be the Republican strategy, on both appointments and legislation. They won’t come out and say they’re going to stonewall every appointee and refuse to allow any legislation to pass; instead they’ll say that they just want to make sure Biden doesn’t stock his administration with radical leftists and propose far-out socialist laws. Send us the nominees and the bills, and we’ll consider them. It’ll just take some time. Weeks will then stretch into months, and the Biden agenda will languish. They’ve done it before — Obama himself describes how they endlessly dragged out negotiations on the Affordable Care Act by claiming they might support it — and they’ll do it again. That’s the Republican plan. The first step to getting around it is to understand that the public won’t blame gridlock on the ones who are causing it. They’ll just see a bunch of bickering in Washington with nothing getting done, and Biden will be the one who takes the blame. Once you realize that the public is neither aware of nor particularly concerned about process questions, you can stop worrying about whether Republicans will squawk at this appointment or that executive order — because they’ll squawk no matter what you do. If it’s a good idea and you think the results will be good, then just do it. As quickly and comprehensively as possible. As David Roberts of Vox observes: In 2009, Obama and his aides made the mistake of thinking that their major initiatives had to be rolled out one at a time in sequence, because he had a finite store of “political capital” that had to be spent carefully. But political capital is not something that exists apart from any particular issue; it isn’t a special sauce that has to be poured on a policy in order to make it palatable. And with the parties as polarized and unified as they are, political capital has become all but meaningless. There may have been a time when a popular president possessed so much capital that a senator from the opposition party would feel compelled to support him on part of that president’s agenda, but that time is long gone. There is no account Biden can draw on to turn Republican “no” votes into “yes.” So setting up a series of high-profile policy battles may be the opposite of what Biden should do. The unfortunate fact is that he may not have the opportunity to do much in the way of big legislation on health care or climate change or anything else, and if he has only executive power to work with, it makes it all the more urgent to move quickly. Which means getting staff in place immediately and then unleashing them. The Revolving Door Project argues that Biden should give as much authority as possible to the agencies to let them dismantle their particular corners of the Trump legacy on their own, because the task “simply will not happen if approached sequentially or micromanaged” by a White House staff with limited bandwidth. That means moving on every policy area all at once. There’s nothing to be gained by putting off any part of Biden’s agenda. Whatever he can do given the limits of his power, he should do as soon as possible, in a flood of policymaking. Even if Democrats win both Georgia races and control the Senate, Biden should acknowledge that he likely has two years until the 2022 midterm elections to pass whatever legislation he can. Not only will Democrats probably lose one or both houses in the inevitable backlash (as happens to most presidents in their first midterm), the only possible chance at forestalling that result is to get results, as many as possible, that he can show the voters. Republicans will complain that Biden is being partisan, uncompromising, taking a “my way or the highway” approach. It will be a strategy to convince everyone of the lie that Biden and Democrats might be able to find some way of winning them over, when in fact they’ll be implementing a strategy of total opposition. If Biden follows them on that fruitless quest, he’ll be running in circles while crucial time passes and nothing gets done. The only option for him is to decide not to care about Republican whining and do what he got elected to do with all haste. The alternative is failure.

#### Climate provisions have been gutted

Hawkins 1-21-22

(Howie, 2020 green party presidential candidate, Eurasia Review, lexis)

The only bipartisan "success" is a progressive nightmare. It is the passage of the military spending bill in which Congress gave the Pentagon $25 billion more than Biden asked for. Instead of emphasizing diplomacy and economic assistance to reduce conflicts around the world, the Biden administration with bipartisan support is saber-rattling, sanctioning, and escalating tensions with China, Russia, and a host of smaller countries that refuse to kowtow to U.S. dictates. Meanwhile, progressive domestic priorities have been killed. The Green New Deal is off the table. The ever-shrinking Build Back Better bill's far more limited climate program is on life-support at best. Instead of declaring a climate emergency and taking available executive actions for climate protection, Biden is permitting oil and gas drilling and pipelines at a faster rate than Donald Trump.

## AT: FTC

### 2AC – AT: FTC Privacy DA

#### Clarity – aff sets clear, certain norms for industry without litigation costs. Rulemaking frees resources.

Chopra & Khan ’20 [Rohit; Commissioner @ Federal Trade Commission; and Lina; Chairperson @ Federal Trade Commission, JD @ Yale Law School; “The Case for “Unfair Methods of Competition” Rulemaking,” *The University of Chicago Law Review* *87*(2), p. 357-380; AS]

Second, establishing rules could help relieve antitrust enforcement of steep costs and prolonged trials. Identifying ex ante what types of conduct constitute “unfair method[s] of competition” would obviate the need to establish the same exclusively through ex post, case-by-case adjudication. Targeting conduct through rulemaking, rather than adjudication, would likely lessen the burden of expert fees or protracted litigation, potentially saving significant resources on a present-value basis.47

#### FTC consumer-oriented privacy action presumes transparency and consumer choice are sufficient. Wrong.

Terrell McSweeny 18. Former FTC Commissioner. “PSYCHOGRAPHICS, PREDICTIVE ANALYTICS, ARTIFICIAL INTELLIGENCE, & BOTS: IS THE FTC KEEPING PACE?”. 2 Geo. L. Tech. Rev. 514. 2018. Lexis.

Traditionally, privacy concerns focused on providing consumers with notice and choice when personal information is collected along with some explanation of how it will be used and by whom. 15 However, this framework does not address the use of personal information by third parties and data brokers who have no direct consumer-facing relationship, 16 nor does it adequately reach unanticipated uses of data as inputs for complex algorithms or by the increasingly powerful platforms that mediate most consumers' Internet experience. Recent revelations regarding the potential role that consumer data played in training sophisticated targeting tools used to manipulate voters underscores the weakness of consumers to adequately anticipate the consequences and risks of sharing data at the time they are using a service. 17 In fact, there is very little evidence that consumers understand how their data are being used to curate their online experience. 18 And they may be manipulated by the choices they are offered. 19 Moreover, there is little incentive for companies to adopt more privacy- and security-protective designs. 20 As Woodrow Hartzog points out, "The value of personal data has led most companies to adopt a 'collect first, ask questions later' mentality. This mentality incentivizes design choices that marginalize users' interests in opacity and controls over how their data is collected and used." 21

Against this backdrop, the FTC advocated for more consumer-oriented policies in design. But repeated failures by Congress to strengthen the agency have left it with little choice but to continue to pursue an incremental, case-by-case approach focused on protecting consumer access to correct, non-deceptive information about data collection and use. 22 For example, in August 2017, Uber Technologies, Inc., agreed to settle charges that the company falsely claimed that it strictly prohibited its own employees from accessing rider data and monitored internal access to such information. 23 Further, the FTC alleged that the company deceptively claimed that it provided reasonable security for rider and driver's personal information when it actually failed to do so; as a result of the company's failures, a file containing personal information pertaining to more than 100,000 Uber drivers was breached. 24 In some cases, the FTC has also used its deception authority to police the design of privacy settings and options. For example, in February 2018, the FTC announced a settlement resolving charges that Venmo, a peer-to-peer payment service now owned by PayPal, Inc., among other things, misled consumers about the extent to which transactions on the platform could be made private. 25 On the platform, users had to navigate multiple settings to prevent participants in their transactions from overriding their choice to make a transaction private. 26 This case builds on other deception cases before it in which the FTC considered whether the design of consumer interfaces were misleading. For example, in a case involving Snapchat, the FTC alleged that consumers were misled into believing messages were ephemeral and would "disappear forever" even though they did not. 27 And, in its first Internet of Things (IoT)-related privacy case, the FTC alleged that VIZIO's "Smarty Interactivity" interface on its smart TVs did not adequately disclose that consumers' precise television viewing activities would be collected and shared with third parties. 28

The FTC has also used its authority to protect consumers from unfair practices in the privacy and security context, though it has used that authority more sparingly. The FTC's first unfairness privacy case was a case in which the company, Gateway, allegedly retroactively changed its privacy policy. Consumers were only offered an opt-out when their data gathered under one set of terms (a promise not to sell it to third parties) was sold to third parties. 29 The FTC made similar allegations against Facebook in a subsequent case, 30 underscoring that a company cannot collect information for a particular stated purpose and unilaterally decide later to use it for a broader purpose without first obtaining affirmative consumer consent. In the privacy and data security context, the FTC has alleged unfairness in the following situations: collecting and using information obtained through a client's website in knowing violation of that client's privacy policy; 31 selling confidential phone records without consent; 32 designing software causing consumers to unwittingly share files publicly; 33 defeating asserted privacy choices by consumers; 34 installing spyware or man-in-the-middle software without notification or consent; 35 selling information to businesses using it for fraud; 36 unfair tracking (collecting and sharing sensitive data without consumers' consent); 37 revenge porn; 38 and failure to maintain reasonable security practices. 39

The FTC has pursued approximately 40 privacy and security cases in the last decade using its unfairness authority--the majority involving unreasonable data security practices. 40 However, a close examination of these cases reveals that the FTC uses its unfairness authority cautiously in data privacy and security cases. While FTC enforcement can help police the most pernicious and deceptive practices in the marketplace, the agency must develop a clear theory of substantial likelihood of harm to consumers that is not outweighed by any countervailing benefits when using its unfairness authority. 41 The harm requirement imposes some limitations around how far the FTC can pursue aggressive uses of sensitive data. 42 Harms--particularly data harms--are "often remote, diffuse, risk oriented, or difficult to ascertain." 43 As Chris Hoofnagle explains, "So far, the thin edge of the unfairness wedge has been used to police noxious problems such as cyber exploitation, also termed revenge pornography, and spyware." 44 For the most part, the FTC continues to rely primarily on its deception authority when policing consumer privacy and the use of consumer data.

The FTC itself has noted that, especially in light of consumers' ever-expanding connectedness, consumers need additional protections. The agency has repeatedly called for baseline privacy and data security legislation that would be flexible and technology-neutral but would also require breach notification and provide clear rules of the road for companies regarding when they must provide privacy notices to consumers and offer choices about data collection and use. 45

In its 2014 report on data brokers, the FTC highlighted the complex ecosystem of data broker firms, which not only collect data from numerous sources--largely without consumers' knowledge--but also provides data to each other and make inferences about consumers. The edata they collect includes sensitive categories pertaining to income level, ethnicity, or health conditions. 46 The FTC enforces the Fair Credit Report Act ("FCRA"), which covers the use of consumer data for decisions about credit, employment, housing, and similar eligibility determinations. 47 But the FCRA "generally does not cover the sale of consumer data for marketing and other purposes." 48 The FTC identified potential risks to consumers from some of the uses of consumer data and profiles by data brokers. For example, the report noted that storing massive amounts of data may expose consumers to security risks if that information is breached and that risk mitigation and scoring products, i.e., products used to verify consumers' identities or detect fraud, may be used to deny consumers the ability to complete a transaction. 49 To address that gap, the FTC recommended Congress enact legislation that would require data brokers selling marketing products to give consumers access to their data at a reasonable level of detail and to provide the ability to opt out of having it shared for marketing purposes. 50 The agency further recommended that Congress enact transparency obligations on data brokers who sell risk-mitigation products and impose requirements on data brokers selling people search products that would allow consumers to access and suppress their information. 51

The FTC's 2016 report on Big Data examined the benefits and risks of big data analytics, among them the potential to harm consumers, including underserved and low-income populations. 52 The report discussed several laws that could be potentially applicable to the use of big data--including not just the FTC Act but also the FCRA, equal opportunity laws such as the Equal Credit Opportunity Act and Fair Housing Act, and civil rights laws. However, the report noted that determining which law(s) might apply is a fact-specific determination and highlighted the potential for gaps in the enforcement regime.

Congress has shown its willingness to provide the FTC with additional enforcement authority to cabin harmful uses of automated technology or unreasonable limitations on users. Namely, Congress gave the FTC the responsibility to enforce the Consumer Review Fairness Act 53 and the Better Online Ticket Sales ("BOTS") Act, 54 both of which were enacted in late 2016. These laws ban the use of contract provisions that prohibit or penalize consumers who provide honest reviews, and the use of ticket-buying "bots," respectively.

The FTC's enforcement actions are an important basis for the privacy best practices the FTC has endorsed, including: privacy by design, where firms promote consumer privacy throughout their organizations and at every stage of the development of their products and services; 55 security by design; 56 transparency and choice; 57 data minimization; 58 and enhanced protection for sensitive data. 59

But in the data-driven digital economy, the incentive to gather as much data as possible is powerful and often conflicts with these best practices. As Woodrow Hartzog explains, "data is fuel for industry . . . . Manipulative and leaky design can net companies more data. Add to the mix the fact that pernicious design is difficult for people to recognize--it is often opaque and sometimes completely invisible. This is a recipe for exploitation." 60

II. FTC 2.0: CONSUMER PROTECTION FOR THE DIGITAL AGE

The growing power of the technology we are all using in our daily lives--which now includes many more connected and increasingly autonomous things--raises the question of whether consumer protection agencies like the FTC can adapt quickly enough to keep pace with it. As discussed above, the FTC's data protection framework continues to rely heavily on its deception authority and, therefore, the principle that sufficient transparency enables consumers to make informed choices about when to share their data. The idea that privacy controls such as notice and choice are adequate to protect consumers in the current environment has been described as quaint. 61 The FTC has used its unfairness authority to police some data practices, though cautiously and incrementally. Technology is becoming both more powerful and more ingrained in all aspects of our life. Adequately protecting consumers requires a more proactive approach.

One solution is for the FTC to use its unfairness authority more aggressively, and perhaps even its Magnuson-Moss rulemaking authority, to push industry norms toward the best practices that the FTC itself articulates. But this may be easier said than done. Although FTC has used its unfairness authority relatively cautiously, it is constantly called on to defend its use of the authority when it does use it. The FTC won a critical case protecting the use of its unfairness authority in data security cases in Wyndham, but the agency's authority has continued to be the subject of litigation in D-Link and LabMD. 62 In a recent ruling in the LabMD case the 11th Circuit did not directly address the scope of the FTC's unfairness authority -- but nevertheless vacated the FTC's order. 63 In a somewhat unusual move, the court ruled on the appropriateness of the relief sought by the FTC even though the central dispute in the case was over the FTC's use of its unfairness authority. The court concluded that the FTC's order requiring LabMD to implement a reasonable security program was not sufficiently specific. 64 The implications of this decision on future FTC data security cases and efforts by the FTC to enforce existing orders are unclear, but it is likely the decision will result in new challenges to the FTC's authority, particularly in data security cases. In addition, the agency has, historically, run into significant resistance from industry and Congress when it is perceived as pushing the bounds of its authority to expand enforcement efforts innovatively. For example, when the agency attempted to regulate the advertising of sugary foods to children in the late 1970s--actions that resulted in advertisers, broadcasters, and the food industry aligning against the FTC, and in the Washington Post labeling the agency the "National Nanny" 65--Congress stepped in to limit the Commission's authority. The hangover from the so-called "Kidvid" controversy remains a reminder to the FTC today that pushing too aggressively can result in painful consequences.

#### No spillover between consumer protection and competition bureaus.

Spencer Weber Waller 5, Professor of Law and Director of the Institute for Consumer Antitrust Studies at the Loyola University Chicago School of Law, “In Search of Economic Justice: Considering Competition and Consumer Protection Law”, Loyola University Chicago Law Journal, 36 Loy. U. Chi. L.J. 631, Winter 2005, Lexis

Despite this more comprehensive mission, the FTC is organized in a way that tends to emphasize the separation of these fields, rather than the common elements of the agency's mission. The FTC has a Bureau of Competition and a separate Bureau of Consumer Protection, with a Bureau of Economics to support the work of both endeavors. The Bureau of Competition ("BC") primarily engages in the investigation and enforcement of mergers and complex civil antitrust cases with a recent emphasis on intellectual property and health care issues. The Bureau of Consumer Protection ("BCP") primarily investigates and challenges outright fraudulent conduct. 9 The FTC website details recent BCP activity involving Internet sales, telemarketing, false health and fitness claims, identity theft and similar issues. 10 These are all very different issues from the day-to-day focus of the competition staff. This basic split is further mirrored in the Bureau of Economics ("BE"), where the staff tends to specialize in either competition or consumer protection. Any crossover of staff and cooperation occurs primarily in competition advocacy before legislatures or regulatory agencies, and not in case selection and investigation.

### 2AC – Omicron AO

#### API interoperability key to medical innovation – solves COVID response surge capacity and device innovation.

MTE, MedTech Europe is the European trade association for the medical technology industry, 10-06-21 “Interoperability standards in digital health” https://www.cocir.org/fileadmin/Publications\_2021/2021-10\_COCIR\_-\_MTE\_Interoperability\_standards\_in\_digital\_health.pdf

Lack of interoperability is a critical barrier to the digital transformation of healthcare. There is broad agreement that digitalisation in the healthcare sector has enormous potential if data is freed from its silos and data flows, data sharing, and advanced use of data are enabled. Some tangible examples of this potential include: • Ready-to-use patient-centric information can enable advanced clinical decision support in diagnostics and treatment. • Care coordination can greatly benefit from sharing data in uniform formats that all players can interpret. • Patients’ access to their own health data can empower them to actively pursue a healthy life and manage their condition. • Operational data can help smoothen workflow and enable outcomes-driven improvement cycles. Thus, interoperability will help deliver better care at a lower cost, leading to higher quality patient outcomes and the support of carers. Achieving these goals requires all relevant data to be accessible without barriers and uniformly interpretable. A recent example from the pandemic was the need to share all information of COVID-19 patient

s who were moved between hospitals in the Netherlands to balance the capacity of intensive care units (ICUs). A portal was set up using digital health standards to assist these efforts, which provided invaluable support to doctors and healthcare workers during the peak time of hospitalisations. Some fear that sharing interoperable and readily interpretable data makes this data more vulnerable to cybersecurity threats and privacy breaches. However, standards and technical specifications are capable of both ensuring data safety and security, and of delivering audit and control measures for access and control. They can also provide consent management solutions where needed. Similarly, there are concerns that standards inhibit innovation. We believe instead that interoperability is an enabler of innovation: it can create an ecosystem where different players compete based on the strength of their products and features. Such an ecosystem lowers the barrier to entry, especially for innovators and small and medium-sized companies.4

#### Variant response surge capacity solves multiple nuclear wars.

RECNA, Research Center for Nuclear Weapons Abolition, Nagasaki University (RECNA), Asia Pacific Leadership Network (APLN) & Nautilus Institute (2021), ’21, Pandemic Futures and Nuclear Weapon Risks: The Nagasaki 75th Anniversary pandemic-nuclear nexus scenarios final report, Journal for Peace and Nuclear Disarmament, 4:sup1, 6-39, DOI: 10.1080/25751654.2021.1890867

The Challenge: Multiple Existential Threats

The relationship between pandemics and war is as long as human history. Past pandemics have set the scene for wars by weakening societies, undermining resilience, and exacerbating civil and inter-state conflict. Other disease outbreaks have erupted during wars, in part due to the appalling public health and battlefield conditions resulting from war, in turn sowing the seeds for new conflicts. In the post-Cold War era, pandemics have spread with unprecedented speed due to increased mobility created by globalization, especially between urbanized areas. Although there are positive signs that scientific advances and rapid innovation can help us manage pandemics, it is likely that deadly infectious viruses will be a challenge for years to come. The COVID-19 is the most demonic pandemic threat in modern history. It has erupted at a juncture of other existential global threats, most importantly, accelerating climate change and resurgent nuclear threat-making. The most important issue, therefore, is how the coronavirus (and future pandemics) will increase or decrease the risks associated with these twin threats, climate change effects, and the next use of nuclear weapons in war.5

Today, the nine nuclear weapons arsenals not only can annihilate hundreds of cities, but also cause nuclear winter and mass starvation of a billion or more people, if not the entire human species. Concurrently, climate change is enveloping the planet with more frequent and intense storms, accelerating sea level rise, and advancing rapid ecological change, expressed in unprecedented forest fires across the world. Already stretched to a breaking point in many countries, the current pandemic may overcome resilience to the point of near or actual collapse of social, economic, and political order. In this extraordinary moment, it is timely to reflect on the existence and possible uses of weapons of mass destruction under pandemic conditions – most importantly, nuclear weapons, but also chemical and biological weapons. Moments of extreme crisis and vulnerability can prompt aggressive and counterintuitive actions that in turn may destabilize already precariously balanced threat systems, underpinned by conventional and nuclear weapons, as well as the threat of weaponized chemical and biological technologies. Consequently, the risk of the use of weapons of mass destruction (WMD), especially nuclear weapons, increases at such times, possibly sharply. The COVID-19 pandemic is clearly driving massive, rapid, and unpredictable changes that will redefine every aspect of the human condition, including WMD – just as the world wars of the first half of the 20th century led to a revolution in international affairs and entirely new ways of organizing societies, economies, and international relations, in part based on nuclear weapons and their threatened use. In a world reshaped by pandemics, nuclear weapons – as well as correlated non-nuclear WMD, nuclear alliances, “deterrence” doctrines, operational and declaratory policies, nuclear extended deterrence, organizational practices, and the existential risks posed by retaining these capabilities – are all up for redefinition.

A pandemic has potential to destabilize a nuclear-prone conflict by incapacitating the supreme nuclear commander or commanders who have to issue nuclear strike orders, creating uncertainty as to who is in charge, how to handle nuclear mistakes (such as errors, accidents, technological failures, and entanglement with conventional operations gone awry), and opening a brief opportunity for a first strike at a time when the COVIDinfected state may not be able to retaliate efficiently – or at all – due to leadership confusion. In some nuclear-laden conflicts, a state might use a pandemic as a cover for political or military provocations in the belief that the adversary is distracted and partly disabled by the pandemic, increasing the risk of war in a nuclear-prone conflict. At the same time, a pandemic may lead nuclear armed states to increase the isolation and sanctions

against a nuclear adversary, making it even harder to stop the spread of the disease, in turn creating a pandemic reservoir and transmission risk back to the nuclear armed state or its allies.

In principle, the common threat of the pandemic might induce nuclear-armed states to reduce the tension in a nuclear-prone conflict and thereby the risk of nuclear war. It may cause nuclear adversaries or their umbrella states to seek to resolve conflicts in a cooperative and collaborative manner by creating habits of communication, engagement, and mutual learning that come into play in the nuclear-military sphere. For example, militaries may cooperate to control pandemic transmission, including by working together against criminal-terrorist non-state actors that are trafficking people or by joining forces to ensure that a new pathogen is not developed as a bioweapon.

To date, however, the COVID-19 pandemic has increased the isolation of some nuclear-armed states and provided a textbook case of the failure of states to cooperate to overcome the pandemic. Borders have slammed shut, trade shut down, and budgets blown out, creating enormous pressure to focus on immediate domestic priorities. Foreign policies have become markedly more nationalistic. Dependence on nuclear weapons may increase as states seek to buttress a global re-spatialization6 of all dimensions of human interaction at all levels to manage pandemics. The effect of nuclear threats on leaders may make it less likely – or even impossible – to achieve the kind of concert at a global level needed to respond to and administer an effective vaccine, making it harder and even impossible to revert to pre-pandemic international relations. The result is that some states may proliferate their own nuclear weapons, further reinforcing the spiral of conflicts contained by nuclear threat, with cascading effects on the risk of nuclear war.

Developing Pandemic-nuclear Nexus Scenarios

How might the COVID-19 pandemic (and future pandemics) create new opportunities or challenges for governments, civil society, and market actors to reduce nuclear risk and resume nuclear disarmament? And how might those challenges and opportunities emerge in Northeast Asia, in particular?

In the face of so much uncertainty, a powerful way to obtain navigational guidance and to develop robust strategies is to conduct scenario-based dialogues. Scenarios may be underpinned by analysis, but they rest primarily on eliciting diverse insights through a dialogic process (typically a workshop) that explores the multiple, powerful drivers of complex problems and possible strategies to resolve such problems. Rather than predict any specific future, the goal of developing scenarios is to prepare individuals and organizations for radically divergent, possible futures.

A scenario is a tool for ordering one’s perceptions about alternative future environments in which today’s decisions might play out. In practice, scenarios resemble a set of stories built around carefully constructed plots. These stories can express multiple perspectives on complex events and give multiple meaning to these events. The development of such scenarios was the primary goal of the Nagasaki 75th Anniversary Pandemic-Nuclear Nexus Scenarios workshop. Through this project, we wanted to develop an analytic understanding of the interrelated nature of nuclear weapons and global pandemics. We wanted to explore the potential levers and pathways to influence the future. And we wanted to find concrete strategies to reduce the risk of nuclear war and resume disarmament, particularly novel approaches that could engage both state and non-state actors.

Shaping the Focal Question

At the outset of the Pandemic-Nuclear Nexus Scenarios Project, the organizers framed a focal question that would guide the development of the scenarios: What are the opportunities driven by global pandemics for Northeast Asian governments, civil society, and market actors to reduce nuclear risk and resume nuclear disarmament? This focal question has twin normative values in it: (a) how to reduce the risk of nuclear war arising from the pandemic and (b) how to resume nuclear disarmament under pandemic conditions. Measures to realize (a) might be in opposition to measures to realize (b). They might be independent, or they might be complementary. Discovering opportunities where the measures are synergistic has the highest value; avoiding contradictory measures might be critically important. But forced to choose, we likely must go first and foremost with measures to reduce the risk of nuclear war, as disarmament becomes moot and improbable if nuclear war occurs.

As in any scenarios event, we sought to identify robust strategies that could work across the divergent, uncertainty-based scenarios and move each story line toward a higher probability of realizing these two strategic goals. We were particularly interested in prompting discussion on the role of cities as potential new players with regard to nuclear war risk reduction. The challenges of “global nuclear governance” and nuclear disarmament have traditionally been dominated by great powers (that is, nation-states).

But given their evident and emerging leading role as “first responders” to the existential threats of the coronavirus pandemic and climate change effects, we wanted to see how cities’ capacity and experience may be useful in relation to nuclear risk and disarmament. The focal question also centers on Northeast Asia, a region that was the site of the first use of nuclear weapons (in Hiroshima and Nagasaki), and that today has thousands of cities, as well as potential for conflict on multiple fronts, including between China and Taiwan, China and the United States, and the ROK and DPRK. Northeast Asia sits at the nexus of relations between the world’s three largest nuclear armed states (China, Russia, and the United States), and it is home to the DPRK, a rapidly developing new nucleararmed state.

Identifying Critical Uncertainties

In the first phase of the scenario development process, participants were divided into four groups where they brainstormed a broad range of “critical uncertainties,” variables whose outcomes are both undetermined and important for shaping the near- and long-term future. Participants were asked to consider uncertainties based on different categories (social, technological, environmental, economic, political, military, and epidemiological). Through their initial brainstorm, groups developed a list of dozens of critical uncertainties (see Appendix 2). They were asked to narrow down their lists of uncertainties to those most likely to play a major role in shaping the pandemic-nuclear nexus. They then considered how these uncertainties could unfold along an axis with two diverging outcomes. Following are a few of the drivers participants identified: How might a distanced society affect nuclear strategies? On one end of the spectrum, for example, re-spatialization could lead to greater cooperation as people work across borders, physical and virtual. On the other end, the need to maintain distance could lead to shifts in militaries’ offshore strategies for deterrence/military projection of might and could potentially lead to the increased use of non-conventional (including nuclear) weapons.

How will changes in budgets affect dis/armament? The economic recession caused by the pandemic could lead to drastic cuts in funding for the military, including for nuclear weapons. On the other hand, countries’ economic struggles could lead them to increasingly favor investing in nuclear, as opposed to higher-cost conventional weapons.

How might pandemics affect global cooperation? The COVID-19 pandemic could serve as an impetus for increased international cooperation and the sharing of global information, which could extend to other areas, including nuclear. On the other hand, questions over the origin of the virus, border closures, and “vaccine competition” could lead to a rise in tensions.

How will information sharing evolve? The proliferation of misinformation through diverse media channels (including social media) could erode progress in tackling shared global challenges. Or new systems could emerge that help ensure that information is shared with a high level of transparency and be verified as accurate.

Will inequality increase or decrease? Following the economic recession caused by shutdowns aimed at limiting the pandemic, the gap could continue to grow between (and within) societies regarding economic well-being and human health. Or the pandemic may usher in a more redistributive economic system that leads to a decrease in inequality.

How will governments manage simultaneous or prolonged threats? Governments may struggle to contend with concurrent challenges of pandemics, climate change, food insecurity, and terrorism, leaving them to ignore the nuclear issue. Or they may find ways to collaborate, reallocating budgets toward effective solutions and developing international agreements that could later pave the way for disarmament.

What is the effect of technology on nuclear risk and disarmament? Changes in technology could have a major influence on nuclear risk. New risks could emerge from the proliferation of artificial intelligence systems (including in nuclear command, control, and communication systems), deep fakes, drones, and hackers intercepting and altering messages. On the other hand, technology could enhance capacity for early warning systems, increase monitoring of military movement, and improve communication systems.

# 1AR

## CP

### XT 2AC 5: Patent Preemption

#### Gets preempted.

Richard Samp 14. Chief Counsel, Washington Legal Foundation. JD from M\*chigan. “The Role of State Antitrust Law in the Aftermath of Actavis”. 15 Minn. J.L. Sci. & Tech. 149. Winter 2014. Lexis, accessed thru Dartmouth.

This paper concludes that state antitrust liability can be imposed on parties to patent settlements so long as the state action "parallels" federal antitrust law. On the other hand, state law is preempted to the extent that it seeks to impose antitrust liability for conduct not deemed actionable under federal law; under such circumstances, state-law liability would be impliedly preempted because it would stand as an obstacle to accomplishing the purposes of federal patent law. The scope of preemption likely would include any effort by states to apply a stricter standard of review to reverse payment patent settlements--either a "quick look" review accompanied by a presumption of illegality, or a declaration that such settlements are "per se" illegal.

Part I of this paper summarizes federal preemption law as it has been applied to state antitrust actions. It explains that the U.S. Supreme Court has never interpreted federal antitrust law as imposing a limit on states' authority to regulate business practices deemed by states to have anticompetitive effects. Nonetheless, federal courts have not hesitated to rule that state antitrust law is preempted by federal law when they determine that state law comes into conflict with some other federal statute. In this instance, the relevant "other federal statute" is federal patent law.

#### Interoperability falls out of scope of federal antitrust law – nascence.

Chinmayi Sharma 19. JD, UVA Law. “Concentrated Digital Markets, Restrictive APIs, and the Fight for Internet Interoperability”. 50 U. Mem. L. Rev. 441. Winter 2019. Lexis. Gendered language [corrected].

The Commission adjudicates cases involving competition harm and cases involving consumer protection, 178and API regulation can comfortably fit within each of the available enforcement avenues. First, restrictive APIs are especially pernicious examples of incipient anticompetitive behavior that often fall out of the reach of Sherman and [\*481] Clayton challenges due to their nascence. There is already precedence for Section 5 activity in this space with the cases brought against Silicon Graphics and Intel challenging their breaks in technological interoperability. 179Second, the FTC has already relied on novel consumer protection theories to bring privacy cases, arguing that insufficient data security violates accepted norms and consumer expectations. 180 Competition harm and consumer protection cases are distinguished based on the identity of the victim whether the challenged activity predominantly injures competitors or end-users. 181But the Agency and courts have acknowledged that the line between the two has blurred in modern cases, both because of a renewed legislative emphasis on consumer interests 182and the recognition that the impact on competitors can be transferred downstream to directly injure consumers. 183

#### Patent defenses are extensive and their existence deters market entry.

EFF 13. “Patents”. Electronic Frontier Foundation. Feb 28 2018. https://www.eff.org/deeplinks/2013/02/deep-dive-software-patents-and-rise-patent-trolls

Beloved podcasts like the Adam Carolla Show and HowStuffWorks are under attack. They and other podcasts are getting sued for, well, podcasting. And they're not the only victims—developers are being targeted for building mobile apps, and offices around the nation are being attacked for using ordinary networked scanners. These creators are only a few of the thousands of victims of one of the biggest threats to innovation: patent trolls.

Patent trolls are entities that don't create products themselves, but instead buy patents and make money from lawsuits. Trolls often make broad claims of infringement based on patents of questionable validity, and most defendants choose to settle because of the outrageous nature of patent litigation. It is risky and expensive—and trolls offer settlement amounts that, although incredibly burdensome, are cheaper than a lawsuit, which can often cost well into the millions of dollars.

This week, Congress made huge strides with the introduction of the SHIELD Act—a bill that, if passed, would become the first legislation to directly address the problem of patent trolls. The Saving High-Tech Innovators from Egregious Legal Disputes (SHIELD) Act, introduced by Reps. Peter DeFazio (D-OR) and Jason Chaffetz (R-UT) in the House, directly targets the trolls' incentive model. The bill creates a system where if a troll loses in court because the patent is found to be invalid or there is no infringement, then it pays the other side’s costs and legal fees.

This bill marks an important step toward ending the patent troll problem for good. We encourage you to tell your lawmakers to support the SHIELD Act. Read on and discover how patent trolls became such a problem.

The Flood of Software Patents

Software patents are relatively new phenomena; the software industry grew from nothing into a mature business without any need for patent protection. For decades, the Patent & Trademark Office (PTO) was generally reluctant to issue patents that covered software. But in the mid-1990s, the Federal Circuit (the court that hears patent appeals) first held that an algorithm implemented in a general-purpose computer could be patentable.

This opened the floodgates for software patents. The PTO now issues about 40,000 software patents a year. That's more than 100 per day. Unfortunately, the quality of these patents has tended to be very low. On average, examiners spend only 18 hours reviewing each patent application. This is not nearly enough time to properly check if the invention is new. To make things worse, the claims in software patents (this is the language that is supposed to mark the boundaries of the invention) are often vague and overbroad—giving unscrupulous patent owners the ability to claim that their patent covers a wide range of technology.

The Rise of The Patent Troll

The rise in such broad software patents created an environment ripe for patent trolling to surge in popularity. Since 2005, the number of patent troll lawsuits per year has skyrocketed—a four-fold increase to over 5,000 lawsuits every year. By 2012, for the first time ever, more than half of all patent suits were brought by trolls.

Patent trolls often sue with weak software patents, so when they are actually challenged in court, they usually lose. From 1995-2011, patent trolls won fewer than 25% of cases that went to judgment. And the most aggressive trolls fare even worse: of the most frequently litigated patents (those asserted in eight or more lawsuits), the trolls won fewer than 10% of their cases.

Unfortunately, patent litigation is so expensive that it is often cheaper to pay the troll to go away. Even for smaller companies, the average cost of defending a patent case all the way through trial approaches $2 million. Despite these costs, some companies—like Newegg and Twitter—have fought back and won. But the astronomical expense of patent litigation means that most defendants will settle.

With the explosion of patent troll lawsuits, most technology companies can expect to be targeted at some point. The patent troll motto seems to be: if you build anything, we will come. The result is that patents—especially the vague and overbroad software patents beloved by trolls—act as a disincentive to innovate and create.

Trolls Target Startups and End Users

In recent years, patent trolls have increasingly targeted smaller firms that are less likely to fight back. A recent study showed that more than half of the firms sued by patent trolls have less than $10 million in annual revenue—with startups being a common target.

Another disturbing trend is patent trolls going after end users for everyday tasks. For example, a patent troll has sued restaurants, hotels, and companies for using Wi-Fi. And another troll has blanketed the nation with letters demanding that companies pay $1,000 per employee for using standard office technology like scanners and email.

Software Patents Hurt Innovation

In the hands of patent trolls, software patents are a tax on innovation. And this tax is getting bigger every year. In 2011, companies made $29 billion in direct payouts to patent trolls. And the overall cost to the economy has been estimated at about $80 billion per year. Every dollar spent fighting or paying off a troll is a dollar not spent on launching new products and creating jobs.

#### It inhibits interoperating.

Cory Doctorow 21. Special consultant to the Electronic Frontier Foundation, MIT Media Lab Research Affiliate, visiting professor of computer science at the Open University, visiting professor of practice at the University of North Carolina’s School of Library and Information Science, co-founder of the Open Rights Group. “The Future is in Interoperability Not Big Tech: 2021 in Review”. EFF. Dec 24 2021. https://www.eff.org/deeplinks/2021/12/future-interoperability-not-big-tech-2021-review

But tech’s had network effects on its side since the earliest days, and yet the web was once a gloriously weird and dynamic place, where today’s giant would become tomorrow’s punchline - when was the last time you asked Jeeves anything, and did you post the results to your Friendster page?

Network effects aren’t anything new in tech. What is new are the legal strictures that prevent interoperability: new ways of applying cybersecurity law, copyright, patents, and other laws and regulations that make it illegal (or legally terrifying) to make new products that plug into existing ones.

That’s why you can’t leave Facebook and still talk to your Facebook friends. It’s why you can’t switch mobile platforms and take your apps with you. It’s why you can’t switch audiobook providers without losing your audiobooks, and why your local merchants don’t just give you a browser plugin that replaces Amazon’s “buy” buttons with information about which store near you has the item you’re looking for on its shelves.

These switching costs are wholly artificial. By their very nature, computers and networks are flexible enough to allow new services to piggyback on existing ones. That’s the secret history of all the tech we love today.

Interoperability - whether through legally mandated standards or guerilla reverse-engineering - is how we can deliver technological self-determination to internet users today. It’s how we can give users the power to leave the walled gardens where they are tormented by the indifference, incompetence, and malice of tech platforms, and relocate to smaller, more responsive alternatives that are operated by co-ops, nonprofits, startups, or hobbyists.

#### The DMCA – which is a *federal protection* – prohibits interoperating.

Cory Doctorow 19. Special consultant to the Electronic Frontier Foundation, MIT Media Lab Research Affiliate, visiting professor of computer science at the Open University, visiting professor of practice at the University of North Carolina’s School of Library and Information Science, co-founder of the Open Rights Group. “A Cycle of Renewal, Broken: How Big Tech and Big Media Abuse Copyright Law to Slay Competition”. EFF. Aug 19 2019. https://www.eff.org/deeplinks/2019/08/cycle-renewal-broken-how-big-tech-and-big-media-abuse-copyright-law-slay

It's easy to imagine that this is the general cycle of technology: a new technology comes along and rudely shoulders its way into the marketplace, pouring the old wine of the old guard into its shiny new bottles. The old guard insist that these brash newcomers are mere criminals, and demand justice.

The public flocks to the new technology, and, before you know it, the old guard and the newcomers are toasting one another at banquets and getting ready to sue the next vulgarian who has the temerity to enter their market and pour their old wine into even newer bottles.

That's how it used to work, but the cycle has been interrupted.

The Cycle is Broken

In 1998, Congress passed the Digital Millennium Copyright Act, whose Section 1201 bans bypassing a "technological measure" that “controls access” to copyrighted works. The statute does not make an exemption for people who need to bypass a copyright lock to do something legal, so traditional acts of "adversarial interoperability" (making a new thing that plugs into an old thing without asking for permission) can be headed off before they even get started. Once a company adds a digital lock to its products, it can scare away other companies that want to give it the broadcasters vs records/cable vs broadcasters/VCRs vs cable treatment. These challengers will have to overcome their fear that "trafficking” in a “circumvention device" could trigger DMCA 1201's civil damages or even criminal penalties—up to $500,000 and 5 years in prison...for a first offense.

When companies like Sony made the first analog TV recorders, they focused on what their customer wanted, not what the winners of last year's technological battle thought was proper. That's how we got VCRs that could record off the air or cable (so you could record any show, even major Hollywood movies getting their first broadcast airing) and that allowed recordings made on one VCR to be played on another recorder (so you could bring that movie over to a friend's house to watch with a bowl of popcorn).

Today's digital video products are different. Cable TV, satellite TV, DVDs/HD DVDs/Blu-Ray, and streaming services all use digital locks that scramble their videos. This allows them to threaten any would-be adversarial interoperators with legal reprisals under DMCA 1201, should they have the temerity to make a user-focused recorder for their products. That stifles a lot of common-sense ideas: for example, a recorder that works on all the programs your cable delivers (even pay-per-views and blockbusters); a recorder that lets you store the Christmas videos that Netflix and Amazon Prime take out of rotation at Christmastime so that you have to pay an upcharge to watch them when they're most relevant; or a recorder that lets you record a video and take it over to a friend's house or transfer it to an archival drive so you can be sure you can watch it ten years (or even ten minutes) from now.

Since the first record players, every generation of entertainment technology has been overtaken by a new generation—a generation that allowed new artists to find new audiences, a new generation that overturned the biases and preconceptions of the executives that controlled the industry and allowed for new modes of expression and new ideas.

Today, as markets concentrate—cable, telecoms, movie studios, and tech platforms—the competition is shifting from the short-lived drive to produce the best TV possible to a long-term strategy of figuring out how to use a few successful shows to sell bundles of mediocre ones.

In a world where the cycle that led to the rise of cable and streaming was still in effect, you could record your favorite shows before they were locked behind a rival's paywalls. You could search all the streaming services' catalogs from a single interface and figure out how to make your dollar go farther by automatically assembling a mix of one-off payments and subscriptions. You could stream the videos your home devices received to your phone while you were on the road...and more.

And just as last year's pirates — the broadcasters, the cable operators, the VCR makers — became this year's admirals, the companies that got their start by making new services that centered your satisfaction instead of the goodwill of the entrenched industries would someday grow to be tomorrow's Goliaths, facing a new army of Davids.

Fatalistic explanations for the unchecked rise of today's monopolized markets—things like network effects and first-mover advantage—are not the whole story. They are not unstoppable forces of nature. The cycle of concentration and renewal in media-tech shows us that, whatever role the forces of first-mover advantage and network effects are playing in market concentration, they are abetted by some badly written and oft-abused legal rules.

DMCA 1201 lets companies declare certain kinds of competition illegal: adversarial interoperability, one of the most historically tried-and-true methods for challenging dominant companies, can be made into a crime simply by designing products so that connecting to them requires you to bypass a copyright lock. Since DMCA 1201 bans this "circumvention," it also bans any competition that requires circumvention.

## Politics

### XT 2AC: BBB Won’t Pass/ No PC

#### SALT blocks

Dore 1-21-22

(Kate, https://www.cnbc.com/2022/01/21/some-democrats-threaten-to-sink-build-back-better-without-salt-reform.html)

Some House Democrats have threatened to block Build Back Better legislation if the broken-up package drops relief for the $10,000 limit on the federal deduction for state and local taxes, known as SALT. The $1.75 trillion social and climate spending plan hit a roadblock in December when moderate Sen. Joe Manchin, D-W.Va., said he wouldn’t vote for it. The bill needs support from every Democratic Senator as part of the budget reconciliation process. However, President Joe Biden this week said Democrats will likely have to break up the legislation and try to pass parts of the bill, expressing optimism for climate policy and early childhood education. “I’m confident we can get pieces, big chunks of the Build Back Better law signed into law,” he said at a news conference on Wednesday. But the president’s agenda may face another hurdle if the legislation doesn’t include changes to the $10,000 SALT cap, a key issue for some lawmakers in high-tax states, such as California, New Jersey and New York. The issue has been a pain point since enacted as part of former president Donald Trump’s 2017 tax overhaul because filers who itemize deductions on their federal return can’t write off more than $10,000 of state and local taxes. Without support from Senate Republicans, SALT relief is unlikely to make it through Congress as a standalone bill. “SALT remains a top priority,” said Reps. Tom Suozzi, D-N.Y.; Josh Gottheimer, D-N.J.; and Mikie Sherrill, D-N.J., in a joint statement. “We support the president’s agenda, and if there are any efforts that include a change in the tax code, then a SALT fix must be part of it. No SALT, no deal,” they said. House Democrats in November passed a spending package boosting the SALT cap to $80,000 from 2021 through 2030 before dropping it back to $10,000 in 2031. However, it’s been a controversial provision, with opponents saying it’s primarily a write-off for affluent Americans. More than 90% of the benefit may flow to the top 20% of earners, according to the Tax Policy Center. “The current House version of SALT gives millionaires thousands in cash, while people who make less than about $100,000 per year get less than $20 on average,” tweeted Rep. Jared Golden, D-Maine, who voted against the bill. Still, with narrow control over the House, Democrats may need votes from SALT relief supporters. But without a deal, there may not be changes until the provision sunsets in 2026.

#### Biden has given up.

NYT 1-21-22 lexis

WASHINGTON -- President Biden entered the White House promising to engage with Congress in a way that few presidents ever had, thanks to his three decades as a senator. A year in, with much of his agenda mired in congressional gridlock, Mr. Biden is changing his approach -- a stark admission that his approach to governing so far has fallen short. Mr. Biden will retreat from the tangle of day-to-day negotiations with members of his own party that have made him seem powerless to advance key priorities, according to senior White House advisers. The change is part of an intentional reset in how he spends his time, aimed at emphasizing his power to govern as president, rather than getting trapped in a series of congressional battles. Four internal strategy memos drafted by White House advisers this week lay out the shift ahead of Mr. Biden's first State of the Union address to Congress on March 1: The president will ramp up his attacks on Republicans ahead of the midterm election campaigns to help Democratic candidates. He will travel the nation more and engage with voters. And he will focus more on what he has already accomplished than on legislative victories he hopes to achieve. The president is also planning to use his executive power to help former inmates return to society and reform police departments, after legislation on the latter issue failed to pass last year, according to several White House aides and a person familiar with the plans, all of whom spoke on condition of anonymity to discuss strategy. ''If I made a mistake, I'm used to negotiating to get things done, and I've been, in the past, relatively successful at it in the United States Senate, even as vice president,'' Mr. Biden said in a news conference on Wednesday. ''But I think that role as president -- is a different role.'' ''The public doesn't want me to be the 'president-senator,''' Mr. Biden said. ''They want me to be the president and let senators be senators.'' It was a striking public admission for a politician who has been in public life, first as a senator of Delaware and later as vice president, for nearly half a century. For much of his first year as president, Mr. Biden preferred to wax about politics being ''the art of the possible,'' citing his history of negotiating in the Senate. (On Wednesday, he still could not resist reminding reporters that he had successfully prodded Strom Thurmond, the late Republican senator and segregationist, to sign onto a reauthorization of the Voting Rights Act in 1982.)

#### PC low- polls

CSM 1-20-22 lexis

Still, the president's political capital has plummeted. The Gallup poll's first measure of Mr. Biden's job approval after taking office came in at 57% - well above the 51% of votes he won in defeating President Donald Trump. Now Mr. Biden is at 40%. During his first year in office, Gallup reports, the president averaged 49% approval, with only President Trump coming in lower (38%) among first-term presidents elected after World War II. Gallup also notes that Mr. Biden's approval ratings reflect record political polarization for a first-year president. Mr. Biden still has the muscle memory of a longtime senator who loved working across the aisle, welcoming meetings with members of both parties and speaking highly of Republicans - even those who have made clear they don't want him to succeed. "I actually like Mitch McConnell," he said Wednesday, referring to the Senate GOP leader. But, he said later, "the public doesn't want me to be the 'president senator.' They want me to be the president, and let senators be senators." It was a reminder that the American presidency is as much a mindset as a job - and one that involves major on-the-job training, even for a man who served two terms as vice president and 36 years in the Senate before that.

#### Ukraine means it’s dead.

Newsweek 1-20-22 lexis

And though the Biden officials have fiercely rejected characterizations of the president or his administration as weak, the moment of truth comes at a particularly inopportune time for the White House after it set out a year ago to chart different priorities altogether. "In the first instance, they wanted [Biden], like every president, at least as they claim, to be a domestic president, and, in the second instance, to the extent that they were going to do foreign policy, they wanted it to be about China," Shapiro said. "So this is clearly a setback on both of those fronts." While the U.S. has perpetually balanced domestic and foreign agendas, the sharp uptick in tensions between Russia and Ukraine has manifested just as Biden sought to intensify efforts to implement an ambitious domestic agenda to shore up the economy, suppress the pandemic and, most recently, push forward voting rights legislation — all endeavors with considerable partisan divides requiring the expenditure of substantial political capital. "I think this is not what the Biden administration would have wanted to be spending time on, but it is an extremely serious crisis, and they're devoting a lot of resources to it now," Samuel Charap, senior political scientist at the RAND Corporation, told Newsweek.

### XT 2AC 4: FTC Shields

#### FTC actions fly under the radar.

Baker ’19 [Jonathan; Research Professor of Law @ American University Washington College of Law, Frmr Chief Economist of the FCC & Director of Bureau of Economics FTC; *The Antitrust Paradigm*,p. 62-64]

Politics in this sense is largely foreign to the courts, including in the interpretation of antitrust statutes.51 At the federal antitrust enforcement agencies, politics almost never matters directly in case selection and evaluation,52 though it occasionally influences the choice of industries or conduct to investigate. 53 With rare exceptions mainly involving the Johnson and Nixon administrations, U.S. antitrust enforcement since the mid-twentieth century has been almost entirely insulated from direct political influence.54 The enforcement agencies occasionally testify before members of Congress or brief their staffs on completed matters and topical issues, but these are largely benign means of assuring agency accountability.55 There also is little reason to credit “revolving door” concerns—the suggestion that senior antitrust officials take positions to benefit their former private sector employers or clients or to enhance their future employment prospects.56

The judgment that modern U.S. antitrust enforcement has been largely free from direct political influence is not inconsistent with anecdotal evidence of corporate lobbying on antitrust matters. 57 In most recent examples, the primary target is Congress or sector regulators such as the Federal Communications Commission (FCC),58 not antitrust enforcement agencies or the courts. Occasionally, firms do undertake a substantial and expensive lobbying effort aimed solely at influencing the Justice Department or the Federal Trade Commission (FTC).59 It may be rational for businesses to do so even though political pressure is unlikely to affect enforcement outcomes. So long as the firm’s lawyers do not think that the lobbying will be counterproductive, and the costs of lobbying are small relative to potential benefits of avoiding enforcement, the businesses may be willing to invest in a long-shot effort to persuade. For similar reasons, the relevant firm’s opponents may undertake counter-lobbying. 60 It is important to keep in mind that the occurrence of lobbying does not imply its effectiveness. Firms may lobby other government agencies successfully, which might lead executives to suspect incorrectly that antitrust lobbying efforts will pay off too.

Relatedly, we need not be concerned that the stock market responds positively when firms announcing potentially questionable mergers also increase lobbying expenditures.61 That firms lobby harder when attempting to merge does not show that antitrust lobbying affects enforcement outcomes. At most it suggests that investors think this. Alternatively, and perhaps more likely, investors may view lobbying expenditures as a signal that a firm has also invested substantially in antitrust counseling, and thus that the firm has reasons to think that the transaction will survive antitrust review based on information known to it but unavailable publicly.

Based on my own experience, and the experience of colleagues who have served in senior federal enforcement agency positions, antitrust enforcement decisions at the Justice Department and FTC are invariably based on legal and policy arguments, the strength of the evidence, and institutional factors such as resource constraints—not on the identity of the interest groups or politicians favoring various outcomes. Political interest has led the agencies to open investigations, but it does not affect the resolution of individual law enforcement matters.

### XT 2AC: Plan Popular

#### Plan and FTC popular.

Kendall and Tracy ’21 [Brent Kendall, legal affairs reporter in the Washington bureau of The Wall Street Journal and Ryan Tracy, covers technology policy for The Wall Street Journal 3-11-2021, "Congress Eyes Antitrust Changes to Counter Big Tech, Consolidation," WSJ, <https://www.wsj.com/articles/congress-eyes-antitrust-changes-to-counter-big-tech-consolidation-11615458603//ES>]

WASHINGTON—Both Democrats and Republicans have talked about a need to strengthen U.S. antitrust law. This year could test whether they are serious about hammering out legislation to make it happen. Congress is considering the most significant changes to antitrust law in decades, including some proposals with bipartisan support. Lawmakers are looking at setting a higher bar for acquisitions by companies that dominate their markets; making it easier for the government to challenge anti-competitive conduct; and potentially forcing some giant technology companies to separate different lines of their businesses. For these measures to become law, lawmakers will have to move beyond their general unease with dominant companies—particularly in the tech sector—and navigate constituencies that don’t agree on whether antitrust law needs a major overhaul or targeted changes. “There’s bipartisan interest in reforms or tweaks to the antitrust laws, and I think we will see some sort of legislation passed,” said former Justice Department antitrust lawyer Allen Grunes, now with Brownstein Hyatt Farber Schreck LLP. “The challenge will be finding political consensus.” On Thursday, a Senate subcommittee led by Sen. Amy Klobuchar (D., Minn.) launched its first in a series of hearings on antitrust changes. She opened the session by urging the panel’s members to respond to tech giants not by “throwing popcorn at a screen at whatever CEO…but by actually responding with action, by responding with legislation.” Ms. Klobuchar has offered a package of proposals, including new civil fines for antitrust offenses and changes to legal standards to make it easier to challenge proposed mergers and business practices that threaten competition. Republicans signaled they may be open to proposals that Democrats have supported. Sen. Josh Hawley (R., Mo.) wondered aloud if Congress should consider limiting mergers by dominant companies or banning self-preferencing,

a practice where companies such as Amazon.com Inc. use proprietary platforms to promote their own products and services over those offered by competitors. Congress could adopt a policy that “you can be a neutral platform where you sell third party goods like Amazon or you can be in the business of selling those goods yourself, but you can’t do all of it, all at one time,” Mr. Hawley said. Amazon has said it offers consumers the best product regardless of who made it. Meanwhile, a House antitrust panel led by Rep. David Cicilline (D., R.I.) will conduct a hearing Friday to discuss a bipartisan proposal to allow local news outlets to join to negotiate with dominant platforms such as Alphabet Inc.’s Google and Facebook Inc. Both political parties have been galvanized by concerns about powerful tech firms including Google, Amazon and Facebook. Debate over those firms’ power in the U.S. economy—and over swaths of American society—has elevated antitrust from the political backwaters to a trendy Washington issue. Last year, the House panel published a report from the panel’s Democratic staff that concluded, with some Republicans’ endorsement, that holes in antitrust laws and weak enforcement have allowed technology companies to grasp monopoly power, harming innovation and diminishing consumers’ choices. For Democrats, tech worries are at the forefront of broader concerns about dominant firms across industries gripping the marketplace and tilting the scales against consumers. “It’s not just tech, it’s cat food to caskets,” Ms. Klobuchar said in an interview before the hearing. Mark my words: Change is coming. Laws are coming. — Rep. David Cicilline (D., R.I.) in February Republicans agree that dominant tech companies possess a worrisome amount of power, motivated at least in part by a belief that they treat conservatives unfairly. They also see increased antitrust enforcement as a better approach than direct government regulation of the marketplace. “There appears to be a broad consensus that the status quo isn’t working,” Sen. Mike Lee (R., Utah), the leading Republican on the Senate antitrust panel, said recently, though he warned against what he called a desire by some Democrats to “seize this moment to radically alter our antitrust enforcement regime.” While Republicans are unlikely to support Democrats’ furthest-reaching proposals, there appears to be more common ground than in the past. Makan Delrahim, the Trump administration’s antitrust enforcer at the Justice Department, said before leaving office that it made sense for Congress to place more of a legal burden on companies with 50% or greater market share to prove that their future acquisitions wouldn’t harm consumers. That proposal is in the Klobuchar bill. Big businesses are poised to fight many of the measures, which they see as threats to their bottom lines. Facebook and Amazon spent more on lobbying in 2020 than any other U.S. corporations, seeking to influence legislation on antitrust and other matters. The tech giants say they face vigorous competition that forces them to constantly innovate, and that they have acquired large market shares because consumers love their products. Facebook and Google, meanwhile, are waging parallel battles in federal courts. Last year, the Justice Department and state attorneys general brought antitrust cases against Google, and the Federal Trade Commission and most states sued Facebook. Those cases all focused on claims of unlawful monopolization. Meanwhile, a House antitrust panel led by Rep. David Cicilline (D., R.I.) will conduct a hearing Friday to discuss a bipartisan proposal to allow local news outlets to join to negotiate with dominant platforms such as Alphabet Inc.’s Google and Facebook Inc. Both political parties have been galvanized by concerns about powerful tech firms including Google, Amazon and Facebook. Debate over those firms’ power in the U.S. economy—and over swaths of American society—has elevated antitrust from the political backwaters to a trendy Washington issue. Last year, the House panel published a report from the panel’s Democratic staff that concluded, with some Republicans’ endorsement, that holes in antitrust laws and weak enforcement have allowed technology companies to grasp monopoly power, harming innovation and diminishing consumers’ choices. For Democrats, tech worries are at the forefront of broader concerns about dominant firms across industries gripping the marketplace and tilting the scales against consumers. “It’s not just tech, it’s cat food to caskets,” Ms. Klobuchar said in an interview before the hearing. Mark my words: Change is coming. Laws are coming. Mr. Cicilline said at a hearing last month. Rep. Ken Buck (R., Colo.), the top GOP member of the House antitrust subcommittee, has argued to GOP colleagues that what they consider to be anti-conservative bias can be addressed through changes in antitrust law that diminish tech platforms’ power and allow for more competition. Mr. Buck recommends a “scalpel-like approach” focused on the tech sector, and said he is open to requiring dominant tech companies to prove that their proposed acquisitions won’t hurt competition. “I see the need in Big Tech because of the abuse,” he said in an interview. “I haven’t seen that in other areas.” Mr. Buck, referencing Amazon, Apple and Google, said he is open to prohibiting discriminatory conduct or self-preferencing when a tech platform has monopoly power, including by requiring a monopolist to separate business lines so that it “can’t create its own product and compete against other products in the marketplace.” Mr. Cicilline has also discussed a restriction on self-preferencing. Lawmakers in both parties also have voiced support for increasing funding for the FTC and Justice Department’s antitrust work, including through raising the fees large businesses must pay when submitting proposed mergers for review. Republicans have ideas of their own that may not garner Democratic support, including proposals to make the FTC’s procedures for antitrust enforcement operate more like the Justice Department’s, or to move all enforcement authority to the Justice Department instead of having it shared between two agencies. The Biden administration could play an integral role in the legislative dialogue but hasn’t yet sketched out a detailed agenda. The White House is still considering nominees to lead the Justice Department’s antitrust division and serve as FTC commissioners, and has been looking for candidates with political savvy, knowing they will need to be able to work with Congress, according to a person familiar with the matter. Last week, President Biden named Tim Wu, a Columbia University law professor, to a senior position on the White House National Economic Council. Mr. Wu wrote a 2018 book “The Curse of Bigness,” decrying the state of U.S. competition policy. The administration also is planning to nominate Lina Khan, a Big Tech critic and former House antitrust staffer, for an open slot on the FTC.

### XT No Climate

#### Climate won’t be stand alone- other provisions cause Manchin to veto

Business Insider 1-21-22 lexis

White House press secretary Jen Psaki decided to elaborate on Friday about President Joe Biden's strategy to get "chunks" of his $2 trillion social and climate spending bill over the finish line in a 50-50 Senate. "When the president says chunks he means like a mountain sized chunk, everything we can possibly get in this bill to be in the bill," she said on "The View." It comes two days after Biden switched approaches on passing the centerpiece of his economic agenda and calling for it to be broken up. "I'm confident we can get pieces, big chunks of Build Back Better signed into law," he said Wednesday. The package has run aground in the Senate due to opposition from Sen. Joe Manchin of West Virginia. For the bill to become law, Democrats can't afford any defections in the upper chamber. But it's unclear if Manchin is willing to take even a small bite from Biden's economic package for the foreseeable future. He told Insider on Thursday that months-long negotiations with the White House would be "starting from scratch," prompting Democrats to reckon with which priorities to save and scrap from the bill so it has a chance of getting Manchin's thumbs up. The House-approved plan would renew the child tax credit for a year, set up universal pre-K, established federal subsidies for childcare, helped combat the climate emergency, and more. Democrats have suffered a string of setbacks apart from the debacle around Biden's Build Back Better plan. In the interview, Psaki also encouraged people to air out their frustrations on Democrats' recent failure to pass a set of voting rights bills this week — partially due to Manchin as well. "My advice to everyone out there who's frustrated, sad, angry, pissed off, feel those emotions, go to a kickboxing class, have a margarita, do whatever you need to do this weekend, and then wake up on Monday morning, we gotta keep fighting," she said. Manchin has expressed concerns with a range of issues his Democratic colleagues proposed to include in the bill. Yet when it comes to the climate provisions, striking a deal with him may not be an enormous challenge. He said earlier this month that "the climate thing is one that we probably can come to agreement much easier than anything else," suggesting he might chomp at the climate portion of Build Back Better. When Biden first unveiled his Build Back Better proposal, it included a $555 billion climate investment that Manchin was quick to jeopardize by withholding support for the Clean Electricity Performance Program (CEPP), which would help the US achieve its goals of cutting carbon emissions in half by 2030. But he has since appeared more open to revisit climate issues — even as all 50 Senate Republicans told the New York Times they would not be on board with climate as a standalone bill. As Democrats work to get Biden's agenda passed, they are certainly giving Manchin some big issues to stew on.