PROPERTY

The Perils of 'Free' Information

Contrary to some activists' and academics' claims, weak IP rights can suppress innovation and competition.

BY JONATHAN M. BARNETT

Scholars and commentators in academia, advocacy organizations, and think tanks widely advocate weakening and, in some cases, even abolishing intellectual property (IP) rights. These arguments rely on a simple narrative in which IP owners exploit a monopoly entitlement that inflates prices for consumers and blocks entry by competitors. It therefore naturally follows that every effort should be made to minimize IP rights, extinguish "unreasonable" profits for innovators, and open up access for everyone else. Any defense of IP rights is typically dismissed as a thinly disguised plea for special treatment for "Big Media," "Big Pharma," or "Big" something else.

This one-sided narrative has moved beyond academic journals and think tanks to achieve results in the real world. Since the mid-2000s, policymaking institutions have acted with remarkable conformity to weaken IP rights. The Supreme Court has almost uniformly adopted positions that favor alleged infringers in patent litigation while lower courts regularly deny injunctions even to patent owners who demonstrate infringement. Congress has mostly ignored content owners' calls to take action against tech platforms that facilitate widespread copyright infringement. In 2021, the Office of the US Trade Representative departed from a decades-old commitment to global IP protection to support a waiver of those rights on Covid vaccines despite a glut of vaccines on the market.

It is easy to understand why policymakers have embraced the anti-IP narrative. What judge would want to shut down Google Books, which expands access to literary materials, and what legislator would want to bolster patent protections for pharmaceuticals, which would appear to limit access to healthcare? The popular appeal of "free stuff" is difficult to resist.

Yet it has gone largely unnoticed that another "Big" constituency has advocated for weakening IP rights since the inception of the digital economy.

Through hundreds of amicus briefs filed at the Supreme Court and appellate courts, tens of millions of dollars in lobbying expenditures in Congress, and funding for advocacy organizations, tech platforms and related trade associations have favored positions on copyright and patent law that hamper the ability of creators and inventors to take legal action against infringers. The opposite position is expressed in amicus briefs filed by research institutions, the biopharmaceutical industry, and venture capital firms in patent-related litigation and the media industry and some software firms in copyright-related litigation.

Tech platforms and like-minded advocates in the academic and advocacy communities have argued that weakening IP rights advances the public interest by promoting access to content and technology. This position is sometimes captured by the popular slogan, "Information wants to be free." This confluence of views across significant portions of the business, academic, and advocacy worlds culminated in 2012, when Wikipedia, Google, and other tech firms led a user revolt against proposed legislation to bolster legal remedies against digital services that facilitate copyright infringement. The bills were rapidly withdrawn. In that same year, the America Invents Act (AIA) went into effect, creating the Patent Trial and Appeals Board (PTAB) where any entity can challenge patents at any time after issuance—as compared to the nine-month limit in the European statute from which the AIA drew inspiration.

JONATHAN M. BARNETT is the Torrey H. Webb Professor of Law at the University of Southern California, Gould School of Law. This article is based on his new book, *The Big Steal: Ideology, Interest, and the Undoing of Intellectual Property* (Oxford University Press 2024).

The principal challengers at the PTAB are now the large tech firms that advocated for it.

While conventional wisdom in academic and policy circles has largely accepted the case against robust IP rights, a skeptical mind might inquire into the business rationale that drives tech platforms to invest resources in weakening IP rights *and then* assess whether those private interests align with the public interest in a robust innovation economy.

In my recent book *The Big Steal*, I undertake that inquiry. I show that tech platforms have sought to weaken IP rights to reduce the costs of securing content and tech assets, which are then monetized within a portfolio of complementary products and services. While this strategy may reduce costs for users in the short term, it does not align with the public's interest in preserving a knowledge ecosystem that can sustain technological and creative innovation over the long term. A singular focus on "free stuff" distorts innovation markets by favoring platform-based and other integrated business models, impeding entry by "stand alone" innovators in tech and creative markets, and diverting investment from economically and geopolitically critical industries that rely on robust IP protections. Contrary to settled expectations, setting information "free" can yield outcomes that are bad for both innovation and competition.

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GOOGLE'S WINNING GAMBLE

The decades-long erosion of IP rights can be traced back to Google's acquisition of YouTube in 2006. At the time, YouTube was an emerging platform that sought to maximize its number of users to drive ad sales. For YouTube, content was and is a necessary input to grow its user base. YouTube and any other ad-supported platform wants to push the price of content down as low as possible, preferably to zero. As disclosed in the infringement suit brought against YouTube by Viacom and other content owners, YouTube's founders encouraged users to upload proprietary content and turned a blind eye to widespread infringement on the site.

In paying $1.65 billion for a one-year-old startup, Google gambled that a federal judge would turn a blind eye to YouTube's blind eye to mass infringement. The market was skeptical because in 2001 a federal court had shut down Napster, the pioneering peer-to-peer music file-sharing service.

Yet, Google's gamble paid off.

In a contestable exercise in statutory interpretation, a federal court ruled that Congress had elected in the Digital Millennium Copyright Act to exempt platforms from liability for infringing content unless a platform uploads the content itself or knows about specific users uploading infringing content. To qualify for this exemption, a platform must only maintain a mostly cosmetic policy for repeat infringers and a "takedown agent" to accept notices of infringement from content owners and then remove the infringing content. In a form of digital "whack-a-mole," other users inevitably post the infringing content, triggering another notice and so on. As of February 2, 2025, Google reported having received in its history over 11 *trillion* takedown requests—clearly, an exercise in futility.

The ruling in the YouTube case and other decisions

have largely rendered content owners powerless against the mass distribution of infringing content through digital platforms. It is infeasible to target individual users through litigation and futile to deter users by sending takedown notices to platforms. The effective result has been a wealth transfer in the billions of dollars from content owners to digital intermediaries (who enjoy increased margins on ad sales) and users (who get a lot of free stuff). Reflecting its leverage in a weak-IP environment, YouTube now offers larger content owners a small percentage of ad revenues if they do not send a takedown notice in response to infringing content. Reportedly, most take up the offer (Van der Sar 2022), logically concluding that a small something is better than a big nothing.

UNDOING INTELLECTUAL PROPERTY

This strategy of "take and then litigate when sued" has been implemented throughout the digital ecosystem, resulting in an undoing of copyright law across various media.

In decisions involving Google Images in 2007 and Google Books in 2014, courts adopted expansive understandings of the fair use exemption to shield mass copying of images and books for search engine purposes. Today, essentially the same "take and then litigate" strategy is playing out in the context of artificial intelligence (AI) models that "vacuum" content from the internet. While some model and app developers have entered into licensing deals with larger content owners, this is generally not the case. Free content will prevail in the AI ecosystem so long as there is no meaningful legal or technological obstacle to regulate access.

Platforms apply this same commoditization-by-law strategy in tech markets.

In the multi-billion-dollar market for smartphones and other wireless-enabled devices, producers have applied the "what's yours is mine" strategy to negotiate down the price of critical wireless technologies by litigating and lobbying for favorable actions by courts and regulatory agencies in the United States and Europe. In China, regulators and courts have deployed patent and competition law to favor domestic device producers over foreign holders of wireless communications technologies. This implicit wealth transfer from innovators to implementers matters because it threatens to undermine the incentive and funding structures that have supported research and development (R&D) in an industry that underlies much of the tech economy.

To appreciate this point, it is important to observe that the "brains" inside smartphones and other mobile devices were mostly developed and are continuously improved by a handful of US and European firms that pioneered the technologies behind the 3G, 4G/LTE, and 5G wireless communications standards that support interoperability across the digital ecosystem (Barnett 2019). Those firms rely on IP licenses with branded device manufacturers to earn returns on billions of dollars annually in R&D expenditures, which typically represent about 20 percent or more of revenues—levels otherwise observed only in the pharmaceutical industry. While consumers naturally associate smartphones with the branded producers, the "plumbing" that "makes the system work" is provided by the specialized innovators that must be remunerated to maintain R&D expenditures going forward.

These revenue flows and incentive structures have been largely overlooked by courts and antitrust enforcers, who have generally viewed the licensing-based business model used by wireless technology suppliers as a "tax" on producers and end-users (Barnett 2017). Courts and regulators have sought to reduce this tax by, among other things, largely precluding injunctive relief for patent owners. Yet, without the prospect of an injunction, a patent is akin to a compulsory license that can only be enforced through litigation. This is a price negotiation executed through the legal system but, without injunctive relief, tilted in favor of device producers over innovators. In a domino effect, this reduces the royalties agreed upon in business negotiations that now take place in the "shadow" of infringement rather than enforcement. Contrary to standard assumptions, the public interest does not demand minimizing IP royalties; rather, it demands a legal environment that enables the market to accurately price technology assets, which in turn induces efficient capital allocation as in any other industry.

Efforts by device producers to erode patents in the wireless sector mimic the efforts of online platforms to erode copyright in digital media. Both strategies follow the same logic.

If action by a court or regulator can reduce the price of a necessary IP asset by devaluing the underlying property right, this increases the margins enjoyed by the producer or distributor at the point of sale (smartphones for Apple, ad services for YouTube). As IP holders face obstacles to enforcement, IP users view infringement as the preferred business and legal strategy. The former head of licensing at Apple once observed that "efficient infringement, where the benefits outweigh the legal costs of defending against a suit, could almost be viewed as a fiduciary responsibility" (*The Economist* 2019). The normalization of infringement arises logically in a policy environment where IP rights have lost the power of deterrence.

IDEOLOGY MEETS INTEREST

It might be wondered why policymakers have been so receptive to the IP-skeptical arguments put forward by digital platforms in content and tech markets.

The answer lies in a convergence of ideology and interest, wrapped in an attractive rhetorical package. The IP-skeptical strategy pursued by tech platforms happens to coincide with the IP-skeptical commitments that are now entrenched wisdom in the academic and advocacy communities. Scholars and advocates want "information to be free" because it expands access and express doubt that IP rights are necessary to support

investment in tech and content development. Big Tech wants information to be free because it monetizes tech and content assets within intertwined ecosystems of complementary products and services and therefore has little need to protect those assets on a "stand alone" basis through IP rights.

Like any business, a tech platform wants to minimize input costs and maximize profit margins. Platforms have taken this logic one step further by seeking to change the rules of the game—in this case, the property rights infrastructure of the digital economy—so that tech and content assets can be obtained at the lowest price possible. This strategy has been successful because it has been deployed through the "public interest" rhetoric cultivated by thought leaders, and it rewards consumers by delivering more "free (or cheap) stuff." For a policymaker that has no settled view concerning IP rights, this is an easy sell.

The IP-skeptical consensus in scholarly and policy circles is so strong that dramatic assertions concerning the adverse effects of robust IP rights persist even after those assertions have been rebutted or heavily qualified. In multiple cases discussed in my book, I found that the scholarly literature widely references an initial study that delivers findings or makes assertions consistent with the IP-skeptical narrative, while largely ignoring subsequent studies that rebut or substantially qualify the original study. Several examples illustrate this form of confirmation bias that perpetuates the presumption against robust IP enforcement in policy discussions.

- Scholars and advocates widely reference Oberholzer–Gee and Strumpf 2007, purporting that piracy causes no harm to sales of recorded music, even though, as I note in my book, almost all subsequent studies have shown the opposite.
- Scholars and advocates widely reference Quillen and Webster 2001, purporting to find that almost 97 percent of patent applications are approved, even though the authors later revised their estimate downward (Quillen and Webster 2002), and, as my book reports, other researchers have found approval rates during different periods ranging from 60 to 75 percent.
- Scholarly and policy discussions widely reference Heller and Eisenberg 1998, which theorized that increased patenting in the biomedical field would stifle research beneath a "patent thicket." Yet, as my book discusses, subsequent empirical studies have found little supporting evidence.
- Scholars and regulators widely reference Lemley and Shapiro 2007, asserting that IP licensors can "hold up" device manufacturers in smartphone markets for "exorbitant" royalties. But subsequent empirical studies show that royalty rates have been approximately constant at modest levels throughout the life of the industry (Barnett 2023).

THE CRITICAL QUESTION

The mere fact that weak IP rights promote the business model of large tech platforms does not by itself mean that this is sound or unsound public policy. The critical question is whether substantially weakening IP rights to expand access to content and tech assets is good not only for platforms and users in the short run, but for the innovation ecosystem as a whole in the long run. To answer this question, it is helpful to distinguish between simple and complex cases.

Simple cases/ In industries such as pharmaceuticals and high-cost content production, the standard incentive argument for IP rights easily applies. The flow of capital into these industries would almost certainly drop dramatically without robust protection against imitation. In those industries, there is an exceptional gap between innovation and commercialization costs on the one hand and imitation costs on the other (Barnett 2024b). Moreover, the skewed success rate of pharmaceutical and content investment means that a free rider can copy only the "hits" without incurring any losses on the "flops."

Without a mechanism to deter copying by imitators, investors would not allocate capital to a billion-dollar drug project or a $100-million-plus motion picture. This simple business reality seems to have been forgotten in a 2023 proposal by the National Institute of Standards and Technology (supported by the Federal Trade Commission) to mandate broader use of "march-in" rights to cut short patent protections on drugs developed by private industry from federally funded research. Based on past experience with similar policies, adoption of this proposal would likely induce private firms to minimize interactions with federally funded institutions on the development of pharmaceutical products (Barnett 2024b).

Complex cases/ More complex cases arise in information technology markets where the effects of weak or absent IP protections vary because open-access business models can sometimes extract returns on innovation with apparently weak or no protection against unauthorized usage. It is therefore tempting to conclude that IP rights are in general unnecessary in information technology markets. Yet, this conclusion rests on the assumption that open-access business models are always the preferred mechanism to monetize innovation because it seems that they necessarily preserve entry opportunities for competitors. Counterintuitively, this is not the case in a significant set of circumstances.

To illustrate these complexities, consider the evolution of the operating system market for personal computer and mobile tech devices.

Microsoft's success in the personal computer industry in the 1980s relied on a closed-access business model anchored in copyright to deter unauthorized copies of the Windows operating system. So, it might be concluded that IP rights

are essential to support software development. Yet Google's open-access business model defeated Microsoft's closed-access model in the battle for the operating system market for mobile communications in the mid-2000s. Google released the Android operating system to device makers under an open-source, no-fee license, which seeded a user base that generates revenues from ad sales. So, it might instead be concluded that IP rights are not in fact necessary to support innovation.

Some commentators take the latter view or some version of it, usually with some exception made for pharmaceuticals. Yet Google's success only shows that an open-access model can support innovation by firms that enter the market with a "pay" service (ads) that subsidizes the "free" product (operating system). All other business models, especially business models that deliver a technology asset without complementary goods and services, might no longer be economically viable. This was the fate of Netscape, which pioneered the internet browser in 1994, but by 1999 had lost the market to Microsoft, which replicated the technology and gave it away as part of the Windows Office suite. For a single-product innovator like Netscape, the power of free was impossible to overcome.

The absence of IP rights can impede entry by firms and other entities that monetize innovation on a stand-alone basis and, as a result, protect incumbents.

IP-free policy regimes can sustain innovation through cross-subsidization, but they truncate the range of viable business models for monetizing technology or creative assets. Those distortions matter because the market is no longer free to discover the most efficient model for earning returns on a particular innovation. Most critically, those distortions can result in certain types of innovators being compelled to exit the market—and, by anticipation, choosing never to enter in the first place. Counterintuitively, the absence of IP rights can impede entry by firms and other entities that monetize innovation on a stand-alone basis and, as a result, protect incumbents that monetize innovation through giveaway-based business models. Not coincidentally, that is precisely the business model used by many tech platforms that have advocated for weaker IP rights since the inception of the digital economy.

THE INEVITABILITY OF PROPERTY RIGHTS

Not only do IP-free markets impede entry by certain innovators, but (as has been almost entirely overlooked) even those markets usually restore some form of property rights—whether implemented by IP law, contract, or technology—to sustain incentives to invest in innovation. This runs counter to widespread arguments at the onset of the digital economy that exclusivity protections were no longer necessary to sustain innovation. Those predictions have not been realized. Generally, firms in well-functioning segments of the digital economy have *voluntarily* reverted to functional forms of IP rights, even when formal IP rights are ineffective or unused.

Ironically, this point can be illustrated by the Android operating system.

Precisely understood, the Android business model is not free of access restrictions, but rather simply shifts the point at which access is regulated in the Google product and services bundle. Google uses IP rights to implement a hybrid approach where some parts of the ecosystem are open to users at no charge, while others are open only to paying users. While Google licenses the Android operating system and trademark to device makers on a no-fee basis, it requires that device makers agree to provide default or preferential display status to certain applications such as Google Search.

Hence, even in an apparently open-access business model, the innovator still imposes a "price" through the IP license under which Android is distributed. It is precisely the availability of secure IP protections (in this case, copyright over the Android code and trademark over the Android name) that enables Google to fine-tune the level of exclusivity for different parts of the Google ecosystem.

The discovery of a "hidden" property right in the Android bundle should not be surprising. Access must be regulated *somewhere* in a firm's product and services bundle to generate revenue and fund the costly efforts made by the myriad individuals, firms, and other entities required to develop and convert innovations into viable products and services. No investor will provide the capital to support product development without a potential for profit somewhere on the horizon. Outside the public sector, it is implausible to give everything away, which means that IP rights or a functional equivalent is necessary to regulate access and "price out" the component of the product-and-services bundle that is used to generate revenue. Moreover, firms will shift the "access point" in response to changes in economic and technological conditions—a freedom to design enabled by the availability of IP rights that may be used in response to competitive pressures.

This same principle can be observed in digital content markets. At the onset of the internet, it was commonly argued that

copyright would be obsolete because creators could monetize their content through ads, live performance (in the case of music), or crowdfunding and donations. Markets have largely rejected this property-free model and, instead, have converged on a mix of practices that typically involve a closed-access component to generate revenues.

For the most part, digital content providers in various media have abandoned ad-supported business models for subscription-based models that use technology to regulate and therefore price access, sometimes complemented by an "ad-heavy" free channel. This strategy can be observed in the case of music streaming services, video streaming services, and subscription-based news sites. Under this "content-as-a-service" model, the music market has recovered from its historical low shortly after the explosion of peer-to-peer file sharing and now supplies significant revenue streams for artists and other content owners through live performance and streaming sales. Following standard expectations in physical goods markets, the combination of IP rights, technology, and contract has reinstated a property-rights infrastructure and, in doing so, enabled the formation of a market in digital music that delivers remuneration throughout the content supply chain.

HOW IP RIGHTS PROMOTE INNOVATION *AND* COMPETITION

Following the IP-as-monopoly assumption, it is commonly presumed that IP rights block entry and therefore inherently make markets less competitive. Even defenders of the IP system generally acknowledge this inherent "price to be paid" to maintain innovation incentives, known in IP case law and policy scholarship as the "incentives/access" tradeoff (Barnes 2010). Yet in some cases the "circle can be squared": IP rights both motivate innovation *and* enable entry by firms that can challenge incumbents. This policy win–win can be observed in the economically and geopolitically critical semiconductor market.

The semiconductor market was once populated mostly by vertically integrated firms that executed every step of the innovation and commercialization process (Barnett 2011). The proliferation of patenting starting in the late 1990s and early 2000s accompanied the emergence of the "fabless" model in which chip-design specialists (such as Marvell, Nvidia, and Qualcomm) in certain segments of the market contract with "foundries" (such as TSMC) that specialize in chip production. The timing is not coincidental: IP rights provide confidence to chip-design firms that the foundry will not appropriate the technology entrusted to it. Without that assurance, the fabless business model may not be viable.

By mitigating the risk of technology leakage, IP rights lower both the costs of transacting over informational assets and entry costs into the innovation and production levels of the wireless supply chain (Barnett 2024c). Chip-design firms avoid billions of dollars in expenditures to construct a production facility, and foundries avoid having to acquire scarce chip-design expertise. Within a secure property rights framework, the market reconfigured the semiconductor supply chain to reflect an efficient division of labor, achieving efficiencies that are ultimately reflected in the devices in which chips are embedded. Contrary to standard assumptions, IP rights and the contractual networks built using those rights facilitated novel transactional structures that remunerated innovation and promoted entry throughout the global tech supply chain.

THE OVERLOOKED COSTS OF WEAK IP RIGHTS

"Information wants to be free" is a pleasant-sounding slogan. In markets ranging from books to semiconductors to pharmaceuticals, scholars and policymakers have widely adopted this principle as an article of faith and reflexively endorsed policy changes that expand access to users and competitors. Yet this dogmatic approach dramatically understates the complex business dynamics of innovation markets and, as a result, overlooks the longer-term costs that arise from the weakening of the property rights structure that supports financing, incentive, and transactional structures in tech and creative markets.

The real-world outcomes of this form of policy myopia can cause significant harm to innovation, competition, and other important social objectives.

In markets such as pharmaceuticals, in which IP rights are a "but for" condition for R&D investment, it is unlikely that private capital would continue to support the development of new drugs without meaningful protections against imitators. This is a "public bad" as a matter of both innovation and, as is largely unappreciated, public health policy. Even in markets in which IP rights are not always a "but for" condition for R&D investment, industry structures are likely to be distorted in a manner that disfavors stand-alone entities that specialize in innovation and rely on IP rights to structure relationships with investors, producers, and distributors on the path to market. While innovation in information-technology industries can sometimes persist in a weak-IP environment, it would likely take place principally within the bundled product-and-service ecosystems maintained by tech platforms or the vertically integrated structures maintained by large bricks-and-mortar producers. That is a public bad as a matter of both innovation and competition policy.

There is historical precedent for this concern.

In previous work, I studied IP policy in tech markets from the end of World War II through the 1970s, during which time courts exhibited hostility to patents and federal regulations largely prohibited securing patents or other exclusivities on inventions arising out of federally funded research (Barnett 2021b). While technological innovation persisted, it took

place principally in the corporate silos maintained by IBM, AT&T, RCA, and other vertically integrated corporations, often supported by defense-related government funding (Barnett 2021c). Following the withdrawal of the massive funding behind the space race, R&D intensity (R&D expenditures as a percentage of GDP) and patenting activity declined through the "innovation malaise" of the 1970s.

The restoration of robust patent protections in the early 1980s was followed by an increase in privately funded R&D and an even sharper increase in the percentage of privately funded R&D undertaken by small firms (less than 1,000 employees), rising from about 5 percent throughout the postwar period to almost 25 percent as of 2006 (Barnett 2021b). The lifting of restrictions on patenting inventions arising out of federally funded research under the Bayh–Dole Act launched the tech transfer industry that converts academic biomedical research into drugs and other treatments. Contrary to standard views that assume a dichotomy between IP rights and competitive markets, the reinvigoration of patent protection starting in the early 1980s appears to have facilitated entry by smaller firms and cooperative relationships between academia and industry in the biotech market. That is an outcome consistent with both enhanced innovation and competition (Barnett 2024c).

If that interpretation is correct, then the weakening of patent protection places these favorable effects at risk. There is suggestive evidence consistent with these concerns. From 2011 to 2021, the percentage of private R&D expenditures attributed to small firms declined, falling from approximately 25 percent to 18 percent. Venture capital investment during 2004–2017 shifted significantly away from patent-intensive sectors such as biopharmaceuticals, computer hardware, and semiconductors, toward non-patent-intensive sectors such as software, financial services, and food and beverage (Schultz 2020). While other contributing factors may be involved, these findings suggest that the current weak-IP policy trajectory is diverting innovation capital away from both smaller firms and industries that are critical for public health, economic growth, and geopolitical leadership.

THE LURE OF FREE STUFF

Everyone likes free stuff. But weak IP rights distort innovation ecosystems over the longer term and, in biopharmaceutical markets, would likely induce significant capital flight to other investment opportunities. Author and entrepreneur Stewart Brand, who coined the slogan "information wants to be free," also observed in the same comments that "information wants to be expensive." That second quote is critical.

Absent meaningful property rights, stand-alone innovators and creators have limited ability to capture economic value that reflects their contribution to the knowledge ecosystem. This raises the risk of the content and tech pipeline running dry or innovation being confined to a handful of "walled gardens" comprised of integrated networks of products and services.

Far from being a monopoly that suppresses competition, secure IP rights are often a precondition for sustaining the innovators and artists that drive knowledge ecosystems. When information is free, society can pay a high price. *R*

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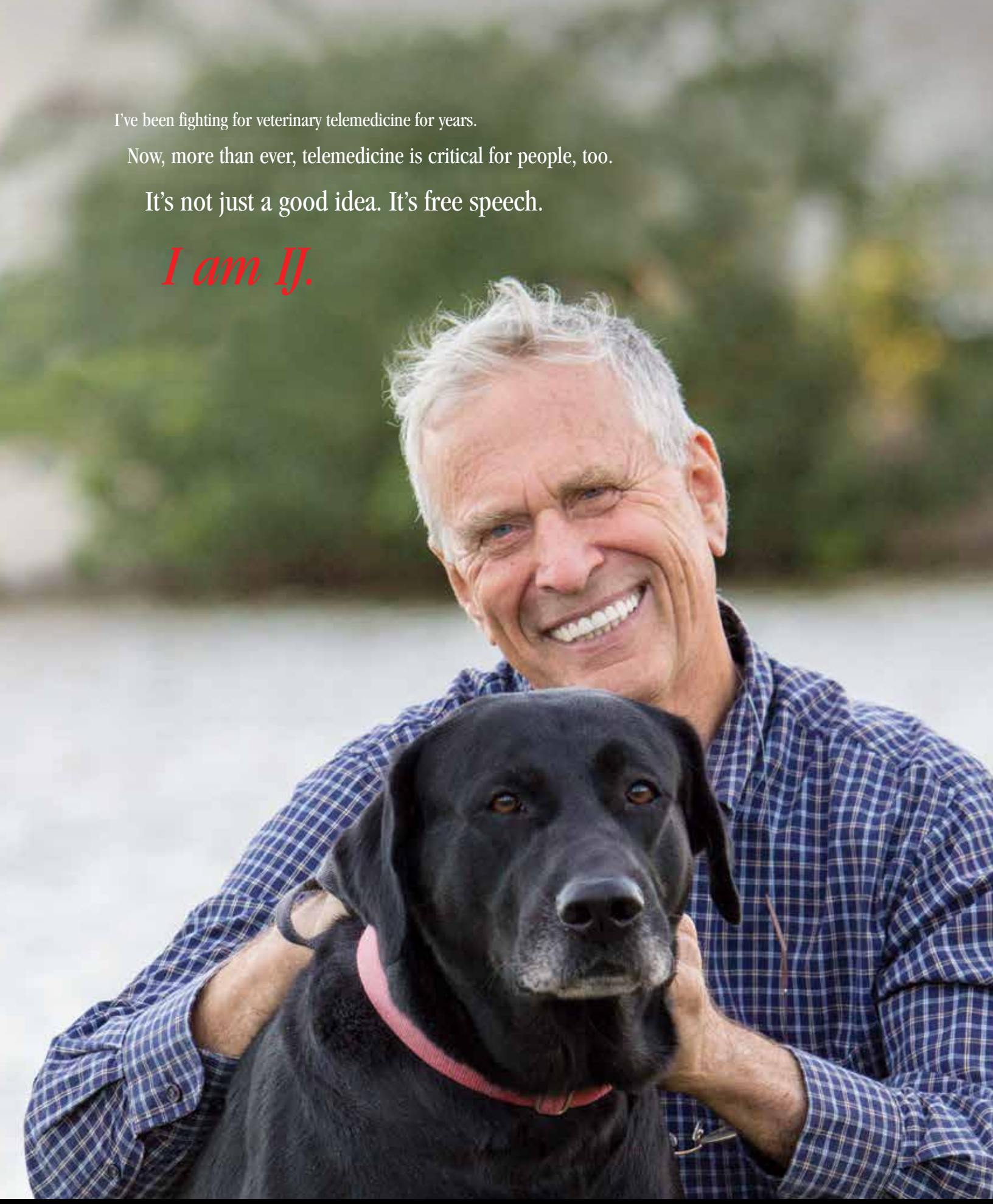

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