(White) Racial Arithmetic as Intellectual Property Architecture

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Introduction

In *The Signal and the Noise*, a manifesto for our cognitively dissonant post-fact, pro-statistics era, Nate Silver writes: "Data-driven predictions can succeed—and they can fail. It is when we deny our role in the process that the odds of failure rise. Before we demand more of our data, we need to demand more of ourselves."[1] He continues: "[O]ur bias is to think that we are better at prediction than we really are."[2] The devil, of course, is in the details of determining which data-driven predictions are failures and which ones are successes. Maria Kuecken observes in the *LSE Review of Books*:

> [A] data-driven claim does not a good prediction make. Much of the information out there is simply noise "which [sic] distracts us from the truth." If we sift through enough of this noise, we are likely to come up with relationships that seem meaningful when they don't truly exist or predictions that are way off the mark from reality.[3]

Silver's suggestion for minimizing "noise" is to aspire "to be *less* subjective, *less* irrational, and *less* wrong."[4] Yet these are neither straightforward nor universal aims.

Public cultural conversations about prediction came to a head in the 2016 United States presidential election, when political pundits, including Silver, came under fire for forecasting that Hillary Clinton would likely be the next President of the United States.[5] While the nuance of those debates is

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1. NATE SILVER, THE SIGNAL AND THE NOISE: WHY SO MANY PREDICTIONS FAIL – BUT SOME DON'T 9 (1st ed. 2012).

2. *Id.* at 454.

3. Maria Kuecken, *Book Review: The Signal and the Noise: The Art and Science of Prediction by Nate Silver*, LSE REV. OF BOOKS (Mar. 8, 2013) (quoting SILVER, *supra* note 1, at 17), https://blogs.lse.ac.uk/lsereviewofbooks/2013/03/08/book-review-the-signal-and-the-noise-by-nate-silver/ [https://perma.cc/93YK-X8T4].

4. SILVER, *supra* note 1, at 259.

5. Andrew Prokop, *What Happened to Nate Silver*, VOX (Sept. 17, 2024, 5:00 AM), https://www.vox.com/politics/372217/nate-silver-2024-polls-trump-harris [https://perma.cc/U3MT-H48M].

beyond the scope of this paper, public investment in the election predictions showcases just how much epistemic credibility is attached to data and statistics despite their profound limitations. This Essay focuses on how quantitative data functions in the context of intellectual property, specifically vis-à-vis racial justice. In order to anchor arguments for intellectual property equity against frequently racialized claims of infringement, scholars and activists have increasingly turned to empirical research (e.g., data regarding demographic inequity in copyright and patent registrations, economic costs of infringement, and benefits of distributive justice frameworks) as evidence for their claims. These statistics are often deployed in public policy conversations to advocate for diversity, inclusion, and equity, as well as reform of intellectual property systems. The statistics are frequently used to counter industry and lobby claims about the catastrophic costs, particularly to the United States economy, of practices such as sampling, piracy, and counterfeiting of music, goods, and pharmaceuticals, as well as highlight the continuing need for copyright, patent, and trademark interventions focused on racial justice.

Theodore Porter observes that, out of Cold War fascination with particle physics, also came a commitment to administrative quantification,[6] a practice of bureaucratically applying social scientific methods to populations with the goal of "achieving some kind of impersonal validity by following the rules."[7] Porter argues that this form of measurement created a critical distance between quantifier and subject, an air of objectivity through which subjectivity itself could be negated.[8] Recently, critical race theorists and ethnic studies scholars have taken up similar critiques. Their approach, described as QuantCrit, raises questions about how and when numbers are leveraged in public cultural conversations in the service of some policy outcomes, but not others. In 2018, a special issue of *Race, Ethnicity and Education* examined how quantitative methods could assist critical race theory research—a full fifteen years after asking that same question of

6. *See generally* THEODORE M. PORTER, TRUST IN NUMBERS: THE PURSUIT OF OBJECTIVITY IN SCIENCE AND PUBLIC LIFE (1996) (noting the emergence of a commitment to administrative quantification). For a discussion of the merits of "calling bullshit" *see* Carl T. Bergstrom and Jevin D. West, CALLING BULLSHIT: THE ART OF SKEPTICISM IN A DATA-DRIVEN WORLD (2020) (observing that "[d]ata can help us understand the world based on hard evidence, but hard numbers are a lot softer than one might think").

7. Theodore M. Porter, *Measurement, Objectivity, and Trust*, 1 MEASUREMENT: INTERDISC. RSCH. & PERSPS. 241, 242 (2003).

8. *See generally id.* (providing examples in history of quantifying social issues and ultimately claiming that this method "involves an ideal of impersonal objectivity adapted to a particular form of modern politics," where objectivity refers to "the effort to be impersonal, the negation of subjectivity . . . [that] tends to disarm those who would suspect that prejudice or self-interest may have corrupted it"). *Id.* at 242, 255.

qualitative methods.[9] The authors observe that: "By exploring how quantitative methods are (mis)applied, (mis)interpreted, and often (mis)characterized, these articles remind us that quantitative approaches can't simply be adopted for racial justice aims."[10]

The political mis-deployment of racial statistics produces specious arguments that can be weaponized against particular policy outcomes, even when they may support them. The concerns I want to raise in this Essay, then, relate to how architectures of racial proof operate in intellectual property law. I ask two questions: (1) How has quantitative data been used to justify racism and inequity, notably anti-Asian and anti-Arab rhetorics, in intellectual property contexts? and (2) How have scholars attempted to combat racism, and defend racial equity using quantitative data? While I cannot comprehensively answer these questions in this short space, I can offer a set of observations from which to start a larger conversation. These observations also necessarily encourage evaluation of discipline and methodology, e.g., how humanistic and empirical data fit in conversations about intellectual property maximalism/minimalism, and how we ought to deploy them in future struggles for a more equitable world. Answering the questions I raise here also suggests a need to consider how persuasiveness operates in practice, i.e., when and how the illusion of objectivity produced by quantification sways people more than "mere" qualitative data.

Elizabeth J. Kennedy recently argued in the *MIT Sloan Management Review* that "[r]acial equity strategies must be systemic, race-explicit, and outcome-oriented if they are to succeed."[11] Highlighting the need to ensure that quantitative data is used *without* bias, she offers a five-step plan that includes: (1) collecting, disaggregating, and analyzing race and ethnicity data; (2) identifying racial disparities in workforce outcomes; (3) naming race when speaking about disparities; (4) investigating structural causes of racial disparities; and (5) developing strategies to eliminate patterns that produce differential outcomes by race.[12] Kennedy's approach is ostensibly the best case use of quantitative data to correct racial inequity because it is explicit about identifying racial causation and eliminating racial bias in a verifiable manner. Yet ethnic studies scholars illustrate how the process of producing statistics can go wrong in the context of racial justice, through the

9. Nichole M. Garcia, Nancy López & Verónica N. Vélez, *QuantCrit: Rectifying Quantitative Methods Through Critical Race Theory*, 21 RACE ETHNICITY & EDUC. 149, 149 (2018).

10. *Id.* at 150.

11. Elizabeth J. Kennedy, *Can Data Drive Racial Equity?*, MIT SLOAN MGMT. REV., Winter 2021, at 9, 9.

12. *Id.* at 10. For an analogue in the context of gender, *see generally* Catherine D'Ignazio and Lauren F. Klein, *Data Feminism* (2020), https://data-feminism.mitpress.mit.edu/ [https://perma.cc/2HKP-42N8] ("Principle #6 of Data Feminism is to Consider Context. Data feminism asserts that data are not neutral or objective. They are the products of unequal social relations, and this context is essential for conducting accurate, ethical analysis.").

deployment of "racial arithmetic" that weaponizes numbers against those who most need assistance. Michael Rodríguez-Muñiz writes that "[e]thnoracial statistics, or what political scientist Kenneth Prewitt has aptly called 'statistical races,' are political abstractions that represent a way of thinking and enacting 'race' in numerical, aggregate terms."[13] This double entendre calls attention to the statistical production of race as well as the use of numerical argumentation to pit racial groups against one another. Racial arithmetic describes what Porter might characterize as the deployment of quantitative data in ways that prey upon political and cultural desires to "idealize automatic or mechanical standards of knowledge, such as the reduction of judgment to a calculation."[14] Rodríguez-Muñiz's argument suggests that the production of quantitative data itself socially constructs race, through relational comparisons between socially constructed groups. This suggests a need for the relational study of racial inequity, i.e., how racial categories are described relative to one another.

I argue here that racial arithmetic is a common tactic in intellectual property infringement loss analyses that report on costs to the United States economy. These assessments often invoke racial and/or national identity to create an enemy that purportedly threatens the United States. For instance, the 2024 Review of Notorious Markets for Counterfeiting and Piracy (hereinafter Notorious Markets) begins: "Commercial-scale copyright piracy and trademark counterfeiting cause significant financial losses for U.S. right holders and legitimate businesses, undermine critical U.S. comparative advantages in innovation and creativity to the detriment of American workers, and pose significant risks to consumer health and safety."[15] It then goes on to list these "notorious markets." Peppered with seemingly alarming but largely decontextualized data, Notorious Markets pits nations against each other in a racialized infringement competition. The entry for China states: "Counterfeit and pirated goods from China, together with transshipped

13. Michael Rodríguez-Muñiz, *Racial Arithmetic: Ethnoracial Politics in a Relational Key*, *in* RELATIONAL FORMATIONS OF RACE: THEORY, METHOD, AND PRACTICE 278, 280 (Natalia Molina, Daniel Martinez HoSang & Ramón A. Gutiérrez eds., 2019) (illustrating how the relative characterization of racial groups played a role in the outcome of local elections). For a discussion of metrics gone awry in the context of college choices and admission, *see generally* Zachary Bleemer, Mukul Kumar, Aashish Mehta, Chris Muellerleile, and Christopher Newfield, METRICS THAT MATTER: COUNTING WHAT'S REALLY IMPORTANT TO COLLEGE STUDENTS (2023) (analyzing helpful and misleading metrics around student decisions about higher education).

14. Porter, *supra* note 7, at 242.

15. OFF. OF U.S. TRADE REPRESENTATIVE, 2024 REVIEW OF NOTORIOUS MARKETS FOR COUNTERFEITING AND PIRACY 1 (2024). Reports such as these are particularly illegible to public audiences because they contain very large numbers that are difficult to comprehend. *See* Short Wave, *Why Big Numbers Break Our Brains*, NPR, at 06:08 (Jan. 3, 2024), https://www.npr.org/2024/01/03/1198909057/brain-struggles-big-numbers-neuroscience [https://perma.cc/DK7H-4BDS] (noting that human brains struggle to comprehend and process "big numbers").

goods from China to Hong Kong, China, accounted for 84% of the value (measured by manufacturer's suggested retail price) and 90% of the total quantity of counterfeit and pirated goods seized by U.S. Customs and Border Patrol (CBP) in 2023."[16] The entry for Peru notes: "In 2024, Peru's National Police conducted 36 police operations on Gamarra Emporium, reportedly seizing counterfeit items with a total street value of $15.7 million and resulting in 96 arrests."[17] The racial arithmetic highlighted in Notorious Markets makes a case for cracking down on foreign infringers. Numbers give the document an air of objectivity and legitimacy—yet the quantitative data employed is both difficult to verify and difficult to compare despite marking some groups, e.g., Asians, as worse infringers than others, e.g., Latinos. Adding statistics appears to substantiate claims of infringement—without evidence of injury to consumers, tradeoff with United States sales of the same goods, or harm to the United States economy. Good intellectual property citizens are distinguished from bad ones through this numerical shell game.

This is precisely the type of administrative quantification that Porter critiques because it stands in for contextualized and historicized argumentation. Making standalone numerical infringement claims suggests a monumental problem that might not be so troubling when read in the context of economic development or industrial production more generally. Asking questions about these numbers shows how quickly they unravel: What was the actual value of the goods seized by CBP from China and Hong Kong in 2023? How does a street value of $15.7 million compare to the value of counterfeit items produced globally? What goods were represented? Why were consumers so eager to obtain these particular goods? How, if at all, would consumers obtain these goods otherwise? What tangible harms did the infringements cause? These are the types of questions that reveal the slipperiness of quantitative data, as well as its embeddedness in logics that evolved over time, in understandings of "rationality" and "science." Such data, even when poorly analyzed, stands in for independent critical thinking and good judgment.

Administrative quantification—and the air of objectivity associated with it—has a history in the context of intellectual property. Once authors were granted limited monopolies in their works—a mere twenty-eight-year monopoly under the Statute of Anne of 1710[18]—they sought to protect those works against infringement. The same history unfolded for inventors with respect to patents, established through English letters patents in the 1700s.[19]

16. OFF. OF U.S. TRADE REPRESENTATIVE, *supra* note 15, at 41.

17. *Id.* at 48–49.

18. Statute of Anne, 1710, 8 Ann., c. 19 (Eng.).

19. *See, e.g.*, Thomas Hill, *Origin and Development of Letters Patent for Invention*, 6 J. PAT. OFF. SOC'Y 405, 406 (1924) (recounting the history of "special grants" that eventually came to be known as patents).

By the late-1800s, copyrights and patents had become entrenched in the U.S. and U.K. as economic objects that could be propertized and monetized for sale in commerce.[20] Their growth accelerated on both sides of the Atlantic in the 1900s, as the demand for culture industries, scientific knowledge, medical treatments, and military technologies exploded.[21] By the 1960s, intellectual property in the United States was well-established as a political and economic object. Perhaps no one better exemplified the politics of intellectual property, the theme of this symposium issue, than Jack Valenti, a central figure in the development of the American film industry. His career trajectory and comments to Congress on the Betamax and semiconductors in the 1980s illustrate the central role of copyrights and patents in U.S. economic and racial politics.[22]

The rise of intellectual property as commodity prompted the emergence of valuation of copyrights and patents as a cottage industry with its own claims to objectivity. As copyrights and patents have been increasingly drawn into calculative discourses, scholars and activists have sought to respond to industry valuations, including those making racialized claims, using their own quantitative data. For instance, Michael Masnick of TechDirt has written extensively on the inflation of copyright infringement loss numbers.[23] These empirical approaches to intellectual property research that have emerged in the past twenty-five years merit closer examination. This Essay, then, proposes an intellectual history of the valuation of infringement of copyrights and patents, particularly as it has drawn lines based on race and nation, before considering how academics, particularly those who are invested in racial equity, are now responding to the uptake of statistics in those spaces. This Essay proceeds in four parts: Part I, "A Short History of Intellectual Property and Economic Loss," traces how copyrights and patents became properties subject to data collection from the 1850s to the present.

20. GRAHAM DUTFIELD, INTELLECTUAL PROPERTY RIGHTS AND THE LIFE SCIENCE INDUSTRIES 49–52 (2016); ADRIAN JOHNS, PIRACY: THE INTELLECTUAL PROPERTY WARS FROM GUTTENBERG TO GATES (2010) 25–26 (explaining how the Stationers' court, located in Stationers' Hall, regulated infringement in order to "preserve the public character of an intrinsically harmonious craft, the virtues of which were seen to be virtues of print itself").

21. DUTFIELD, *supra* note 20, at 58–59. Johns notes that, even in the nineteenth century, "a patent once obtained was often nothing more than a license to litigate. It provided no protection for a successful invention unless the patentee were prepared to defend it in lengthy, costly, and risky court battles, often against competitors with vastly greater resources." JOHNS, *supra* note 20, at 251. Not until the 1900s did science come to be linked with the common good, with the latter serving as a justification for the expansion of patents. *Id.* at 402. A similar transition unfolded in the culture industries, as television and film took hold on both sides of the Atlantic. *Id.* at 431–32.

22. *See infra* pp. 16–21.

23. *See, e.g.*, Mike Masnick, *Once Again, Piracy Is Destroying The Movie Industry… To Ever More Records At The Box Office?*, TECHDIRT (January 11, 2016), https://www.techdirt.com/2016/01/11/once-again-piracy-is-destroying-movie-industry-to-ever-more-records-box-office/ [https://perma.cc/5H76-NYCR].

Part II, "The Math Isn't Mathing, or How I Learned to Stop Worrying and Love Racial Arithmetic," thickens the concept of "racial arithmetic" as a tool of critical legal analysis, specifically with respect to racial justice and intellectual property. Part III, "Economic Valuation in the Liberatory Politics of Intellectual Property," considers how critical race intellectual property scholars have leveraged empirical methods and quantitative data to advocate for racial justice. Finally, Part IV, "Equity Mathematics and the Futures of Racial Equity in Intellectual Property," considers how scholars and activists might more effectively use their racial justice scholarship to critique the racial arithmetic that undergirds copyrights and patents.

I. A Short History of Intellectual Property and Economic Loss

While copyrights and patents began emerging in their early forms in the 15th century in Venice, they did not develop into widely accessible systems of property and rights until the middle of the 19th century.[24] As authors and inventors, instead of publishers and industrialists, began to reap the rewards of limited monopolies, e.g., through the internationalization of artists' rights in the Berne Convention,[25] the costs associated with infringement upon those monopolies became increasingly important. The propertization of knowledge alongside the development of capitalism created the conditions for the association of intellectual property with quantitative data. Liu Yinliang contextualizes intellectual property as part of the "commercial empire"[26] that the United States used to establish itself as a global power. Thomas Jefferson, through his conceptualization of "an empire of liberty,"[27] and William Henry

24. *See* Mario Biagioli, *Patent Republic: Representing Inventions, Constructing Rights and Authors*, 73 SOC. RSCH. 1129, 1132 (2006) (noting that some of earliest patents on historical record were registered in the 1400s in Venice); Matt Stahl & Olufunmilayo B. Arewa, *Accounting for Injustice: AFTRA, Work & Singers' Royalties* 7–8 (July, 1 2019) (unpublished working paper) (on file with Temple University Beasley School of Law) (describing how copyright law expanded in the music industry during the 19th century). *See generally* Lionel Bently, Martin Kretschmer, Elena Cooper, Patricia Akester, José Bellido, Marius Buning, Victor Drummond, Jane Ginsburg, Friedemann Kawohl, Joanna Kostyło, Frédéric Rideau, Katie Scott & Stef Van Gompel, Fifteen Years of Primary Sources on Copyright (1450–1900) (Feb. 20, 2024) (unpublished manuscript) (on file with CREATe, University of Glasgow) (showing how copyright law and knowledge production developed after the invention of the printing press in 1476).

25. *Summary of the Berne Convention for the Protection of Literary and Artistic Works (1886)*, WIPO, https://www.wipo.int/treaties/en/ip/berne/summary_berne.html [https://perma.cc/888C-3PGS]. For historical background on the Berne Convention, see Alan Story, *Burn Berne: Why the Leading International Copyright Convention Must Be Repealed Considering Copyright: Institute for Intellectual Property & Information Law Symposium: Essay*, 40 HOUS. L. REV. 763 (2003) (discussing the impacts of the Berne Convention and the international harmonization of copyright on nations in the Global South); Peter K. Yu, *Marshalling Copyright Knowledge to Understand Four Decades of Berne*, IP THEORY, Nov. 11, 2022, at 59 (tracing how copyright law has changed since the entry into force of the Berne Convention).

26. Liu Yinliang, *An American Intangible Empire of Intellectual Property Rights and Its Dilemmas*, 2 PEKING UNIV. L.J. 227, 228 (2014).

27. *Id.*

Seward, through his formulation of empire via "the commerce of the world,"[28] articulated the nation's early desires for soft power with (racial) capitalism at its core.[29] According to Yinliang, this commitment continued through the Cold War, under Presidents Harry Truman through Ronald Reagan, via programs designed to promote democracy through diplomatic means.[30] By the time George H. W. Bush became president, the United States had firmly shown itself to be a zealous advocate for democracy over socialism and established its global soft power.

U.S. accumulation of soft power included the use of intellectual property to build an empire. Yinliang observes that struggles over antitrust policy, including the Sherman Antitrust Act, made the United States inhospitable to patent commercialization until approximately the 1970s.[31] As a net importer of information until the mid-twentieth century, this was also true of copyright commercialization until approximately the 1950s, when the United States joined the Universal Copyright Convention.[32] Both the Sound Recording Act of 1971 and the Copyright Act of 1976 expanded copyright law by broadening the scope of copyrightable works and the term of protection afforded to them.[33] In the coming decades, this legislation facilitated the rapid growth of the film and music industries and created powerful incentives to produce copyrightable materials. The popularization of digital technologies in the 1990s and 2000s brought renewed attention to copyright, as digital innovations enabled "massive-scale copyright infringement on the *demand-side*" and "affected revenues of . . . creative industries, including software, music, and movies."[34] Similarly, the passage of the Patent Act of 1952 marked the beginning of a shift in United States patent policy.[35] Fritz Machlup's 1958 report on patent economics, which laid out for Congress the history of patents, played an important part in

28. *Id.* at 229.

29. See *infra* Part III for a discussion of racial capitalism.

30. *See* DEBORA J. HALBERT, THE STATE OF COPYRIGHT: THE COMPLEX RELATIONSHIPS OF CULTURAL CREATION IN A GLOBALIZED WORLD 90–92 (2014) (detailing how the United States leveraged intellectual property policy and growing soft power to promote capitalism over democracy during the Cold War).

31. Yinliang, *supra* note 26, at 233–34.

32. John A. Rothchild, *How the United States Stopped Being a Pirate Nation and Learned to Love International Copyright*, 39 PACE L. REV. 361, 364 & n.4 (2018).

33. KEVIN J. HICKEY & DANA A. SCHERER, CONG. RSCH. SERV., R47642, ON THE RADIO: PUBLIC PERFORMANCE RIGHTS IN SOUND RECORDINGS 5–6 (2023).

34. Christian Peukert & Margaritha Windisch, *The Economics of Copyright in the Digital Age*, J. ECON. SURVS., May 6, 2024, at 1, 1, 6–7.

35. *See* KEVIN J. HICKEY, CONG. RSCH. SERV., R44962, PATENT LAW: A PRIMER AND OVERVIEW OF EMERGING ISSUES 2 (2017) (explaining that the Patent Act of 1952 required investors seeking patent protection to file applications with the Patent and Trademark Office, ultimately allowing for the origination of exclusive rights).

transforming the discourse about the monopoly rights they created.[36] In the coming decades, between legislative shifts including the creation of the Court of Appeals for the Federal Circuit in 1982[37] and the adoption of the Bayh–Dole Act in 1980,[38] patents came to occupy an increasingly central role in the American economy.

Jack Valenti's testimony to Congress in 1982 marked a transformative moment in the commercialization and valuation of both copyrights *and* patents. His comments straddled the line between entertainment and technology, by addressing Hollywood films and Betamax recorders. Valenti took over leadership of the Motion Picture Association of America (MPAA) in 1966 after working as a top aide to President Lyndon B. Johnson.[39] The Hollywood studio, a quintessentially political institution, had been dismantled through antitrust legislation and subsequently resurrected in a new form. According to Valenti's autobiography, the MPAA was formed to clean up Hollywood:

> The MPAA was born as the result of various Hollywood scandals, most notably a sex orgy ending in the death of a young starlet that involved Fatty Arbuckle . . . [Hollywood's founding moguls] quickly organized the Motion Pictures Producers and Distribution Association (forerunner to the Motion Picture Association of today), whose objective was to bring—in their words—sanity, decency, and morality to the screen . . .
>
> To build the association and give it a moral leadership, they reached into President Harding's cabinet and tapped Will Hays, postmaster general at a time when that cabinet post had heft and influence. They agreed to give Hays, who was considered a pillar of purity in an otherwise sleaze-ridden administration, large powers in return for which he would serve as the public face and conscience of the movie industry.[40]

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36. STAFF OF SUBCOMM. ON PATENTS, TRADEMARKS, AND COPYRIGHTS, S. COMM. ON THE JUDICIARY, 85TH CONG., AN ECONOMIC REVIEW OF THE PATENT SYSTEM 2–5 (Comm. Print 1958) (prepared by Fritz Machlup); *see* Oscar Liivak, *A Crisis of Faith & the Scientific Future of Patent Theory*, 90 ST. JOHN'S L. REV. 639, 639 (2016) (observing that Machlup's "now-famous . . . indeterminate support" for the contemporary patent system "caused concern" when published).

37. Federal Courts Improvement Act of 1982, Pub. L. No. 97–164, 96 Stat. 25, 25.

38. Act of Dec. 12, 1980, Pub. L. No. 96–517, 94 Stat. 3015; *see The Bayh–Dole Act*, OFF. OF TECH. TRANSFER, SYRACUSE UNIV., https://techtransfer.syr.edu/about/bayh-dole/ [https://perma.cc/8WUQ-UFU9] (noting that the Bayh–Dole Act "speeds up the commercialization process of federally funded university research and helps new industries to develop quicker").

39. JACK VALENTI, THIS TIME, THIS PLACE: MY LIFE IN WAR, THE WHITE HOUSE, AND HOLLYWOOD 279–80 (2007). Valenti was tapped by President Johnson to serve as "a key member of his White House staff" shortly after the assassination of President Kennedy. *Id.* at 4–5.

40. *Id.* at 270.

At present, the Motion Picture Association, which followed the MPAA, claims to be "an engine for the U.S. economy."[41] Its website states: "In all, 2.32 million people—from special effects technicians to makeup artists to writers to set builders to ticket takers and more—work in jobs supported by the industry, which pays over $229 billion in wages annually."[42] By comparison, in 1996, twenty-seven years ago, the MPAA estimated that Hollywood contributed $27.5 billion to the California economy, employing 226,000 people.[43] Based on these numbers, the industry has grown 10-fold since the 1990s and fueled California's economic growth.

These economic figures reflect not only realities but also fictions about Hollywood's growth and its role in California's massive economy. The fictions, I argue, can be traced partly to the anti-Asian and xenophobic rhetoric that Valenti used to emphasize the value of copyrighted and patented objects to the United States. Valenti testified in Congress in 1982, with respect to the Betamax threat, that film and television is:

> [T]he single one American-made product that the Japanese, skilled beyond all comparison in their conquest of world trade, are unable to duplicate or to displace or to compete with or to clone . . .
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> . . . .
>
> . . . this asset, which is unlike steel or silicon chips or motor cars or electronics of all kinds—[is] a piece of sardonic irony that while the Japanese are unable to duplicate the American films by a flank assault, they can destroy it by this video cassette recorder.[44]

In Valenti's techno-orientalist nightmare, the Japanese are capable only of the most mechanical forms of thinking, those which require no imagination and steal from hardworking Americans. As Betsy Huang explains, techno-orientalism is not a new concept but one that arose in the 1880s with descriptions of Chinese people as alien and mechanistic automatons without emotions.[45] Combined with fears that Asians would overrun the American labor force and supplant United States inventorship with their own copies, the descriptions were historically used to pass racist legislation, including immigration quotas and nativist "Made in America" policies, as well as to

41. *Driving Local Economies*, MOTION PICTURE ASS'N, https://www.motionpictures.org/advocacy/driving-local-economies/ [https://perma.cc/UCT5-K3MS].

42. *Id.*

43. Kevin Lee, *"The Little State Department": Hollywood and the MPAA's Influence on U.S. Trade Relations*, 28 NW. J. INT'L L. & BUS. 371, 377 (2008).

44. *Home Recording of Copyrighted Works: Hearing on H.R. 4783, H.R. 4794, H.R. 4808, H.R. 5250, H.R. 5488, and H.R. 5705 Before the Subcomm. on Cts., C.L. & the Admin. of Just. of the H. Comm. on the Judiciary*, 97th Cong. 5 (1982) (statement of Jack Valenti, President, Motion Picture Association of America, Inc.).

45. Betsy Huang, *Premodern Orientalist Science Fictions*, MELUS, Winter 2008, at 23, 23.

juridically reinforce racial discrimination.[46] In Valenti's exposition, the Japanese lack innovative capacity. They cannot "compete with or . . . clone" American films. Valenti's use of war metaphors including "conquest of world trade" and "flank assault," adds a militant, patriotic urgency to the fight against the Betamax, without regard for diplomacy or compassion. Japanese infringement, despite its legality, is categorized as an attack on America, a notion which invariably raises specters of Pearl Harbor. Japanese technological innovation, in Valenti's narration, is a violation of the nation itself, akin to one of the worst attacks in U.S. military history.

Valenti's speech, which encourages anxieties about not only American competitiveness in film production (copyright) but also in silicon chips and motor cars (patents), lays the groundwork for the modern use of intellectual property rhetoric as a tool for manipulating narratives of economic loss. In Valenti's vision, technology and exceptionalism justify protectionism, as well as strategic investment in structurally otherizing Asians and other people of color as part of the larger project of building a (white) copyright and patent accounting architecture. This process calcified in the MPAA-supported political outputs of the United States Trade Representative (USTR), including Special 301 Reports. In the first published Special 301 Report from 1989, only eight nations were placed on the Priority Watch List.[47] All eight of these nations—Brazil, the Republic of Korea, India, Mexico, the People's Republic of China, Saudi Arabia, Taiwan, and Thailand—are located in the Global South. Even today, the majority of the countries named on the Special 301 Priority Watch List represent the Global South.[48] The formalization of the USTR's Special 301 Reports created a veneer of legitimacy around the ethno-racial statistics constructed within intellectual property contexts while also producing considerable free trade leverage for the U.S. and the film industry, among others. Now, over four decades later, the pressure created by the USTR seeps into international trade more generally, facilitating and justifying claims of lost revenues by laundering them through the nation-state. Joe Karaganis and Sean Flynn describe a system of "networked governance" that emerged through the USTR, with national coordinating bodies across the world collaborating with industry representatives to ensure enforcement of intellectual property rights.[49] Paul McDonald explains how

46. *See id.* at 23–24 (noting California Senator John Miller's use of similar descriptions to propose a ban on immigration from China).

47. OFF. OF U.S. TRADE REPRESENTATIVE, FACT SHEET: "SPECIAL 301" ON INTELLECTUAL PROPERTY 1 (1989).

48. OFF. OF U.S. TRADE REPRESENTATIVE, 2024 SPECIAL 301 REPORT 5 (2024).

49. Joe Karaganis & Sean Flynn, *Networked Governance and the USTR*, *in* MEDIA PIRACY IN EMERGING ECONOMIES 75, 76 (Joe Karaganis ed., 2011); *see also* Lee, *supra* note 43, at 376 (building on the work of Ruth Okediji in observing that "[d]omestic industries have a wide opportunity to assert influence in Washington because of the requirement of implementing legislation to give domestic effect to treaty obligations").

this network emerged through Big Copyright's deployment of "lobbying capital," a term that describes both political and economic clout.[50] This lobbying capital is amassed not only through "educational campaigns," such as the one around copyright infringement that Tarleton Gillespie describes in Canadian schools,[51] but also the strategic production of reports that further comparatively racialize through economic loss statistics. McDonald observes of quantitative data about Hollywood and its economic impact:

> [T]he MPAA has directly or indirectly commissioned two forms of statistical evidence, with reports quantifying either the value added by copyright to America's economy and workforce, or the negative effects of piracy on revenue losses and employment. Since 1990, the MPAA has participated in the IIPA's commissioning of annual *Copyright Industries in the US Economy* reports on the contribution of copyright to US GDP and employment. To argue up the importance of copyright, these reports combine data for both the "core" and "total" copyright industries. Core industries (e.g.[,] film, music, publishing) have the primary function of creating, producing, distributing or exhibiting copyright materials.[52]

These reports, scholars observe, recycle dramatic data and charts, as well as (re)produce "piracy" as a problem.[53] McDonald observes that:

> [A]ny attempt to measure piracy markets inevitably confronts the foundational obstacle of seeking to produce valid data on an illicit realm of covert cultural production and consumption that exists outside of, and purposefully in resistance to, formalized systems of measurement. "What is not known overwhelms what is known," so assessments "rely excessively on fragmentary and anecdotal information; where data are lacking, unsubstantiated opinions are often treated as facts."[54]

Tautological measures of "piracy," filtered through the desire to stoke xenophobic nationalism, often while maintaining "whiteness as property,"[55] encourage racialized administrative quantification. When pitted against one

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50. Paul McDonald, *Hollywood, the MPAA, and the Formation of Anti-Piracy Policy*, 22 INT'L J. CULT. POL'Y 686, 699 (2016).

51. Tarleton Gillespie, *Characterizing Copyright in the Classroom: The Cultural Work of Antipiracy Campaigns*, 2 COMM'N, CULTURE & CRITIQUE 274, 276 (2009).

52. McDonald, *supra* note 50, at 696.

53. *E.g.*, Majid Yar, *The Rhetorics and Myths of Anti-Piracy Campaigns: Criminalization, Moral Pedagogy and Capitalist Property Relations in the Classroom*, 10 NEW MEDIA & SOC'Y 605, 607–08 (2008).

54. McDonald, *supra* note 50, at 697.

55. *See* Cheryl I. Harris, *Whiteness as Property*, 106 HARV. L. REV. 1707, 1736–37 (1993). Professor Harris argues that whiteness functions as property because:

> In ways so embedded that it is rarely apparent, the set of assumptions, privileges, and benefits that accompany the status of being white have become a valuable asset that whites sought to protect and that those who passed sought to attain — by fraud if

another, e.g., in discourses that one nation has improved their performance of good intellectual property citizenship while the other has not, these self-justifying texts produce relational racial dynamics that reinforce the authority of xenophobic whiteness, particularly as it is situated in the United States and engineered through intellectual property nationalism.[56] They epitomize (white) racial arithmetic and illustrate how it operates as intellectual property architecture.

A similar and overlapping trajectory was visible in patent law, specifically with respect to technological competition. Patents were central to both the Space Race and Cold War. Because many were governed by the Invention Secrecy Act of 1951,[57] their relationship to the public good was contested.[58] By the mid-1960s, researchers associated with Chicago neoliberalism and Cowles planning had come to a head on the issue of how to best maximize United States military research and development (R&D), specifically whether military innovation could be best maximized through the treatment of science as a public good or a patentable subject.[59] The RAND Corporation (hereinafter RAND) researcher Richard Nelson observed that "the Cold War engendered a 'heightened interest in inventive activity'

> necessary. Whites have come to expect and rely on these benefits, and over time these expectations have been affirmed, legitimated, and protected by the law.

Id. at 1713.

56. For a discussion of "innovation nationalism" in the patent context, see generally Sapna Kumar, *Innovation Nationalism*, 51 CONN. L. REV. 205 (2019).

57. *See* 35 U.S.C. § 181. This act requires that:

> Whenever publication or disclosure by the publication of an application or by the grant of a patent on an invention in which the Government has a property interest might, in the opinion of the head of the interested Government agency, be detrimental to the national security, the Commissioner of Patents upon being so notified shall order that the invention be kept secret and shall withhold the publication of the application or the grant of a patent therefor under the conditions set forth hereinafter.

Id.

58. *See* Robert Van Horn & Matthias Klaes, *Chicago Neoliberalism Versus Cowles Planning: Perspectives on Patents and Public Goods in Cold War Economic Thought*, 47 J. HIST. BEHAV. SCIS. 302, 304 (2011) (defining public good as "a good that will not be adequately supplied to society through markets"). For a more complete discussion of the historical emergence of RAND as an authority on formal and quantified economic thinking, *see* Elizabeth Popp Berman, THINKING LIKE AN ECONOMIST: HOW EFFICIENCY REPLACED EQUALITY IN U.S. PUBLIC POLICY 41 (2022) ("The process of introducing the economic style of reasoning to the world of policy was a long, slow one: of building networks, building institutions, and building knowledge. Much of this work was undertaken by two intellectual communities— a group of 'systems analysts' from the RAND Corporation and a looser network of industrial organization economists, initially centered at Harvard. Both groups were grounded in the newly dominant microeconomic framework, but each focused on a different aspect of policy making: the systems analysts on how government should make policy decisions, and the industrial organization economists on how it should govern markets.")

59. Van Horn and Klaes, *supra* note 58, at 305 (articulating the views of Cowles planning and Chicago neoliberalism, two major schools of economic thought that emerged during the Cold War, on the development of military technologies).

because of 'the growing awareness that our national security may depend on the output of our military research and development effort.'"[60] The silicon chips that Valenti flagged in his comments to Congress were a central part of this conversation. Ultimately, Kenneth Arrow—representing Cowles planning's view that military R&D ought to be subsidized by the United States federal government so that corporations like RAND could better innovate—squared off against Ronald Coase, representing Chicago neoliberalism's classic view that "research was not a public good" and therefore government intervention has "a negligible role to play" in fostering research and development.[61] One inference that might be drawn from this is that Coase viewed patent monopolies as a threat to innovation. Cold War tinkerers who benefited from this influx of federally subsidized R&D, in what would later become Silicon Valley, laid the groundwork for the contemporary technological landscape characterized by patented digital technologies, from software code to artificial intelligence.[62]

Not surprisingly, RAND, which benefited from decades of military funding, often found itself on the same side of the patent infringement rhetoric as Valenti's MPAA. In 2009, RAND published a report entitled *Film Piracy, Organized Crime, and Terrorism*, in which it laid out the costs of film piracy and their relationship to terrorism.[63] The arguments that the RAND report made, much like Valenti's testimony and the USTR's Special 301 Reports, were racialized and nationalized to highlight particular nations as bad intellectual property citizens, as well as threats to the global world order.[64] The coalescence of film industry rhetoric with military industry rhetoric was not incidental. This groundwork, laid over years of government subsidization of *both* Hollywood and RAND via informal channels,[65] manifested in the production of a RAND report that blamed economic losses produced through intellectual property infringement largely on the Global

60. *Id.* (quoting Richard R. Nelson, *Uncertainty, Learning, and the Economics of Parallel Research and Development Efforts*, 43 REV. ECON. & STAT. 351, 351 (1961)).

61. *Id.* According to the author, RAND likely perceived that it would be acting against its own self-interests if Coase won out. *Id.* at 318.

62. For an authoritative history of the relationship between the Cold War, federal government, and digital technologies, see generally MARGARET O'MARA, THE CODE: SILICON VALLEY AND THE REMAKING OF AMERICA (2019).

63. *See generally* GREGORY F. TREVERTON, CARL MATTHIES, KARLA J. CUNNINGHAM, JEREMIAH GOULKA, GREG RIDGEWAY, ANNY WONG, RAND CORPORATION, FILM PIRACY, ORGANIZED CRIME, AND TERRORISM (2009) (outlining, from the perspective of RAND, the links and implications between criminality, terrorism, and piracy).

64. *See id.* at 95–96 (asserting links among criminality, terrorism, and piracy).

65. *See, e.g.*, Pearse Redmond, *The Historical Roots of CIA-Hollywood Propaganda*, 76 AM. J. ECON. & SOCIO. 280, 285–86 (2017) (describing the films produced by the Army's First Production Unit); Saul Friedman, *The RAND Corporation and Our Policy Makers*, ATL. MONTHLY, Sept. 1963, at 61, 64 (observing that "[t]he air force . . . has accounted for more than 80 percent of Rand's earnings in the past few years and all of Rand's earnings in earlier years").

South. The convergence of the copyright and patent discourse produced by the MPAA and RAND is important in understanding the role of intellectual property, specifically quantitative data about the economic losses and military threats associated with copyrights and patents, on global geopolitics. As valuation of intellectual property developed into an area of study unto itself, for example, in discussions of how to commercialize patent portfolios,[66] it built upon the models that military-industrial corporations used to capitalize on the United States federal government's incentivization of certain types of innovation.

The production of quantitative data about the costs of intellectual property loss, then, is deeply embedded within the logics of United States diplomatic and military power projection. Copyrights and patents are lucrative geopolitical tools that are frequently weaponized in the service of U.S. hegemony. In 2017, *The Associated Press* reported that intellectual property theft costs the U.S. economy up to $600B annually.[67] Despite this astronomical number, as Mike Masnick writes: "Most of these reports have absolutely no basis in reality and have been widely debunked, even by the US government itself."[68] Nonetheless, infringement statistics persist, often in federal government and technology corporation reports. In the next section, I show this is partly because, as a genre, these reports facilitate racial arithmetic, particularly of a type that sustains United States economic and military hegemony in a self-perpetuating cycle.

II. The Math Isn't Mathing, or How I Learned to Stop Worrying and Love Racial Arithmetic

The histories of the quantification of intellectual property infringement are important because they highlight the political and cultural contexts in which purportedly objective statistics about economic costs associated with copyrights and patents were produced. Yet, as Lorraine Daston and Peter Galison write: "Scientific objectivity has a history . . . . Objectivity is blind sight, seeing without inference, interpretation, or intelligence."[69] In other words, objectivity as a concept evolved as part of human civilization more generally, emerging in Europe in the middle of the 18th century and developing over time. Science and technology studies scholars increasingly

66. *See generally* Manal S. AlGhamdi & Christopher M. Durugbo, *Strategies for Managing Intellectual Property Value: A Systematic Review*, WORLD PAT. INFO., Dec. 2021, at 1 (outlining strategies for maximizing the values of intellectual property portfolios).

67. Paul Wiseman, *Counterfeiters, Hackers Cost US up to $600 Billion a Year*, ASSOC. PRESS (Feb. 26, 2017), https://apnews.com/counterfeiters-hackers-cost-us-up-to-600-billion-a-year-2234bddc68c14ba18d4d403442187c59 [https://perma.cc/Y8G3-586U].

68. Mike Masnick, *If You Think the Cost of 'Piracy' Is High, What About the Cost of Enforcement?*, TECHDIRT (May 8, 2012), https://www.techdirt.com/2012/05/08/if-you-think-cost-piracy-is-high-what-about-cost-enforcement/ [https://perma.cc/ST88-3EFB].

69. LORRAINE & PETER GALISON, OBJECTIVITY 17 (2007).

critique social scientific approaches to administrative quantification as a means of production objectivity, including in fields such as economics. Historian Robert Skidelsky accuses the discipline of economics, built on caricatured portraits of human psychology instead of observable practice, of suffering from "physics envy."[70] He observes that unlike those working in physical sciences, economists cannot construct isolated controlled experiments.[71] This results in the production of ambiguous and opaque theories that risk tangible harm. In a review of Skidelsky's historical account of economics, Simon Torracinta notes: "Even when they attempt to be transparent, textbooks and working economists offer very different answers. In light of the stranglehold economics has on public policy, the implications of this central ambiguity are not solely philosophical: they are also political."[72] These limitations implicate intellectual property as well.

Racial arithmetic at its core is a conceptual framework that highlights when and how seemingly objective quantitative data, often produced in the context of law and economics, is deployed for political purposes, specifically with respect to race. While Porter traces quantitative data collection through mathematics, psychology, physics, accounting, and economics, he is ultimately concerned with the emergence of cost–benefit analysis, which was originally used to value intangible goods in 19th century France.[73] Numbers evolved into abstract and indisputable forms of proof over centuries of utilitarian calculation. The separation of *judgment* from their production made it possible to leverage them persuasively, with minimal dispute. In the United States in 1950, economists from the Bureau of Agriculture Economics "issued a report, which might reasonably be called the founding document of cost–benefit analysis as an economic methodology . . . . It was an attempt to establish a rigorous, quantitative basis for public decisions, the beginnings of a kind of decision theory."[74] Porter goes on to say: "The political demands on cost–benefit analysis led in many cases to the quantification of values that are not readily expressed in money terms, or given numbers at all."[75] Both cost–benefit analysis and administrative quantification have emerged as methods of persuasion in which racial arithmetic is particularly helpful. Racial arithmetic, then, is a tool for steering policy agendas.

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70. *See* ROBERT SKIDELSKY, WHAT'S WRONG WITH ECONOMICS? A PRIMER FOR THE PERPLEXED 6, 8–9 (2020) (critiquing the methodology of mainstream economics for incorporating and making assumptions that oversimplify human behavior); Simon Torracinta, *Bad Economics*, BOS. REV. (Mar. 9, 2022), https://www.bostonreview.net/articles/bad-economics/ [https://perma.cc/W2KC-W2GG] (contextualizing Skidelsky's critique of the discipline's "physics envy" relative to other recent, related scholarship).

71. SKIDELSKY, *supra* note 70, at 1–4.

72. Torracinta, *supra* note 70.

73. Porter, *supra* note 7, at 248.

74. *Id.* at 250.

75. *Id.*

As a practice, racial arithmetic fuels narratives about white innocence and entitlement while also indicating Black and Brown guilt and culpability. The distance produced between numerical accusations and the truth of racism facilitates racist policymaking, particularly when the numbers confirm preexisting biases. Rodríguez-Muñiz observes:

> Over the past two hundred years, the ever-intensifying quantification of racial categories has shaped politics in profound ways . . . . *[R]acial arithmetic* . . . refers to the use of ethnoracial statistics in political argumentation and decision-making. In other words, it names situations in which such knowledge is invoked by political actors to determine or justify the distribution of resources and rights.[76]

With the air of objectivity bestowed by quantitative data, racist decision-making appears dispassionate and natural, as in RAND, MPAA, and USTR statistics. Rodríguez-Muñiz observes that racial arithmetic is "undertaken by political actors to advance their agendas over or in alignment with the agendas of others."[77] The mere act of identifying racial categories (e.g., through demographic data) produces oppositional racial tensions that pit groups against one another. In this sense, histories of objectivity, quantification, and calculation intersect with those of race to produce alibis for racial discrimination and the continuation of racial inequity. These confluences call for not only critical evaluation of statistics about race but also care in the production of data to counter those statistics.

In order to interrogate *how* racial data is deployed, Rodríguez-Muñiz advocates for *relational* study of racial arithmetic.[78] This approach is rooted in two primary rationales. First, as MacArthur Award winner Natalia Molina maintains, a relational approach to studying race is necessary in order to trace how race travels across categories and time, as a consistent rhetorical and cultural force as opposed to a compartmentalized association with particular groups.[79] Molina first introduced the concept of relational racialization in a longitudinal study of immigration that considered when and how racial scripts emerged and developed over time.[80] These consistent but flexible ways of thinking about race facilitated racist thinking across racial groups, with ease and familiarity. I have previously shown that relationally racialized understandings of good/bad intellectual property citizens have long informed understandings of the protectability—and lack thereof—of the work of

76. Rodríguez-Muñiz, *supra* note 13, at 278.

77. *Id.* at 280.

78. *Id.* at 280–81.

79. Natalia Molina, How Race Is Made in America: Immigration, Citizenship, and the Historical Power of Racial Scripts 3–4, 6–8 (2014).

80. *See generally id.* (tracing how racial scripts are developed and used against multiple racial groups over time in the context of immigration).

people of color.[81] Second, the relational approach to considering racial arithmetic is preferable to the two other common approaches to it, i.e., group-centric and comparative approaches. For Rodríguez-Muñiz, the group-centric approach "treats social phenomena as intrinsic and bounded,"[82] while the comparative one is "unable to capture intersections and exchanges between different ethnoracial formations."[83] Invoking the pathbreaking work of Michael Omi and Howard Winant on racial formation in the U.S., Rodríguez-Muñiz notes that the relational approach "orients analysis toward[s] the interface between different ethnoracial constituencies . . . . [T]he use of ethnoracial statistics to make political claims, is undertaken by political actors to advance their agendas over or in alignment with the agendas of others."[84] Taken together, these methodological observations suggest intellectual property scholars invested in equity ought to consider when and how claims about racialized infringement are made, e.g., about Chinese, Indian, or Mexican infringers, and relative to whom.

One way to systematically deconstruct racial arithmetic is through the emergent theoretical framework of QuantCrit. David Gillborn, Paul Warmington, and Sean Demack write:

> Alongside the possible use of quantitative methods to aid a critical race analysis, we are especially aware that statistics are frequently mobilized to obfuscate, camouflage, and even to further legitimate racist inequities . . . .
>
> . . . [N]umbers are used to disguise racism . . . and protect the racist status quo, that is, a position of White supremacy where the assumptions, interests, fears, and fantasies of White people are placed at the heart of everyday politics and policy-making. We critique the special status that is wrongly accorded to quantitative data and debunk the truth claims associated with statistical research.[85]

While critical race theorists from Derrick Bell to Kimberlé Crenshaw initially adopted case analyses as a methodology for identifying and theorizing the persistence of intersectional racial inequity after the civil rights movement,[86]

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81. I have previously used the concept of racial scripts to understand how racism, colonialism, and nationalism persist in intellectual property discourses, beginning with early copyright and patent statutes of the 1700s and extending to today in my book ANJALI VATS, THE COLOR OF CREATORSHIP: INTELLECTUAL PROPERTY, RACE, AND THE MAKING OF AMERICANS (2020).

82. Rodríguez-Muñiz, *supra* note 13, at 279.

83. *Id.* at 280.

84. *Id.*

85. David Gillborn, Paul Warmington & Sean Demack, *QuantCrit: Education, Policy, 'Big Data' and Principles for a Critical Race Theory of Statistics*, *in* FOUNDATIONS OF CRITICAL RACE THEORY IN EDUCATION 175, 176–77 (Edward Taylor, David Gillborn & Gloria Ladson-Billings eds., 3d ed. 2023).

86. CRITICAL RACE THEORY: THE KEY WRITINGS THAT FORMED THE MOVEMENT 1 (Kimberlé Crenshaw, Neil Gotanda, Gary Peller & Kendall Thomas eds., 1995).

critical race studies scholars have increasingly turned to quantitative analyses to demonstrate the need for policy interventions, often as a response to conservative deployment and deconstruction of statistics. Empirical studies offer important insights into when and how racism ought to be addressed—and when attempts to do so are succeeding or failing. While some contemporary discussions of racial injustice, such as *NPR*'s *Codeswitch* and the *NYT*'s *1619 Project*, still primarily draw upon historical, humanistic, qualitative, and journalistic methods,[87] others follow more quantitative approaches. QuantCrit, in the tradition of W.E.B. DuBois's hand-drawn infographics exhibited at the 1890 World's Fair, centers sound data and statistics in arguments for racial equity, as well as critiques specious data and statistics leveraged in favor of discriminatory policy:

> The five tenets of QuantCrit include recognizing the centrality of racism and how it is "intertwined in the fabric of society"; acknowledging that numbers are not neutral since there can be a lack of objectivity in how data is collected; understanding that categories of race are not natural or given and that race can be socially constructed; conceding that data cannot speak for itself because biased people need to analyze it; and orienting the focus of research around social justice and equity.[88]

The second tenet of QuantCrit is an important one for considering the political deployment of empirical data. Identifying when and where numbers are ideologically motivated and how those numbers are deployed vis-à-vis ethno-racial statistics, is vital racial justice work.

Applied in the context of intellectual property law, QuantCrit, pushes scholars to ask how the numbers that drive copyright, patent, and trademark analyses are produced and when and how their production is politically driven. Moreover, it suggests a need for critical analysis of success of racial justice measures to avoid what Jordana Goodman calls "restorative justice theater" or "performatively pushing towards racial [justice] . . . equity but

87. *See generally* Code Switch, NPR, https://www.npr.org/podcasts/510312/codeswitch [https://perma.cc/Z6C9-XHC2] (covering topics related to race and equity using a journalistic podcast format); Jake Silverstein, *The 1619 Project and the Long Battle Over U.S. History*, N.Y. TIMES MAG. (Nov. 9, 2021), https://www.nytimes.com/2021/11/09/magazine/1619-project-us-history.html [https://perma.cc/A7LJ-PYMV] (tracing aspects of U.S. history and politics to the beginning of slavery in 1619 using humanistic and journalistic methods).

88. Anna Mazarakis, *Research from SPIA Highlights the Growing Field of Quantitative Critical Race Theory*, PRINCETON SCH. PUB. AND INT'L AFFS. (Sept. 19, 2023) (quoting Wendy Castillo & Nathan Babb, *Transforming the Future of Quantitative Educational Research: A Systematic Review of Enacting QuantCrit*, 27 RACE, ETHNICITY & EDUC., 1, 3 (2024)), https://spia.princeton.edu/news/research-spia-highlights-growing-field-quantitative-critical-race-theory [https://perma.cc/PBY4-HXKZ]. *See generally* Robert Brauneis and Dotan Oliar, *An Empirical Study of the Race, Ethnicity, Gender, and Age of Copyright Registrants*, 86 GEO. WASH. L. REV. 46 (2018) (examining the demographic distribution of copyright registrations using census data to predict last names in the years from 1978 to 2012).

failing to quantitatively demonstrate that their efforts effectively repair previous harm."[89] In the context of intellectual property, this has prompted studies seeking to quantify racial exclusion and racial disparity over time, sometimes with inconclusive results that lend themselves to inaccurate dangerous storytelling. Gillborn, Warmington, and Demack continue:

> Policy-makers, the media, and many academics treat quantitative material as if it is fundamentally different and superior to qualitative data. Numbers are assumed to report 'the facts'; they are seen as authoritative, neutral, dispassionate, and objective. Indeed, governments do not use numbers merely to describe the world, they increasingly use statistics as *an essential part of the technology by which they seek to re/shape educational systems* . . . [N]umbers play a key role in how inequality is shaped, legitimized, and protected. This has been called 'policy as numbers.'[90]

Replacing free and independent thought with quantitative data that audiences will reflexively accept is a strategy of persuasion that is historically and politically evident in the valuation of copyright and patent infringement. In this moment, data and intellectual property go hand-in-hand, with major news outlets reporting the economic losses associated with infringement on a weekly, if not daily, basis. Intellectual property policy did not always operate through numbers, though. Instead, as evidenced by the MPAA's lobbying strategies, it was engineered over time, through social scientific methods, in an architectural project that combined morality, statistics, and narrative in a consistently racialized manner.

More broadly speaking, QuantCrit is a practical tool for studying racial capitalism, which Robin D.G. Kelley contends is a necessary methodological response to recent turns to new capitalism studies.[91] New capitalism studies, originating from the work of scholars such as Richard Sennett,[92] ask questions about the past, present, and future of capitalism, particularly as it relates to state control, financial markets, and everyday life. Oren Bracha makes the case for taking up capitalism as a driving force in the development of intellectual property policy through commodification:

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89. Jordana R. Goodman, *Sy-STEM-ic Bias: An Exploration of Gender and Race Representation on University Patents*, 87 BROOK. L. REV. 853, 856 (2022).

90. Gillborn, Warmington & Demack, *supra* note 85, at 177 (emphasis added) (emphasis omitted).

91. *See generally* Robin D. G. Kelley, *Freedom Dreaming*, *in* IMAGINING GLOBAL FUTURES, 196 (Adom Getachew, Deborah Chasman & Joshua Cohen eds., 2022) (examining how racial capitalism structures oppression and exploitation and emphasizing that true liberation requires dismantling capitalism rather than adjusting its mechanisms).

92. *See generally* Richard Sennett, *The New Capitalism*, 64 SOC. RSCH., 161 (1997) (examining how technological and social change have dramatically altered the nature of capitalism and work to render them "new").

> [A]n attractive frame for studying the history of intellectual property is the history of capitalism shorn of its strong contingency drive. Within this frame capitalism, rather than seen as a random collection of accidental forms, supplies a structured and orienting framework. The rise of intellectual property was part of the creation of a new and distinctive set of *social relations* based on the commodity form and market exchange as a pervasive type of human interaction that radically transformed all aspects of society . . . . [T]hree features . . . make intellectual property a particularly fitting . . . object of study within the organizing frame of the history of capitalism: the history of intellectual property understood as the study of *the process of commodification applied to the unique subject matter of information; the structural role played by intellectual property in the development of capitalism*; and *intellectual property as an area where some of the naturalizing assumptions of a market society are prone to float to the surface and occasionally be challenged.*[93]

A racially attuned analogue to the structural analysis that Bracha proposes, in line with Kelley's discussions of racial capitalism, might consider when and how the deployment of racial arithmetic has facilitated the production of the contemporary intellectual property regime and narratives of equality that push back against it. This is particularly important work given the post-fact modernity in which innumeracy is prevalent, and statistics are stand-ins for good-faith evidence. In the next Part, I make the case that addressing the fact that intellectual property is organized through racial arithmetic ought to be an explicit and central goal of those doing related equity work. Understanding how and when the valuation of infringement intersects with racial formation and wealth accumulation breaks the illusion that economic loss calculations are categorically true and objective.

III. Economic Valuation in the Liberatory Politics of Intellectual Property

The first two Parts of this Essay illuminate how quantitative data about copyright and patent infringement is embedded within larger social and political narratives of administrative quantification that transform data from mere numbers to independent evidence, free from the bias of human judgment. This Part examines how those advocating for intellectual property equity have taken up empirical evidence, and how they might do so more intentionally and effectively, with careful attention to how racial arithmetic already operates in copyright and patent discussions.

The first conclusion worth drawing from the historical industry analysis that I have laid out is that infringement numbers are systematically constructed as part of a larger commitment to perceived objectivity as a

93. Oren Bracha, *The History of Intellectual Property as The History of Capitalism*, 71 CASE W. RSRV. L. REV. 547, 548–49 (2020) (emphasis added).

persuasive tool. Lee observes: "Hollywood could count on Washington to negotiate lower foreign trade barriers and, in turn, Washington relied on Hollywood to spread American ideals to engender sympathies for the United States and to counteract communist influence."[94] To this end, the MPAA established its anti-piracy program in 1976, stating that it sought to: "[I]mplement and strengthen existing copyright legislation, assist local governments and law enforcement authorities in the investigation and prosecution of piracy cases, initiate civil litigation on behalf of its Member Companies against copyright infringers and . . . work[] to strengthen the copyright law of other nations and suggest appropriate penalties."[95] The MPAA now contends that, at the time, copyright infringement of films was costing the industry $100M annually.[96] I want to emphasize the pro-American stance apparent in "strengthen[ing] the copyright law of other nations."[97] Similar arguments can be made of patents, specifically that claims about pharmaceutical patent infringement on intentionally overpriced drugs are frequently used to justify monumental economic loss figures that do not accurately represent harms to the industry.[98]

The MPAA's codified bullying, coupled with the production of nationalist films, transformed intellectual property protection into a tool of racial arithmetic. In essence, it became a vehicle for imagining the United States versus the rest using relational racial intellectual property discourse.

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94. Lee, *supra* note 43, at 380. For a discussion of the relationship between intellectual property, foreign relations, and anti-communist propaganda, see generally DEBORA HALBERT, THE STATE OF COPYRIGHT: THE COMPLEX RELATIONSHIP OF CULTURAL CREATION IN A GLOBALIZED WORLD (2014).

95. Lee, *supra* note 43, at 380 (quoting Stephen K. Shiu, *Motion Picture Piracy: Controlling the Seemingly Endless Supply of Counterfeit Optical Discs in Taiwan*, 39 VAND. J. TRANSNAT'L L. 607, 617 (2006).

96. *About*, MOTION PICTURE ASS'N, https://www.motionpictures.org/about/ [https://perma.cc/G8N4-WDW5].

97. Lee, *supra* note 43, at 380 (quoting Shiu, *supra* note 95, at 617).

98. *See, e.g.*, Marcia Angell & Arnold S. Relman, *Patents, Profits & American Medicine: Conflicts of Interest in the Testing & Marketing of New Drugs*, DAEDALUS, Spring 2002, at 102, 103–04 (discussing how lack of "reasonable pricing" for pharmaceutical patents permits pharmaceutical companies to extract excessive wealth from patents); *see also* Patrick Durisch, *Price of Medication: Walls of Abusive Patents Are Standing in the Way of Competition*, PUBLIC EYE (Aug. 30, 2024) (explaining that patent thickets create obstacles to pharmaceutical competition and result in exorbitant prices for patented drugs); MURPHY HALLIBURTON, INDIA AND THE PATENT WARS: PHARMACEUTICALS IN THE NEW INTELLECTUAL PROPERTY REGIME 2 (Suzanne Gordon & Sioban Nelson eds., 2017) ("Over the last ten years, as I spoke to people in the United States about the research I had been doing on controversies over patents in India, some would make comments about Indian companies 'stealing' products from US companies."); Tim Smedley, *Patent Wars: Has India Taken on Big Pharma and Won?*, THE GUARDIAN (May 14, 2023), https://www.theguardian.com/sustainable-business/patent-wars-india-takes-on-big-pharma#:~:text=India's%20trailblazing%20patents%20decision&text=On%201%20April%2C%20pharma%20giant,not%20deserve%20a%20new%20patent [https://perma.cc/3327-XSJX] (explaining the Supreme Court of India's decisions to limit evergreening and uphold compulsory licenses using "loopholes" in the TRIPS Agreement).

Those scholars and activists who are invested in racial justice must come to terms with this opaque mathematical sleight of hand, even as they take up adjacent issues. I propose addressing this issue by examining the approaches intellectual property scholars presently use to take up racial equity in copyright and patent conversations. In this section, I seek to provisionally characterize the types of empirical scholarship that those invested in racial justice are doing around intellectual property, and then assess how it interfaces with racial arithmetic, particularly with respect to the underlying tenets of economics and (neo)liberalism, that are frequently used to deny racial inequity in copyright and patent spaces.

I further offer suggestions for how intellectual property scholars might adopt QuantCrit approaches to studying racial equity in order to undo government and industry racial arithmetic. The three categories of scholarship I consider are: (1) emphasis on concrete monetary values to solve particular problems, e.g., calling for reparations to address the musical dispossession of people of color; (2) examination of the historical record with respect to race and equity, e.g., a look at the race and gender demographics of copyright registrants; and (3) assessment of the efficacy of racial justice policies, e.g., patent equitability policies in university settings. Given the landscape of racial arithmetic that this paper has explored, I maintain that considering these scholarly and activist strategies in the larger context of the ethno-racial statistical practices that have driven political power building in intellectual property heavy industries is vital to building effective racial equity strategies in the coming years. As the federal government seeks to dismantle civil rights language and infrastructures, it will be more important than ever to consider when and how persuasion operates to mobilize groups *against* racial justice, as well as for it, and what role data and statistics play in their overall policy success subsequent to that persuasion.

A. Quantifying Racial Justice Repair in Copyright and Patent Contexts

One category of racial justice scholarship focused on copyrights and patents considers how reparative or restorative relief might look for those who suffered harms related to those property rights.[99] In his work on music and reparations, Kevin J. Greene traces the inequities in pay for Black artists such as Bessie Smith and white artists such as Irving Berlin.[100] The empirical salary data he offers shows that racial inequity was a feature and not a bug of the copyright regime. In a particularly effective imagining of reparative policy, he observes: "Congress, for example, passed the Audio Home

99. For a discussion of patent reparations related to HeLa cell lines, see, for example, Marlon Rachquel Moore, *Opposed to the Being of Henrietta: Bioslavery, Pop Culture and the Third Life of HeLa Cells*, 43 MED. HUMANS. 55, 60 (2017).

100. Kevin J. Greene, *"Copynorms," Black Cultural Production, and the Debate Over African-American Reparations*, 25 CARDOZO ARTS & ENT. L.J. 1179, 1204, 1207 (2008).

Recording Act in 1992, which 'imposes a 3 percent statutory levy on the sales of blank digital audiotapes and a 2 percent levy on the sale of digital audiotape equipment.'"[101] This levy model serves as a tangible policy proposal for implementing reparations, with minor cost to recording industries. This particular article, "'Copynorms,' Black Cultural Production, and the Debate Over African American Reparations," also lays out a counter architectural blueprint for engineering an equitable copyright regime. The strength of Greene's work is that it lays out a statistical narrative that counters the racial arithmetic advanced by companies such as the Recording Industry Association of America, Sony Music Entertainment, Warner Music Group, and Universal Music Group about their attentiveness to musical inequity. Sony, for instance, claimed to be paying artists through an initiative called Artist Forward.[102] However, media outlets such as *Vice* confirm that racial inequities persist despite performative claims to be doing right by artists.[103] Given the statistical illiteracy of many Americans, the claims and numbers that Sony advances operate as a form of racial arithmetic that suggests fair play with musicians, who are often disadvantaged by their racial identities. The work of scholars like Greene is as vital as a critical race intellectual property intervention—and also as a QuantCrit intervention—into the conversation that reveals how administrative quantification operates in the music industry, particularly as a mechanism for sidestepping truly racially ameliorative measures in favor of maintaining power structures.

Scholars such as Matt Stahl, Olufunmilayo Arewa, Peter DiCola, and Kembrew McLeod have done similar work, focusing on the costs of dispossession to artists of color—and the amount of money required to return individuals and groups to the position they were in prior to that dispossession. Stahl and Arewa illustrate how "contractual accounting" operated to deprive musicians of royalties.[104] The American Federation of Television and Radio Artists (AFTRA), despite being accountable to musicians for their royalties, frequently failed to effectively defend their interests, causing considerable harm. In demystifying industry accounting practices, Stahl and Arewa note that evidence in multiple lawsuits that they examined "strongly suggest[s] that recording industry firms have engaged in a systematic and longstanding pattern of under-reporting and under-paying royalty payments to singers and that such firms also failed to make required contributions to the AFTRA

101. *Id.* at 1223 (quoting Raymond Shih Ray Ku, *The Creative Destruction of Copyright: Napster and the New Economics of Digital Technology*, 69 U. CHI. L. REV. 263, 312–13 (2002)).

102. Bobby Owsinski, *Sony Music Moves to Pay Royalties to Artists That Still Owe It Money*, FORBES (June 13, 2021), https://www.forbes.com/sites/bobbyowsinski/2021/06/13/sony-music-moves-to-pay-royalties-to-artists-that-still-owe-it-money/ [https://perma.cc/ZEB9-3UR3].

103. Kristin Corry, *Black Artists Built the Music Industry. It's Time They Got Their Dues*, VICE (Oct. 21, 2020), https://www.vice.com/en/article/black-artists-built-the-music-industry-its-time-they-got-their-dues/ [https://perma.cc/W3NQ-S4NA].

104. Stahl & Arewa, *supra* note 24, at 7–10.

H&R Funds."[105] Once again, this manner of discussing contractual accounting illustrates the fictional nature of the racial arithmetic advanced by many in the recording industry, here in terms of accurately documenting royalties owed to musicians. This is despite the considerable costs imposed on many of the same musicians to produce music, particularly through licensing. DiCola and McLeod, for instance, show how much money the music industry was able to make from copyright licensing fees. What amounts to a tax imposed on hip hop artists for sampling, per their analysis, would make it impossible to produce much of the music that makes up the classic songbook of this genre in this day and age.[106] Each of these scholars has painstakingly catalogued evidence of the costs of racial discrimination and economic exploitation, in order to make demands on those actors who can compensate artists and inventors for their work. In some cases, that means approaching or suing record labels for reparative relief, while in other cases it means documenting the costs of punitive responses, such as licensing and damages. Their scholarship thus does important work in showing the existence of racial arithmetic, as well as the disparate costs it has on certain groups but not others in order to advocate for racial equality.

B. Setting the (Historical) Record Straight

A second category of scholarship and activism is aimed at excavating quantitative data from historical records, often of demographic distributions in copyright and patent registrations, in order to present evidence of what is actually unfolding in the past and present. In this respect, the work that Greene, Stahl and Arewa, and DiCola and McLeod have done contrasts methodologically with the work of scholars such as Robert Brauneis and Dotan Oliar, which reveals the racial demographics of the intellectual property system through historical and empirical analysis.[107] Their scholarship, while impeccably researched and written, is a fact-finding mission about the past as opposed to a statistical analysis of problematic policies in the past or present. The research is valuable and necessary, but it does not always neatly validate claims about racial inequity in copyright and patent records. For instance, Brauneis and Oliar show that Black artists

105. *Id.* at 11.

106. KEMBREW MCLEOD & PETER DICOLA, CREATIVE LICENSE: THE LAW AND CULTURE OF DIGITAL SAMPLING 28–29 (2011).

107. Brauneis & Oliar, *supra* note 88, at 50; *see* Taehyun Jung & Olof Ejermo, *Demographic Patterns and Trends in Patenting: Gender, Age, and Education of Inventors*, 86 TECH. FORECASTING & SOC. CHANGE 110, 120–21 (2014) (using the U.S. Patent and Trademark Office's patent registration database to collect empirical data about demographic differences in patent registrations across race and gender); Lisa D. Cook, *Violence and Economic Activity: Evidence from African American Patents, 1870–1940*, 19 J. ECON. GROWTH 221, 222 (2014) (demonstrating that rates of patent registration by African Americans declined "in areas affected by race riots and lynchings").

copyrighted at a rate that exceeded their proportion of the population for a portion of the period they studied.[108] This quantitative data could easily be used to make arguments against racial equity, for example, by claiming that Black artists are sufficiently represented in demographic records. In this sense, ambivalent results can complicate efforts to secure racial justice, as well as lead to claims about the historical inaccuracy of racial inequity claims, even when placed alongside abundant evidence of discrimination. This does not suggest flaws with the research itself. Rather, it illustrates why it is helpful to historically and racially contextualize outcomes that can be read in multiple ways, especially in light of conflicting evidence about racial equity. How this is best done in light of racial arithmetic is an important question. In this case, placing quantitative data in a historical context—e.g., by compiling evidence as to the historical inequities that resulted in the production of demographic overrepresentation of Black artists in the present or showing how even demographic overrepresentation of Black artists in the present does not ameliorate racial inequity—aids in highlighting the complexities of racial injustice, and statistical evidence. Indeed, as Greene and others have shown, copyright registrations are not, in themselves, guarantees of racial justice. They are neither necessary nor sufficient for protecting or profiting from copyright and patent monopolies. Additional factors, such as contract asymmetry, legal access, and attorney quality may prevent enforcement of even copyrights that are registered.

Ironically, honest and rigorous work grounded in the historical record can create obstacles to racial justice when placed side-by-side with work that supports a strategy of "policy-by-numbers." The demographic data that Brauneis and Oliar produced, despite their best intentions, facilitates lobbying on the basis of the demographic overrepresentations of Black artists that do exist, as their data is not designed to support a specific conclusion, unlike that promulgated by Valenti and the MPAA. One question worth asking, then, is whether and how the work of racial justice scholars intersects with lobbying and advocacy—and how it *should* intersect with lobbying and advocacy. McDonald observes that "this range of conceptual and methodological problems cast major doubts over the accuracy of MPAA 'evidence.' This has not prevented the findings, however, becoming a symbolic weapon in the war against piracy."[109] This is an important argument for contextualizing quantitative data related to intellectual property, e.g., that it can be an effective persuasive tool even after it is disproven.

Lisa Cook's work offers one example of how those invested in racial justice can situate quantitative research for lobbying and advocacy purposes. Her scholarship tracks indicators of racial equity during moments of crisis.

108. Brauneis & Oliar, *supra* note 88, at 62.

109. McDonald, *supra* note 50, at 698.

Cook illustrates how patent registrations by Black inventors decline in moments of racial violence, a social ill that is amplified by economic downturn.[110] This not only illustrates the lack of stability for Black inventors in relation to patent law, but it also highlights the need to consider context as a factor in the success of racial equity plans. Quantitative data alone can be incomplete or deceptive. Providing clear historical, cultural, economic, and political context, coupled with explicit conclusions, can help in preventing its misuse in attempts at racial arithmetic. Moreover, it can make QuantCrit analyses of those works that attempt to mischaracterize it easier to carry out. This is particularly important for situating and examining low context texts with serious economic harm claims, such as the USTR's Special 301 Report.

C. (Mis)counting Equity

The third category of scholarship that I identify, exemplified by Jordana Goodman's recent work on the failure of universities to successfully improve inequities in patent production,[111] emphasizes through ethno-racial statistics how attempts at racial equity problem-solving succeed and fail in institutional settings. Like Greene's work, Goodman's essay considers how patent inequities are produced through structural privileges incentivized by existing institutional architectures. Because they are directed at particular institutions and their inequitable practices, the essays that Greene and Goodman have written function as both callouts and structural reimaginings of the status quo that offer paths forward for those who wish to enact racial equity in the world. They are not only persuasive, but they also offer blueprints for change, counter-architectures that can be leveraged against those of mainstream intellectual property regimes. Goodman observes:

> From this data, it is apparent that universities are either consciously or unconsciously engaging in what this article calls "restorative justice theater"—performatively pushing towards racial and gender equity but failing to quantitatively demonstrate that their efforts effectively repair previous harm. Universities should replace this theater with quantitative measures of patent inventorship—equity metrics—to demonstrate their commitment to racial and gender equity, to comply with antidiscrimination legislation, and to help other universities engage in effective programs with measurable results to close the racial and gender gaps in higher education.[112]

Goodman's powerful language draws attention to the persistence of racial inequality, highlighting the need for accountability in meeting the objectives

110. Cook, *supra* note 107.

111. Goodman, *supra* note 89, at 889–92.

112. Goodman, *supra* note 89, at 856; *see also* Jordana Goodman, Patently Inequitable 3–4 (February 1, 2024) (unpublished manuscript), https://papers.ssrn.com/abstract=4675384 [https://perma.cc/K3NR-EFXX] (discussing racial and gender inequities in patent prosecution).

of racial justice initiatives. Goodman's direct observations confront another type of racial arithmetic than the scholarship explored above. The mis deployment of quantitative data she takes up whitewashes institutional spaces, absolving them of responsibility for effectively executing on social justice promises. More scholarship of this type can help to make the pilot programs proposed by scholars like Colleen Chien and Margo Bagley more popular with mainstream audiences.[113] Their efforts to produce patent equity through the USPTO illustrate how QuantCrit can effectively combat racial arithmetic that evades accountability.

In the copyright context, creating accountability for racial justice may look like the work that I have already discussed by Greene, focused on the need for reparations due to the failures of attempts to address racial injustices. It may also look like tracing outflows of colonial copyright threats, with emphasis on the development economics of such practices. For instance, Joe Karaganis, Pedro Mizukami, Lawrence Liang, John Cross, and Olga Sezneva respond to RAND's racialized report on intellectual property and terrorism by unpacking its quantitative data and racial representations.[114] Though their report does not use statistics to the same extent as the original report, it nonetheless uses some, primarily to critique the racial arithmetic that both the MPAA and RAND use to justify their maximalist and punitive copyright policies aimed at the Global South. In a second report, Pedro Mizukami, Oona Castro, Luiz F. Moncau, and Ronaldo Lemos observe:

> We are more sympathetic to narrower definitions that emphasize provable links to larger criminal organizations, such as the Camorra, the Yakuza, local or international drug cartels, Brazil's Comando Vermelho, and so on. We see little systematic evidence of these connections to date. Advocacy pieces, for the most part, rely on cherry-picked examples to make the broader case and offer grossly simplified accounts of the dynamics of street markets, street vendors' relations with local authorities, and other features of the informal economy.[115]

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113. *See* Colleen V. Chien, *The Inequalities of Innovation*, EMORY L.J. 1, 63–74 (2022) (discussing "several ideas for narrowing the inequalities of innovation through patent law and policy"). *See generally Santa Clara University Hosts Inaugural Innovator Diversity Pilots Conference*, SANTA CLARA UNIV. (Nov. 2022), https://www.scu.edu/news-and-events/press-releases/2022/november-2022/santa-clara-university-hosts-inaugural-innovator-diversity-pilots-conference.html [https://perma.cc/B83Q-DPGD] (describing Chien's pilot program designed "to address the 'innovator-inventor' gap").

114. *See generally* Joe Karaganis, Pedro Mizukami, Lawrence Liang, John Cross & Olga Sezneva, *Does Crime Pay? MPEE's Findings on Piracy, Organized Crime, and Terrorism*, SOC. SCI. RSCH. COUNCIL (date unknown), [URL unknown] (exploring the quantitative data supporting links between commercial piracy and organized crime).

115. Pedro N. Mizukami, Oona Castro, Luiz Fernando Moncau & Ronaldo Lemos, *Brazil*, *in* MEDIA PIRACY IN EMERGING ECONOMIES 219, 261 (Joe Karaganis, ed., 2011).

Their QuantCrit approach to deconstructing the racialized arguments advanced in MPAA and RAND reports both highlights problematic arguments about the scope and impact of infringement and offers counterstatistics to construct an oppositional narrative. These arguments echo the ones I raised in the introduction to this piece.

D. Centering QuantCrit and Racial Capitalism in Intellectual Property

The categories of empirical racial justice scholarship relating to copyright and patent law that I examine here are not exhaustive. However, they illustrate different approaches to conceptualizing racial equity within intellectual property contexts. I want to add an ideological layer of inquiry to the categories that I have discussed, that asks about the cultural, economic, and political orientation of the research produced. Intellectual property scholarship, reflective of what Jessica Silbey would call its "origin story,"[116] is frequently situated within a law and economics framework, with the very cost–benefit maximization that Porter critiques as its goal. Copyright and patent scholars have done considerable work to push back against law and economics, using the language and theory of human flourishing, racial capitalism, knowledge commons, and distributive justice. However, even these critiques of law and economics raise questions about the theoretical frameworks that inform them. For instance, while some calls for reparations that are grounded in transformative justice language, others are contextualized through (neo)liberal rights discourse. Black capitalism is an example of a politic rooted in (neo)liberal rights that has been heavily critiqued by socialist activists such as James Boggs.[117] Left critiques of Black capitalism are almost uniformly aligned with desires to redistribute wealth and compensate artists. They also tend to highlight how capitalism itself justified and produced the racial inequities that reparative approaches attempt to address. Scholarship that remains embedded in (neo)liberal rights-based frameworks raises the question of whether it is possible to escape racial capitalism through the reallocation of profits without confronting racism within that economic system. Boggs, as well as Cedric Robinson and Robin D. G. Kelly, would argue the answer is an unequivocal "no."

Similarly, those who focus on now increasingly put-upon diversity, equity, and inclusion (DEI) frameworks must consider whether situating their arguments within the broad contexts of civil rights and antidiscrimination law can rise to the challenge of the moment. Innovation discourse focused on creating pipelines for people of color to remain in certain jobs, e.g., patent

116. Jessica Silbey, *The Mythical Beginnings of Intellectual Property*, 15 GEO. MASON L. REV. 319, 320 (2008).

117. *See* James Boggs, *The Myth and Irrationality of Black Capitalism*, REV. BLACK POL. ECON., March 1970, at 27, 29 ("In reality, Black capitalism is a dream and a delusion.").

examiners or software engineers, must grapple with the political and cultural consequences of accepting the rollback of rights-based liberalism. QuantCrit is a tool that speaks to the misuse of administrative quantification and quantitative data. However, it does not speak to commitments to ideological systems that reflect long histories of exploitation. Critical race intellectual property scholars focused on historical and structural inequality frequently seek to dismantle the systems that endlessly reconstruct obstacles to racial justice. Without a political realignment that shifts from law and economics to a critical view of political economy and (neo)liberal rights, those advocating for racial justice in intellectual property risk reproducing the very system in which they operate.[118]

IV. Equity Mathematics and the Futures of Racial Equity in Intellectual Property

In *Quants & Crits: Using Numbers for Social Justice (or, How Not to Be Lied to with Statistics)*, Claire E. Crawford, Sean Demack, David Gillborn, and Paul Warmington remind their readers that: "Even when people have a gut-feeling that the numbers (or their interpretation) are not correct, many lack the skills to seriously explore and critique quantitative data."[119] This becomes problematic when quantitative data is used to produce a certain policy outcome—as in the case of intellectual property lobbying—instead of to make good-faith arguments about the nature of the policies required to achieve racial equity. This Essay has laid out how intellectual property, specifically copyrights and patents, are justified through administrative quantification, a practice that imposes social scientific approaches on quantitative data produced through complex government and industry collaborations. When quantitative data about race and ethnicity is deployed for political purposes, without the consent or awareness of audiences, it is rightly described as racial arithmetic intended to persuade and even manipulate. Demack, Gillborn, and Warmington observe that "[t]here are no inherent reasons why critical race theorists should dispense with quantitative approaches entirely but they should adopt a position of principled ambivalence, neither rejecting numbers out of hand nor falling into the trap of imagining that numeric data have any kind of enhanced status or value."[120]

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118. *See* LAW & POL. ECON. PROJECT, https://lpeproject.org [https://perma.cc/NM9V-JCFR] (noting that the LPE Project "brings together a network of scholars, practitioners, and students working to develop innovative intellectual, pedagogical, and political interventions to advance the study of political economy and law").

119. Claire E. Crawford, Sean Demack, David Gillborn & Paul Warmington, *Quants and Crits: Using Numbers for Social Justice (Or, How* Not *to Be Lied to with Statistics)*, *in* UNDERSTANDING CRITICAL RACE RESEARCH METHODS AND METHODOLOGIES: LESSONS FROM THE FIELD 125, 125 (Jessica T. DeCuir-Gunby, Thandeka K. Chapman & Paul A. Schutz, eds., 2019).

120. *Id.* at 133 (emphasis omitted).

This may seem outrageous to some, but it is the only path forward that attends to the complex cultural and political histories of administrative quantification and cost–benefit analysis with healthy skepticism and grounded honesty. As copyright and patent valuation is increasingly reduced to mere numbers, quantitative data will remain important but so too will humanistic critiques.

Achieving genuine racial justice in the context of intellectual property requires confronting the historical emergence of cost–benefit analysis as the norm for evaluating policy decisions, as well as deconstructing the overarching ideological systems in which it is grounded. Racial capitalism, neoliberal rights, and property ownership all threaten racial justice goals, especially when they are upheld using racial arithmetic left uncontested by racial justice advocates. QuantCrit, an approach to attending to biases in racial justice-related quantitative data, provides one path for addressing these issues, particularly when coupled with trenchant humanistic critiques. However, QuantCrit is only effective when quantitative data is produced and deployed with awareness and accountability about its likely consequences in policy conversations. While scholars have taken a number of distinct categories of approaches to producing empirical research about copyright and patent inequity, I contend that these scholars can operate as more powerful tools for addressing racism in this moment if they draw definitive conclusions and directly engage with the racial arithmetic that drives copyright and patent policy. Investigating, understanding, theorizing, and addressing how the federal government and culture industries leverage racial arithmetic for their political and cultural benefit, particularly via rally-around-the-flag nationalism, will make intellectual property scholars invested in racial justice more effective in dismantling the status quo commitments that continue to impede racial justice.

This will, in turn, serve all of us in the battles ahead.