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FAIR USE, THE INTERNET AGE, AND RULIFYING THE BLOGOSPHERE

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ABSTRACT

The fair use analysis in copyright law is, at present, a confusing and sometimes contradictory entanglement of four factors whose outcome is not guaranteed until it comes before a court ex post. Despite the four factors being listed as clearly delineated points in § 107, in reality, they substantially overlap and courts have provided contradictory rulings even in the same circuit court. This Article builds on the earlier suggestions of Niva Elkin-Koren and Orit Fischman-Afori in suggesting rulification of fair use in specific creative contexts to better distinguish the legal standards for fair use for the population at large. In particular, this Article grounds this discussion in a case example of individually published online content, broadly termed blogs for the purposes of this paper, finding, by reviewing all fair use decisions on posted online content, that these decisions are primarily decided by evaluating three factors: transformative use, commercial purpose, and market effect. The example of rulifying fair use for blogs should just be the beginning, an example of how the delineation of more concrete fair use rules for different creative mediums would benefit the U.S. population at large.

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I. INTRODUCTION

Fair use is often one of the few parts of copyright law with which laypeople are familiar. When I guest lectured in a freshman English class at the University of Michigan on the basics of copyright, students did not know that ideas are not copyrightable or that copyrights are automatic. But when they were asked if they had heard of fair use, over half of the hands in the class were raised.

But while fair use has a powerful hold on popular imagination regarding the contours of copyright, the reality is much more complicated. While the balancing test of four factors that is codified in § 107 of Title 17 of the United States Code is challenging enough for law students, even the federal courts have frequently been unable to delineate specific rules to help further the understanding of what qualifies as fair use. Indeed, as will be discussed in the first

part of this Article, courts cannot even decide on whether the first or fourth factor is the most important.[1]

This problem of a muddled fair use standard has only been exacerbated by the advent of new media driven by the Internet. Having been drafted in 1976, the fair use standard in § 107 could not have foreseen the possibilities the Internet would bring, let alone how to address fair use in online content, which is fundamentally different from the traditional uses of copyrighted works in art, printed newspapers and books, and over the airwaves and cable.[2] The rise of the Internet has also brought new dangers to the world of copyright, including copyright trolls who extort payments from all manner of uses of copyrighted works, often ignoring fair use.[3] To better assist the populace understand fair use, this Article suggests the importance of delineating specific fair use rules for different types of media, especially in the widely used space of the Internet. The case study this Article employs is the blog medium, used by everyone from high schoolers to renowned law professors[4] and easily created with free programs from sites

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[1] *See infra* Part II.

[2] *See, e.g.*, Oliver Herzfeld, *Fair Use in the Age of Social Media*, FORBES (May 26, 2016, 9:34 AM), https://www.forbes.com/sites/oliverherzfeld/2016/05/26/fair-use-in-the-age-of-social-media/#234e67e03300 [https://perma.cc/5QLP-WFGD].

[3] *See generally* Constance Boutsikaris, *The Rise of Copyright Trolls in a Digital Information Economy: New Litigation Business Strategies and Their Impact on Innovation*, 20 COMMLAW CONSPECTUS 391 (2012) (discussing how the proliferation of digital technology has allowed copyright trolls extort payments from various victims).

[4] *See, e.g.*, Kate Sundquist, *Staring Your Own Blog in High School*, COLLEGEVINE (May 20, 2017), https://blog.collegevine.com/starting-your-own-blog-in-high-school [https://perma.cc/D38L-8DMG]; REASON: THE VOLOKH CONSPIRACY (last visited Mar. 15, 2020), https://reason.com/volokh [https://perma.cc/EBS3-N3FA].

like WordPress, Wix, and Weebly.[5] With 500 million blogs online in 2020,[6] the blogosphere is massive and much larger than the populations who sell art or write books.

Despite the Eleventh Circuit's recent repudiation of trying to rulify fair use,[7] this Article follows in the vein of wider case precedent and Niva Elkin-Koren and Orit Fischman-Afori's 2017 article, which advocated for rulifying fair use in specific creative contexts.[8] This Article builds on Elkin-Koren and Fischman-Afori's work by arguing that the fair use standard is muddled even among the courts, especially in the context of Internet uses. Like the previous scholarship, it argues that creative citizens would benefit from a delineation of the relevant fair use standards on a platform basis,[9] but it contributes a case study of blogs to demonstrate the feasibility of such an analysis and offer a useful resource on best blog copyright practices.

Part II explains that as § 107 currently stands, the fair use analysis is a confusing and sometimes contradictory entanglement of four factors with no real, guaranteed outcome until the use comes before a court *ex post* the use. In Part III, this Article argues that clarifying this standard, which would make it far easier for people to understand their odds of success under fair use, would take a monumental effort from either the Supreme Court or Congress and complete clarity would almost certainly remain elusive. Part

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[5] *See* Cat Ellis, *Best Free Blogging Site of 2020*, TECHRADAR.PRO (Mar. 9, 2020), https://www.techradar.com/news/the-best-free-blogging-sites [https://perma.cc/KM7Y-M929].

[6] *How Many Blogs Are There? We Counted Them All!*, HOSTING TRIBUNAL, https://hostingtribunal.com/blog/how-many-blogs/#gref [https://perma.cc/6DXT-HQSK] (last visited Mar. 9, 2020).

[7] Cambridge Univ. Press v. Patton, 769 F.3d 1232, 1283 (11th Cir. 2014) (endorsing a "no rulification" policy).

[8] *See* Niva Elkin-Koren & Orit Fischman-Afori, *Rulifying Fair Use*, 59 ARIZ. L. REV. 161 (2017); *see also id.* at 186 (discussing wider case precedent that allows for a degree of rulification in fair use).

[9] *See id.* at 198 (noting that rulified fair use would help the rule of law).

IV then discusses a related problem: fair use was first codified in 1976, years before the dawn of the Internet, and thus the statute does not foretell how fair use would be understood in the context of Internet uses. Online content creators could greatly benefit from understanding which practices favor or disfavor fair use, and this Article uses blogs as a demonstrative case study in Part V, illustrating that specific media uses can be delineated in the context of fair use to provide greater clarity for users of copyrighted content. Finally, in Part VI, this Article concludes that the delineation of blog fair use should just be the beginning, and that the delineation of more concrete fair use rules for different electronic and Internet media would benefit the population at large.

II. THE STATE OF FAIR USE

Under the Copyright Act, fair use is an exception to copyright infringement.[10] Fair use is the copying of copyrighted material for a transformative purpose such as criticism, comment, news reporting, teaching, scholarship, or research.[11] While it is but one of sixteen statutory limitations on copyrights under the Copyright Act of 1976, it is by far the most utilized and most known in popular knowledge.[12] Fair use is a limit on the rights granted to copyright owners, and is the most well-known and flexible limit in the Copyright Act.[13] Fair use advances the purpose of copyright by allowing "others to build freely upon the

[10] 17 U.S.C. § 107 (2018).
[11] *Id.*; *see also* Richard Stim, *What Is Fair Use?*, STANFORD UNIVERSITY LIBRARIES, https://fairuse.stanford.edu/overview/fair-use/what-is-fair-use [https://perma.cc/59U2-SRH5] (last visited Mar. 15, 2020).
[12] 17 U.S.C. §§ 107–122 (2018).
[13] JULIE E. COHEN ET AL., COPYRIGHT IN A GLOBAL INFORMATION ECONOMY 563 (4th ed. 2015).

ideas and information conveyed by a work."[14] But despite fair use's central role in copyright law as a statutory limitation on the exclusive rights of the copyright holder, the current state of fair use is muddled and indeed seemingly contradictory.

Fair use has its origins in judge-made law. In the seminal case of *Folsom v. Marsh* in 1841, Justice Story laid out criteria the court should consider when deciding whether a use should be allowed, under what would later be termed the fair use doctrine.[15] Justice Story's factors were used for the next hundred years before Congress decided to finally codify the factors in the Copyright Act of 1976 under § 107.[16]

The preamble to § 107 lists a number of possible fair uses: "criticism, comment, news reporting, teaching[,] . . . scholarship, [and] research."[17] To determine if a use is fair, the § 107 fair use test looks at four factors: (1) purpose and character of the use; (2) nature of the copyrighted work; (3) amount and substantiality of the portion used; and (4) effect of the use upon the potential market.[18] The legislative history does not provide much more guidance.[19] The analysis has remained rather specific for each new fact pattern, leaving the courts a wide breadth to make their own

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[14] Brammer v. Violent Hues Prods., LLC, 922 F.3d 255, 262 (4th Cir. 2019) (quoting Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., 499 U.S. 340, 350 (1991)).

[15] Folsom v. Marsh, 9 F. Cas. 342, 348 (C.C.D. Mass. 1841) ("In short, we must often, in deciding questions of this sort, look to the nature and objects of the selections made, the quantity and value of the materials used, and the degree in which the use may prejudice the sale, or diminish the profits, or supersede the objects, of the original work.").

[16] COHEN ET AL., *supra* note 13, at 564.

[17] 17 U.S.C. § 107 (2018).

[18] *Id.*

[19] H.R. REP. NO. 94-1476 (1976) ("[S]ince the doctrine is an equitable rule of reason, no generally applicable definition is possible, and each case raising the question must be decided on its own facts.").

determinations.[20] Indeed, the Supreme Court proclaimed, "[n]or may the four statutory factors be treated in isolation, one from another. All are to be explored, and the results weighed together, in light of the purpose of copyright."[21]

While § 107 states that all four factors should be considered, in reality, courts have placed a particular emphasis on the first and fourth factors under § 107. For the first factor, the Supreme Court in *Campbell v. Acuff-Rose Music, Inc.* held that transformative works "lie at the heart of the fair use doctrine" and "the more transformative the new work, the less will be the significance of other factors . . . that may weigh against a finding of fair use."[22] Even copying an entire work can be fair use as long as that use is transformative,[23] defined as adding "something new, with a further purpose or different character, altering the first with new expression, meaning, or message."[24] The preeminence of the first factor, which also includes looking at commercial use, appears well-founded. Legal scholar Barton Beebe found that in fair use cases from 1978 to 2005, over 90% of the opinions that found that the first factor favored use

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[20] COHEN ET AL., *supra* note 13, at 564.
[21] Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 578 (1994).
[22] *Id.* at 584. The Supreme Court in *Campbell* pulled from the scholarship of Judge Pierre Leval, who first coined the idea of transformative use. *See* Pierre N. Leval, *Toward a Fair Use Standard*, 103 HARV. L. REV. 1105, 1111 (1990).
[23] *See Campbell*, 510 U.S. at 586–87 ("[T]he extent of permissible copying varies with the purpose and character of use."); *see also* Blanch v. Koons, 467 F.3d 244 (2d Cir. 2006) (copying an entire photograph and including it in a larger work of art); Nuñez v. Caribbean Int'l News Corp., 235 F.3d 18 (1st Cir. 2000) (copying an entire photograph and reproducing it in a news story); Sundeman v. Seajay Soc'y, Inc., 142 F.3d 194 (4th Cir. 1998) (copying an entire manuscript for purposes of preservation and scholarship).
[24] *Campbell*, 510 U.S. at 579.

eventually found fair use.[25] Over 95% of cases that disfavored the first factor did not eventually find fair use.[26]

Many lower courts reflected the Supreme Court's emphasis on transformativeness. In *Cariou v. Prince*, appropriation artist Richard Prince took thirty-five photographs from Patrick Cariou's coffee table book on Rastafarians and created collages from them, added blue lozenges, and inserted pictures of women.[27] The Second Circuit primarily looked at whether Prince's works altered Cariou's originals with "new expression, meaning, or message."[28] Although Cariou's photos were still the core of Prince's work, the Court found the minor additions of a collage, blue lozenges, and women together to have "add[ed] something new," creating an "entirely different aesthetic" and qualifying as transformative.[29] In *Bill Graham Archives v. Dorling Kinderseley*, a 480-page Grateful Dead coffee table book used seven copyrighted photographs without a license.[30] The Court determined that because the photos were used for a new purpose—illustrating history—the work was transformative, which was determinative regardless of the other fair use factors.[31]

Recent studies on fair use have been divided on the exact strength of transformative use in a fair use determination, although it is undoubtedly a critical factor. Clark Asay has found that transformative use is eating the fair use world, with both district and appellate courts increasingly using transformative use in their opinions and the outcome of the transformative use question increasingly

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[25] Barton Beebe, *An Empirical Study of U.S. Copyright Fair Use Opinions, 1978-2005*, 156 U. PENN. L. REV. 549, 597 (2008).
[26] *Id.*
[27] Cariou v. Prince, 714 F.3d 694, 699–703 (2d Cir. 2013).
[28] *Id.* at 706.
[29] *Id.* at 699, 706–08.
[30] Bill Graham Archives v. Dorling Kinderseley, Ltd., 448 F.3d 605, 607 (2d Cir. 2006).
[31] *See id.* at 615.

being decisive for the overall fair use determination.[32] Yet Jane Ginsburg cautions that this trend towards transformative use dominating fair use is starting to be arrested; transformativeness is being subjected to more critical assessments by courts, and the fourth factor is becoming reinvigorated.[33]

While the cases identified above seem to provide a clear statement that transformative use is the primary factor under the fair use analysis, similarly to Asay's findings, in other cases, courts have rejected this interpretation and have instead continued to look to the fourth factor—market effect—as the primary indicator of fair use, indicating a closer alignment with Ginsburg's conclusion. For example, in *Author's Guild v. Google, Inc.*, the Second Circuit looked primarily to the earlier Supreme Court decision of *Harper & Row Publishers, Inc. v. Nation Enterprises* rather than *Campbell*.[34] In doing so, the Second Circuit affirmed that "harm . . . to the market for, or the value of, the copyright for the original, 'is undoubtedly the single most important element of fair use.'"[35] Meanwhile, the Court saw *Campbell*'s stress on the first factor as important, but did not necessarily hold it to the same high esteem.[36] The Southern District of New York did the same in *Monster Commc'ns Inc. v. Turner Broad. Sys., Inc.*, holding that "the effect of the infringing use on the market for the original copyrighted

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[32] Clark D. Asay, Arielle Sloan & Dean Sobczak, *Is Transformative Use Eating the World?*, 61 B.C. L. REV. 905, 912–13 (2020).
[33] Jane C. Ginsburg, *Fair Use in the United States: Transformed, Deformed, Reformed?*, SINGAPORE J. LEGAL STUD. (forthcoming 2020) (18–35); *see also* Jane C. Ginsburg, *Fair Use Factor Four Revisited: Valuing the "Value of the Copyrighted Work*," J. OF THE COPYRIGHT SOC'Y U.S.A. (forthcoming 2020) (for analysis on the reinvigoration of the fourth factor in fair use determinations).
[34] *See* Author's Guild v. Google, Inc., 804 F.3d 202, 214 (2d Cir. 2015).
[35] *Id.* at 214 (citing Harper & Row Publishers, Inc. v. Nation Enters., 471 U.S. 539, 566 (1985).
[36] *See id.* at 214, 223.

work, is the most important."[37] These are not outliers. In fact, Barton Beebe's study found that 36.8% of decisions between 1994 and 2005 did not even mention transformativeness.[38] It is also not a circuit split; the Second Circuit decided *Cariou*, *Bill Graham Archives*, and *Author's Guild*. Other courts, such as the Western District of Texas and the Northern District of California, have also declared the fourth factor to be the most important.[39]

However, even in *Author's Guild*, the Court's final decision actually turned on transformativeness. The Court found that Google Books was fair use, even though the use was commercial and the text was made available, because making the texts searchable was for a "highly convincing transformative purpose."[40] Yet overall, courts, such as the one in *Author's Guild*, may be correct that market effect remains the preeminent factor: Barton Beebe's study found that despite the high correlation between the first factor and a fair use determination, the correlation between the fourth factor and a fair use determination was even higher.[41]

Perhaps the reality is that the fair use factors are not actually as delineated as § 107 might suggest. Transformativeness and commercial use, the primary elements of the first factor of fair use, overlap substantially with market effect. Altering the "expressive content or message" in a transformative way creates a different market, lowering the chance that there would be a negative effect on

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[37] Monster Commc'ns, Inc. v. Turner Broad. Sys., Inc., 935 F. Supp. 490, 495 (S.D.N.Y. 1996).
[38] Beebe, *supra* note 25, at 605.
[39] Philpot v. WOS, Inc., No. 1:18-CV-339-RP, 2019 WL 1767208, at *7 (W.D. Tex. Apr. 22, 2019) (reasoning the fourth factor is "the most important of the four"); Dhillon v. Does 1-10, No. C 13–01465 SI, 2014 WL 722592, at *6 (N.D. Cal. Feb. 25, 2014) (citing *Harper & Row* and holding that the final factor is "undoubtedly the single most important element of fair use").
[40] *Author's Guild*, 804 F.3d at 219.
[41] Beebe, *supra* note 25, at 597.

the market for the original author.[42] For example, in *Adjmi v. DLT Entm't, Ltd.*, the defendant authored the play *3C*, based on the television series *Three's Company*.[43] In fact, *3C* parodied the original series to make fun of its light-hearted demeanor.[44] Because the focus of the play was so drastically different from the television series, the Southern District of New York determined that the work "poses little risk to the market for the original."[45] The opposite is also true: the less transformative a work, the more likely there was an effect on the market.[46] Commercial use and harm to the market are also interrelated, with a presumption of harm to the market with commercial uses.[47] In addition, transformative use, while perhaps the primary factor under *Campbell*, is not necessarily always required for a use to be fair.[48]

This analysis is not to say that the second and third factors never matter. In fact, the third factor especially can play an important role in establishing fair use where the use

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[42] *See* Seltzer v. Green Day, Inc., 725 F.3d 1170, 1177–78 (9th Cir. 2013) (finding fair use where the band Green Day's use of an image of a screaming face as a stage backdrop was transformative and did not affect the market).

[43] Adjmi v. DLT Ent., Ltd., 97 F. Supp. 3d 512, 515 (S.D.N.Y. 2015).

[44] *Id.* at 528, 531.

[45] *Id.* at 535.

[46] Ferdman v. CBS Interactive Inc., 342 F. Supp. 3d 515, 542 (S.D.N.Y. 2018) (finding that the posting of an unaltered picture by itself "is a perfect substitute for the intended market"); Barcroft Media, Ltd. v. Coed Media Group, LLC, 297 F. Supp. 3d 339, 355 (S.D.N.Y. 2017) (holding that because "CMG displayed the Images for the very purpose for which they were originally intended, its use necessarily 'usurp[ed]' the function of the original works in the market." (citing Cariou v. Prince, 714 F.3d 694, 708 (2d Cir. 2013))).

[47] Philpot v. WOS, Inc., No. 1:18-CV-339-RP, 2019 WL 1767208, at *6 (W.D. Tex. Apr. 22, 2019).

[48] Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 576, 579 (1994) (noting that exact copying for classroom use and recording of television shows for later viewing were both examples of fair use despite being minimally transformative).

itself was extremely fleeting, or de minimis. For example, in *Sandoval v. New Line Cinema Corp.*, photographs appeared in the background of a movie scene for only approximately one and a half minutes.[49] In fact, the Southern District of New York warned that courts should not focus too much on commercial use, instead looking to transformative use and, critically, the fleeting use of the copyright-protected image in the movie to find fair use.[50] However, in other cases, even having a large amount of material copied did not override transformative use or a lack of effect on the market.[51]

The second factor has been much more directly questioned, with several courts even calling it irrelevant.[52] Yet Barton Beebe did find in his study that the second factor does continue to influence some courts, and that the creative/factual and the published/unpublished work inquiries cannot be entirely written off.[53] Indeed, the second factor is actually the most clearly delineated of the four fair use factors.[54] However, as Associate Register of Copyrights Robert Kasunic argues, rigorous thought and analysis could potentially be used to make the second factor a more essential part of the fair use analysis than its current, more marginal role.[55]

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[49] Sandoval v. New Line Cinema Corp., 973 F. Supp. 409, 410–11 (S.D.N.Y. 1997), *aff'd*, 147 F.3d 215 (2d Cir. 1998).
[50] *See id.* at 414.
[51] *See, e.g.*, Adjmi v. DLT Ent., Ltd., 97 F. Supp. 3d 512, 535 (S.D.N.Y. 2015) (finding that the "play is a highly transformative parody of the television series that, although it appropriates a substantial amount of Three's Company, is a drastic departure from the original[,]" and is therefore fair use).
[52] Beebe, *supra* note 25, at 610.
[53] *Id.* at 610–15.
[54] Robert Kasunic, *Is That All There Is? Reflections on the Nature of the Second Fair Use Factor*, 31 COLUM. J.L. & ARTS 529, 529 (2008).
[55] *See generally id.*

A recent empirical study of transformative use found that it is rapidly approaching having a controlling effect on the determination of a fair use analysis, but even this has not streamlined fair use for predictability.[56] Furthermore, the first and fourth factors are incredibly difficult to apply due to being so fact-specific.[57] So while U.S. courts have placed an emphasis on the first and fourth factors, all of the fair use factors continue to play some role. In large part, this is due to the extreme flexibility of the factors, which allow courts to apply them in different ways in different cases. While that is beneficial for the courts in allowing maximum flexibility, it is problematic for those using others' copyrighted works when the boundaries of fair use are more amorphous and thus more difficult for a layperson to determine.

III. REVISIONS TO FAIR USE

These precedents from fair use cases in federal courts across the country show that fair use can be a powerful and effective tool for preserving creative uses. Yet a clearer set of rules would provide good-faith users of copyrighted works with a better understanding of what is allowed under U.S. copyright law without needing a copyright attorney or court's wisdom for every chord of a song used in a new composition or every picture included on a blog.

This wide discretion has allowed courts under the current fair use standard to create varying decisions. In *Campbell v. Acuff-Rose Music, Inc.*, the Supreme Court held that transformative works "lie at the heart of the fair use doctrine[,]" and "the more transformative the new work, the

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[56] *See generally* Jiarui Liu, *An Empirical Study of Transformative Use in Copyright Law*, 22 STAN. TECH. L. REV. 163 (2019).

[57] *See* Asay, Sloan & Sobczak, *supra* note 32, at 954–55, 959, 962 (noting the difficulty in pinning down concrete applications of the first factor (transformative use and commerciality) and the fourth factor (market effect)).

less will be the significance of other factors . . . that may weigh against a finding of fair use."[58] Yet other courts refused to see the first factor and transformativeness as the key element of the fair use analysis, instead proclaiming that the fourth factor, market effect, is the most significant factor.[59] This is but one example of the wide degree of discretion courts are allowed with fair use. This could be helpful for a sympathetic defendant, but the obfuscated fair use determination process means that even those who are confident of a fair use finding should be concerned that the outcome is far from certain. There have been attempts to delineate particular copyright rules for a particular type of media, such as this Article's later discussion of fair use in blogs[60] or American University's Center for Media and Social Impact's codes of best practices for media such as software, sound recordings, and online videos.[61] However, these are still just guidelines drawing from prior precedent rather than being binding strictures on courts' fair use analyses.

The fair use factors are hardly as straightforward as they seem, with an equal balancing test proving elusive. Even if the burden is on the plaintiff to prove that the defendant's conduct is not fair use,[62] the uncertainty is still a

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[58] Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 579 (1994).

[59] *See, e.g.*, Author's Guild v. Google, Inc., 804 F.3d 202, 214, 223 (2d Cir. 2015); Monster Commc'ns, Inc. v. Turner Broad. Sys., Inc., 935 F. Supp. 490, 495 (S.D.N.Y. 1996).

[60] *See infra* Part V.

[61] *Codes of Best Practices*, CTR. FOR MEDIA & SOCIAL IMPACT, https://cmsimpact.org/codes-of-best-practices [https://perma.cc/N7ZZ-G5N2] (last visited Nov. 12, 2019).

[62] Fair use is "not an infringement of copyright," which implies that it is not a defense. 17 U.S.C. § 107 (2018). If this is the case, the burden is on the plaintiff to show ownership of a valid copyright and unauthorized copying of the copyrighted work. *See* Jorgensen v. Epic/Sony Records, 351 F.3d 46, 51 (2d Cir. 2003); Brief for Universities: The Board of Trustees of the University of Illinois et al. as Amici Curiae supporting Appellees at 20, Authors Guild v. HathiTrust, 755 F.3d 87 (2d Cir. 2014)

danger that plagues the defendant. It could be useful to break down the factors that are of preeminent importance by media sector or use, or perhaps by outcome, to revise § 107 to make the factors and their relative importance more solidified. If the current landscape of copyright fair use cases tells us anything, it is that the other federal courts do not always heed even the Supreme Court. While attorneys debate and grind out in the courtroom what constitutes fair use, those without access to adequate legal representation are left particularly vulnerable to fair use determinations and potentially risk hundreds of thousands of dollars in statutory damages.[63] This is especially true since fair use determinations are highly fact specific and are therefore rarely decided at the motion to dismiss stage, requiring funding to maintain legal costs through to the later stages of litigation.

Considering how critical fair use is to copyright law, better clarity is needed to allow everyone from nonprofit blogs to doctoral students to utilize it as the intended protected right and reach a determination earlier in litigation. As the Supreme Court stated the same year *Campbell* was decided, "[b]ecause copyright law ultimately serves the purpose of enriching the general public through access to

(No. 12-4547). However, the Supreme Court has indicated that fair use is an affirmative defense, which would shift the burden to be on the defendant. *Campbell*, 510 U.S. at 590 ("fair use is an affirmative defense"). Overall, the question of whether fair use is a defense or not is mired in a complicated mixed question of law and fact. *See* Lydia Pallas Loren & R. Anthony Reese, *Proving Infringement: Burdens of Proof in Copyright Infringement Litigation*, 23 LEWIS & CLARK L. REV. 621, 674–77 (2019).

[63] *See* 17 U.S.C. § 412 (2018) (requiring that a copyright is registered within the earlier of three months after publication or one month after the author learns of the infringement for statutory damages and attorney's fees to be recoverable); *Id.* § 504(c)(1) (requiring between $750 and $30,000 in damages per non-willful infringement); *Id.* § 504(c)(2) (allowing up to $150,000 in damages per willful infringement).

creative works, it is peculiarly important that the [law's] boundaries . . . be demarcated as clearly as possible."[64]

Clarifying the fair use standard could make it more accessible to the populace at large and, thus, a more effective shield against unsubstantiated litigation threats. Either the Supreme Court or Congress could break down the four factors into their constituent parts to provide the full range of considerations to everyone. Next, it could try to delineate how many and which factors must be favorable to find fair use. For example, the nonprofit nature of the use strongly favors fair use.[65] Similarly, posting content on a blog that provides further content or a mere sample of the full work is fair use.[66] If the fair use analysis were more straightforward, it would both allow users to more confidently know that they engaged in fair use and also discourage frivolous lawsuits.

However, fair use is a vast swamp, so being able to create strict hard and fast rules may be a Sisyphean task. As Congress recognized back when it first drafted § 107, "[a]lthough the courts have considered and ruled upon the fair use doctrine over and over again, no real definition of the concept has ever emerged. . . . [S]ince the doctrine is an

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[64] Fogerty v. Fantasy, Inc., 510 U.S. 517, 527 (1994).

[65] *See, e.g.*, Clark v. Transp. Alts., Inc., 18 Civ. 9985, 2019 WL 1448448, at *4 (S.D.N.Y. Mar. 18, 2019) ("[U]se of the Photograph for non-commercial purposes — an opinion post on a non-profit organization's blog — further supports a finding that the first factor cuts in favor of fair use."); Bell v. Powell, 350 F. Supp. 3d 723, 729 (S.D. Ind. 2018) (finding that since the conference was for a charitable purpose, the inclusion of the photo in the brochure was not commercial use).

[66] *See, e.g.*, Dhillon v. Does 1-10, No. C 13–01465 SI, 2014 WL 722592, at *5 (N.D. Cal. Feb. 25, 2014) (finding the use of the headshot to be transformative since it was embedded in an article criticizing the subject of the headshot); Righthaven, L.L.C. v. Realty One Grp., Inc., No. 2:10–cv–1036, 2010 WL 4115413, *2–3 (D. Nev. Oct. 19, 2010) (finding that posting the first eight sentences of an article on a blog and linking to the rest was fair use). *Cf.* BWP Media USA, Inc. v. Gossip Cop Media, Inc., 196 F. Supp. 3d 395, 405 (S.D.N.Y. 2016) (finding no fair use where the images were used for the same purpose on a blog as the original use).

equitable rule of reason, no generally applicable definition is possible, and each case raising the question must be decided on its own facts."[67] Although greater clarity may be possible, it is likely that fair use could never be turned into a strictly numerical or predictable test. Even if such a bright-line test was possible, it is unlikely it would age well with the progress of technology. Suggestions to abandon transformative use and retreat to just the four factors enumerated in § 107,[68] even if feasible, would not untangle the knotted morass of fair use, since there are still four moving factors and no bright-line test. When *Campbell* was decided in 1994, blogs and search engines were still rudimentary and were far from the considerations of the Supreme Court in its decision.

Fair use can be and is a useful tool for protecting transformative uses such as blogs against frivolous or hastily filed litigation. However, as it currently stands, the ambiguity of the fair use factors and the extreme discretion allowed to courts make fair use a weakened shield. Instead of proposing a wholescale overhaul of fair use, which would be unlikely to come about and would overturn decades of precedent, this Article will propose taking a media-specific approach to analyzing fair use, especially in light of post-1976 innovations such as the Internet. This rulification approach would promote enhanced certainty and greater adherence to fair use.[69]

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[67] H.R. REP. NO. 94-1476, (1976).
[68] Benjamin Reiser, *Anything You Can Use, I Can Use Better: Examining the Contours of Fair Use as an Affirmative Defense for Theatre Artists, Creators, and Producers*, 30 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 873, 912 (2020).
[69] Elkin-Koren & Fischman-Afori, *supra* note 8, at 189–93.

IV. THE CHANGING SCENE OF FAIR USE

It has been twenty-four years since fair use was codified in the Copyright Act of 1976. Since that time, much in the landscape of copyright has changed beyond recognition. Undoubtedly the biggest change was the creation of the Internet. While the Internet Protocol was first successfully used in 1976,[70] the same year of the Copyright Act, the real transformation started with the public launch of the World Wide Web in 1991.[71] The rise of new media for creative works and increased dangers of abuse by copyright owners demonstrate that fair use has been undergoing increasingly substantial pressure since 1976.[72]

The four fair use factors codified in § 107, despite stretching back to *Folsom v. Marsh* in 1841, did not envision the panoply of modern innovations that have emerged since, much like other sections of the Copyright Act. For example, the Digital Millennium Copyright Act addressed the emergence of the Internet and liability and takedown procedures for posted online copyrighted content.[73] The Music Modernization Act updated several portions of the Copyright Act relating to music, including a blanket mechanical license for digital phonorecord delivery of a

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[70] Ben Tarnoff, *How the Internet Was Invented*, GUARDIAN (July 15, 2016 7:00 AM), https://www.theguardian.com/technology/2016/jul/15/how-the-internet-was-invented-1976-arpa-kahn-cerf [https://perma.cc/65KM-A5QS].

[71] *History of the Web*, WORLD WIDE WEB FOUND., https://webfoundation.org/about/vision/history-of-the-web [https://perma.cc/B4LH-FVZQ] (last visited Mar. 9, 2020).

[72] *See* David N. Weiskopf, *The Risks of Copyright Infringement on the Internet: A Practitioner's Guide*, 33 U.S.F. L. REV. 1, 38-41 (1998); *see also* Oliver Herzfeld & Marc Aaron Melzer, *Fair Use in the Age of Social Media*, FORBES (May 26, 2016 9:34 AM), https://www.forbes.com/sites/oliverherzfeld/2016/05/26/fair-use-in-the-age-of-social-media/#6814684c3300 [https://perma.cc/B8BL-S8DC].

[73] Digital Millennium Copyright Act of 1998, Pub. L. No. 105-304, 112 Stat. 2860.

musical work for interactive digital music providers such as Spotify, a digital performance right for pre-1972 sound recordings, and revised distribution of sound recording royalties to producers, sound engineers, and mixers.[74]

While the types of media that involved copyright had certainly evolved from 1841 to 1976, such as the advent of broadcasting and cable television,[75] the 1976 Congress could hardly have imagined the range of possible copyrighted work uses in 2020. Indeed, mankind has made enormous technological advancements in the past forty-four years. Almost certainly, the greatest of these for the purposes of copyright is the Internet, which has already shown its enormous impact on the use of copyright through the passage of the previously mentioned Digital Millennium Copyright Act and the Music Modernization Act.[76] The ability to upload, transfer, download, and modify online content has not only vastly increased the number of cases of use of a copyrighted work, but also greatly raised the likelihood that such a use would be found by the copyright owner.[77]

These advancements have also affected the contours of fair use. While fair use was envisioned for physical art, music, literature, and the like, it did not have the ability to predict new uses such as online adaptations, digital editing, or the insertion of content onto webpages. While the first century and a half of fair use is still extremely valuable as precedent, the use of such new media does have a profound

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[74] Orrin G. Hatch-Bob Goodlatte Music Modernization Act, Pub. L. No. 115-264, 132 Stat. 3676 (2018); *see generally* Todd Larson, Jeremy C. Cain, & Jeremy P. Auster, *Music Licensing Overhaul Signed Into Law*, 30 INTELL. PROP. & TECH. L.J. 7 (Dec. 2018).

[75] *See, e.g.*, Susan C. Greene, *The Cable Television Provisions of the Revised Copyright Act*, 27 CATHOLIC U. L. REV. 263 (1978).

[76] *See supra* notes 70–72 and accompanying text.

[77] *See, e.g.*, PIXSY, https://www.pixsy.com [https://perma.cc/LL9E-3TL6] (last visited Mar. 9, 2020) (one option for reverse image searches that specifically tailors its services to copyright owners).

effect on the importance of different factors during the fair use analysis.

An additional complication with fair use in the twenty-first century is the rise of the copyright troll. The risk of being found by the copyright owner, or their agent, is generally a positive for copyright law, but troubles arise with copyright trolls. Copyright trolling is where the plaintiff is more interested in gaining income through litigation, or rather the threat of litigation, than actually selling or licensing their work.[78] In general, authors of copyrighted works are motivated to pursue copyright litigation for a number of reasons, including moral rights and perceived financial loss.[79] Yet, in some cases, artists make far more money through their pursuit of copyright litigation than their art itself. For example, Malibu Media filed thousands of copyright infringement suits in 2015-2016, resulting in net profits of several million, far exceeding the profits from licensing their pornographic videos.[80] A photograph or other work may only have a nominal licensing value, but any work, no matter how famous or not, if it is registered in a timely manner, can achieve the same statutory damages,

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[78] Matthew Sag, *Copyright Trolling, An Empirical Study*, 100 IOWA L. REV. 1105, 1108 (2015); *see also* Shyamkrishna Balganesh, *The Uneasy Case Against Copyright Trolls*, 86 S. CAL. L. REV. 723, 732 (2013) (defining a copyright troll as "an entity whose business revolves around the systematic legal enforcement of copyrights in which it has acquired a limited ownership interest"). Sag argues that we should not focus on abstract characteristics and status to define a copyright troll, but instead look directly at the conduct. Sag, *supra* note 78, at 1113.

[79] *See generally* Christopher Buccafusco & David Fagundes, *The Moral Psychology of Copyright Infringement*, 100 MINN. L. REV. 2433, 2456–78, 2483–84 (2016).

[80] Susan Decker & Christopher Yasiejko, *Porn Purveyors' Use of Copyright Lawsuits Has Judges Seeing Red*, CLAIMS J. (Aug. 5, 2019), https://www.claimsjournal.com/news/national/2019/08/05/292355.htm [https://perma.cc/HNU8-VXS4]; Matthew Sag & Jake Haskell, *Defense Against the Dark Arts of Copyright Trolling*, 103 IOWA L. REV. 571, 578 (2018).

making a work that was not economically viable monetizable through litigation.[81] Frequently, these copyright trolls threaten hundreds to thousands of alleged infringers, hoping that many will settle quickly for a price rather than defend themselves against the trolls' uncertain and often unsubstantiated claims.[82] Not uncommonly, the claims may be dubious, but that does not deter the opportunistic copyright troll from taking advantage of the high potential damages in copyright litigation to achieve a lucrative quick settlement.[83] The rise of image and text searching mechanisms through systems such as Google have given copyright owners and attorneys the ability to find uses of their work, but have also increased the risk of uses being threatened with lawsuits without undergoing a fair use analysis.

The flexibility of fair use, as seen in Part I, becomes much more problematic when online content posters have become the target of poorly substantiated claims that have not adequately examined fair use. Indeed, online blogs have been a frequent target of copyright trolls.[84] Yet their incorporation of copyrighted works can have a strong fair use argument. Scholar Brad Greenberg argues that fair use is an adequate shield against copyright trolls since judges can use it flexibly.[85] Yet that same flexibility is also risky for copyright defendants since even if they have a strong fair use argument, without any definite rules, the court may still decide against them. This is perhaps most concerning because fair use, as it has been interpreted so far by U.S.

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[81] *See* 17 U.S.C. § 412 (2018) (requiring that a copyright is registered within the earlier of three months after publication or one month after the author learns of the infringement for statutory damages).
[82] Sag, *supra* note 78, at 1108.
[83] *Id.* at 1113–14.
[84] Balganesh, *supra* note 78, at 741–42.
[85] Brad A. Greenberg, *Copyright Trolls and the Common Law*, 100 IOWA L. REV. BULL. 77, 85–86 (2015).

courts, is actually strongly in favor of the sort of uses that are often the targets of copyright trolls.[86] Greater dangers of threatening lawsuits and an unclear fair use standard might have a strong chilling effect on the creation and dissemination of new works, which is the exact opposite of the goal of copyright.[87]

Fair use is a "context-sensitive inquiry,"[88] and we can better delineate fair use factors in relation to specific types of media.[89] Online content has been the greatest and perhaps least predictable media that has emerged since 1976. When the fair use factors were originally codified, the Internet was not yet in existence. Yet today, millions of photos, blogs, and other pieces of online content are posted every day; for example, there are 474,000 new tweets and 69,444 new Instagram posts per minute.[90] With such enormous creative activity, it is vital to understand how fair use operates in the online content space. It is to this space that we now turn.

V. FAIR USE ON BLOGS: A CASE STUDY

Posted online content in the form of blog posts can be a prime example of utilizing fair use, but the four fair use factors are not applied equally to blog posts as they would

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[86] *See, e.g.*, Michael P. Goodyear, *A Shield or a Solution: Confronting the New Copyright Troll Problem*, 21 TEX. REV. ENT. & SPORTS L. 77, 87–89 (2020).

[87] *See* Elkin-Koren & Fischman-Afori, *supra* note 8, at 190–91 (discussing chilling due to a lack of fair use rules in the specific contexts of schools and libraries).

[88] Ferdman v. CBS Interactive, Inc., 342 F. Supp. 3d 515, 530 (S.D.N.Y. 2018) (quoting Blanch v. Koons, 467 F.3d 244, 251 (2d Cir. 2006)).

[89] *See generally* Elkin-Koren & Fischman-Afori, *supra* note 8.

[90] Jeff Schultz, *How Much Data Is Created on the Internet Each Day?*, MICRO FOCUS BLOG (Aug. 6, 2019), https://blog.microfocus.com/how-much-data-is-created-on-the-internet-each-day/# [https://perma.cc/R9MK-GV3S].

be in other media, such as music, video, or physical artwork. Instead, this Article draws specific rules for fair use for this type of media, dissecting the eighteen cases decided before 2020 on posted online content as well as similar cases from related media. This case study of blog posts is meant to serve as an example of the benefits of delineating fair use by specific media, especially media in which there are frequent attempts at fair use of copyrighted works.

The context of blogs is especially important to understand as blogs are a common and easily accessible medium,[91] and they are especially at risk of lawsuits due to the ease of searching their content through online search engines such as Google.[92] The rise of blogging platforms has allowed anyone with access to the Internet the ability to start posting content to a blog.[93] This ease of access, however, means that budding writers and designers unfamiliar with copyright are even more at risk for violating copyright law by not knowing where the fair use lines are drawn. The ability for bona fide and copyright troll owners to easily find uses of their works also raises the chance of a misunderstanding of fair use, turning a writing hobby into a costly and litigious nightmare.

Based on the analysis in Part I, we can attempt to draw a few preliminary hypotheses. By using the original unaltered work in a new context or for a new purpose, the work is at the very least transformative, which is the

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[91] *See* Ellis, *supra* note 5 (discussing the free platforms for creating a blog); *How Many Blogs Are There?*, *supra* note 6 (finding that there are 500 million blogs online in 2020).

[92] *See, e.g.*, *Find Related Images with Reverse Image Search*, GOOGLE, https://support.google.com/websearch/answer/1325808?co=GENIE.Platform%3DAndroid&hl=en [https://perma.cc/HRU5-3VBA] (last visited Mar. 9, 2020).

[93] *See* Brenda Barron, *How Blogging Began: The Fascinating History of a Cultural Phenomenon*, BLOGGING.COM (April 3, 2020), https://blogging.com/history [https://perma.cc/T4UC-5KAP].

overarching factor in a fair use analysis.[94] Commercial use, at least nominally, is a less important factor in determining fair use, as is the effect on the market, because transformative use is the key factor in fair use determinations,[95] although all factors can play their role in the fair use analysis. For example, in perhaps the quintessential nonprofit blog case, the Eleventh Circuit found that the use of a photograph on a blog constituted fair use where the author sought to educate others, made no money from the use, and transformed the photograph by adding her own commentary to the post.[96]

To better delineate fair use for blogs and posted online content in general, I reviewed the eighteen judicial opinions that have been written on fair use and posted online content.[97] In sixteen out of eighteen cases, the analysis

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[94] *See supra* Part II.

[95] Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 579 (1994) (transformative works "lie at the heart of the fair use doctrine[,]" and "the more transformative the new work, the less will be the significance of other factors . . . that may weigh against a finding of fair use").

[96] Katz v. Google Inc., 802 F.3d 1178, 1182–84 (11th Cir. 2015). It is important to note that § 107 considers the commercial nature of an act, not the entity itself. So, if a nonprofit was using a copyrighted photo for a calendar it is selling for a fundraiser, that act would likely be considered commercial even if the nonprofit itself is not.

[97] *See* VHT, Inc. v. Zillow Grp., Inc., 918 F.3d 723 (9th Cir. 2019); Brammer v. Violent Hues Prods., LLC, 922 F.3d 255 (4th Cir. 2019); *Katz*, 802 F.3d 1178; Swatch Group Mgmt. Servs. v. Bloomberg L.P., 756 F.3d 73 (2d Cir. 2014); Nunez v. Caribbean Int'l News Corp., 235 F.3d 18, 24 (1st Cir. 2000); Yang v. Mic Network, Inc., 405 F. Supp. 3d 537 (S.D.N.Y. 2019); Philpot v. WOS, Inc., No. 1:18-CV-339-RP, 2019 WL 1767208 (W.D. Tex. Apr. 22, 2019); Clark v. Transp. Alts., Inc., 18 Civ. 9985, 2019 WL 1448448 (S.D.N.Y. Mar. 18, 2019); Ferdman v. CBS Interactive, Inc., 342 F. Supp. 3d 515 (S.D.N.Y. 2018); Otto v. Hearst Commc'ns, Inc., 345 F. Supp. 3d 412 (S.D.N.Y. 2018); Barcroft Media, Ltd. V. Coed Media Group, LLC, 297 F. Supp. 3d 339 (S.D.N.Y. 2017); BWP Media USA, Inc. v. Gossip Cop Media, Inc., 196 F. Supp. 3d 395 (S.D.N.Y. 2016); N. Jersey Media Grp., Inc. v. Pirro, 74 F. Supp. 3d 605 (S.D.N.Y. 2015); Dhillon v. Does 1-10, No. C 13–01465, 2014

turned primarily on the first or fourth factors, or both.[98] In just two cases were all four factors found to be against fair use.[99] Meanwhile, as noted by the Southern District of New York, the second factor in the fair use analysis "has rarely

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WL 722592 (N.D. Cal. Feb. 25, 2014); Righthaven, L.L.C. v. Jama, No. 2:10–CV–1322, 2011 WL 1541613 (D. Nev. Apr. 22, 2011); Righthaven, L.L.C. v. Realty One Grp., Inc., No. 2:10–cv–1036, 2010 WL 4115413 (D. Nev. Oct. 19, 2010); Super Future Equities, Inc. v. Wells Fargo Bank Minn., N.A., 553 F. Supp. 2d 680 (N.D. Tex. 2008); Wilen v. Alt. Media Net, Inc., 03CIV2524, 2005 WL 167589 (S.D.N.Y. Jan. 26, 2005).

[98] *Katz*, 802 F.3d at 1184 (finding that the first, second, and fourth factors weighed in favor of fair use); *Swatch Group*, 756 F.3d at 92 (finding that the first, second, and fourth factors favored fair use); *Nunez*, 235 F.3d at 25 (finding that the first, second, and fourth factors weighed in favor of fair use); *Yang*, 405 F. Supp. 3d at 548 (S.D.N.Y. 2019) (finding that transformativeness, the second factor, and the fourth factor favored fair use); *Philpot*, 2019 WL 1767208, at *5–7 (finding that transformativeness, the second factor, and the fourth factor favored fair use); *Clark*, 2019 WL 1448448, at *4 (finding that the first and fourth factors favor fair use, but noting that the second factor barely matters); *Ferdman*, 342 F. Supp. 3d at 542 (determining that the first and fourth factors weighed against fair use for the Gallery Article, but that the first factor was enough with the Holland Article to deny summary judgment and give the fair use question to the jury); *Otto,* 345 F. Supp. 3d at 433 (finding that the first, third, and fourth factors weigh against fair use); *Barcroft Media*, 297 F. Supp. 3d at 355 (finding that the first, third, and fourth factors weigh against fair use); *BWP Media*, 196 F. Supp. 3d at 410 (finding that the first, third, and fourth factors weigh against a finding of fair use); *N. Jersey Media Grp.*, 74 F. Supp. 3d at 623 (finding that the transformativeness element of the first factor and the fourth factor weighed against fair use); *Dhillon*, 2014 WL 722592, at *5–6 (holding that transformativeness, the second factor, and the fourth factor weigh in favor of fair use); *Righthaven*, 2011 WL 1541613, at *5 (finding the first, second, and fourth factors to favor fair use); *Righthaven*, 2010 WL 4115413, at *2–3 (finding that the second, third, and fourth factors favor fair use); *Super Future Equities*, 553 F. Supp. 2d at 701 (finding that the second and fourth factors weighed in favor of fair use); *Wilen*, 2005 WL 167589, at *4 (finding on the basis of transformativeness alone that there was no fair use).

[99] *VHT,* 918 F.3d at 744; *Brammer*, 922 F.3d at 269.

played a significant role in the determination of a fair use dispute."[100] The third factor is also usually inconsequential for the fair use analysis of posted online media. Out of the eighteen cases, thirteen used the entire work, and four others were only minimally cropped.[101] This signals that the use of content online is almost always the same: used in its entirety or minimally altered. Furthermore, when the entire work was used, the Court instead referred to the purpose of the use, the first factor.[102] Where the entire work was used reasonably in light of the purpose of the use, the third factor was neutral and did not affect the outcome of the fair use analysis.[103] Using an entire photograph matters less than

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[100] *Clark*, 2019 WL 1448448, at *4 (quoting Authors Guild v. Google, Inc., 804 F.3d 202, 220 (2d Cir. 2015)); *see also Ferdman*, 342 F. Supp. 3d at 538 (quoting Fox News Network v. Tveyes, Inc., 883 F.3d 169, 178 (2d Cir. 2018)) (stating the same); *Otto*, 345 F. Supp. 3d at 430 (quoting On Davis v. The Gap, Inc., 246 F.3d 152, 175 (2d Cir. 2001)) (stating the same); *BWP Media*, 196 F. Supp. 3d at 409 (second factor is "rarely found to be determinative" (quoting Arrow Prods., LTD v. Weinstein Co. LLC, 4 F. Supp. 3d 359, 371 (S.D.N.Y. 2014))); *N. Jersey Media Grp.*, 74 F. Supp. 3d at 620 (stating the same).

[101] The lone exception was *Righthaven*, 2010 WL 4115413, at *2, where just eight out of thirty sentences were copied.

[102] *Katz*, 802 F.3d at 1184; *Swatch Group*, 756 F.3d at 90; *Ferdman*, 342 F. Supp. 3d at 539–40; *Super Future Equities*, 553 F. Supp. 2d at 699–700.

[103] *Katz*, 802 F.3d at 1184 (finding that using any less of the image "would have made the picture useless to [the defendant's] story" (quoting *Nunez*, 235 F.3d at 24)); *Swatch Group*, 756 F.3d at 90 (finding that the third factor did not favor either side); *Nunez*, 235 F.3d at 24 (holding that the third factor is of "little consequence" because although the full picture was copied, it would have been useless to the purpose if less was copied); *Yang*, 405 F. Supp. 3d at 547 (stating that due to being necessary for the purpose, copying all of the expression weighed minimally in the fair use analysis); *Clark*, 2019 WL 1448448, at *4 (finding that although the use reproduced the entire photograph, it was "reasonable in relation to the purpose of the copying" (quoting Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 586 (1994))); *Ferdman*, 342 F. Supp. 3d at 539–40 (finding that "no more of the works were taken than necessary" (quoting Infinity Broad. Corp. v. Kirkwood, 150 F.3d 104,

using the entire work in a different medium, as the use needs the full picture to preserve the meaning.[104]

For the purposes of fair use on blogs, there are really three primary factors to consider in determining fair use. The first factor—purpose and character of work—is really two factors: "(1) whether the use serves a nonprofit educational purpose, as opposed to a commercial purpose; and (2) the degree to which the work is a transformative use."[105] As a general rule, "[a] finding of a transformative nature and a nonprofit purpose support a finding of fair use."[106] The final factor for blogs is the fourth factor in the fair use analysis under § 107, market effect.[107]

A. Transformative Use

The primary indicator of fair use under *Campbell* is transformativeness. "[T]he use of an image solely to present the content of that image" is not transformative.[108] In other words, adding an image to a blog simply to make it more interesting is not fair use, while actually commenting on it,

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110 (2d Cir. 1998))); *N. Jersey Media Grp.*, 74 F. Supp. 3d at 621; *Dhillon*, 2014 WL 722592, at *5 (finding that the third factor was neutral); *Righthaven*, 2011 WL 1541613, at *3–4.

[104] *Ferdman*, 342 F. Supp. 3d at 539 (quoting *N. Jersey Media Grp.*, 74 F. Supp. 3d at 621).

[105] *Katz*, 802 F.3d at 1182 (quoting Peter Letterese & Assocs., Inc. v. World Inst. Scientology Enter., 533 F.3d 1287, 1309 (11th Cir. 2008)).

[106] *Super Future Equities*, 553 F. Supp. 2d at 697 (citing *Campbell*, 510 U.S. at 578–85).

[107] *See, e.g.*, Perfect 10, Inc. v. Amazon.com, Inc., 508 F.3d 1146, 1165, 1168 (9th Cir. 2007) (holding that the use "did not harm the photographer's ability to sell or license his full-sized images, thus favoring fair use" (citing Kelly v. Arriba Soft Corp., 336 F.3d 811, 821–22 (9th Cir. 2003))).

[108] *Ferdman*, 342 F. Supp. 3d at 534, 542 ("a wholly untransformative and unaltered copy of Plaintiff's photographs [weighs strongly against fair use]" (citing BWP Media USA, Inc. v. Gossip Cop Media, Inc., 196 F. Supp. 3d 395, 407 (S.D.N.Y. 2016))).

criticizing it, or using it for another purpose are transformative. In *Ferdman v. CBS Interactive Inc.*, the Southern District of New York found an article that just contained copyrighted photographs completely untransformative.[109] On the other hand, it found another article that contained a photo and commentary about it potentially transformative.[110] Similarly, in *Barcroft Media Ltd. v. Coed Media Group, LLC*, the defendant displayed the images in the exact same way and for the exact same purpose as the original, so the use was found to not be transformative.[111] In *Brammer v. Violent Hues Prods., LLC*, the mere inclusion of a photograph in a new context was not enough; otherwise, "virtually all illustrative uses of photography would qualify as transformative."[112] The *Brammer* Court held that using a photograph expressly for its content, rather than for a new purpose, such as data organization or historical preservation, was not transformative.[113] The use of a work needs to say something new.[114] After all, fair use "is not designed to protect lazy appropriators."[115]

To determine transformativeness, courts look at whether the work is used for a different purpose or in a different context. Using the copyrighted work for a different purpose, such as "criticism, comment, news reporting,

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[109] *Id.* at 534.

[110] *Id.* However, the amount of commentary still bordered on just announcing that photographs of the filming took place, so the decision went to the jury to determine whether or not the commentary was sufficiently transformative. *Id.* at 536–37.

[111] Barcroft Media, Ltd. v. Coed Media Grp., LLC, 297 F. Supp. 3d 339, 351–52 (S.D.N.Y. 2017).

[112] Brammer v. Violent Hues Prods., LLC, 922 F.3d 255, 264 (4th Cir. 2019).

[113] *Id.* at 264.

[114] *Id.* at 269.

[115] *Id.* at 262 (quoting Kienitz v. Sconnie Nation LLC, 766 F.3d 756, 759 (7th Cir. 2014)).

teaching, scholarship, or research," is transformative.[116] This use must alter the original with "new expression, meaning, or message" to be transformative.[117] Even when the copyrighted work is the core of the use, manifesting an "entirely different aesthetic" or adding "something new" is enough to be transformative.[118] For example, in *Campbell*, the Supreme Court found that a parody of Roy Orbison's song *Pretty Woman* "could be perceived as commenting on the original or criticizing it."[119] Using a work as part of a much larger piece also militates in favor of transformative use.[120]

In this determination of transformativeness, courts have also looked at the purpose of the original work. In *Righthaven, L.L.C. v. Jama*, the District of Nevada was dismissive of copyright trolls and looked at the purpose of the current copyright owner instead of the original creator.[121] Because the owner was now a copyright troll that only wanted to use the copyright to file infringement suits, the Court used litigation as the purpose for evaluating transformativeness of subsequent uses.[122] The holding in

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[116] 17 U.S.C. § 107 (2018); Bill Graham Archives v. Dorling Kinderseley, Ltd., 448 F.3d 605, 609–10 (2d Cir. 2006) (holding that using former advertisements as historical photographs in a biography was transformative).

[117] Cariou v. Prince, 714 F.3d 694, 706 (2d Cir. 2013) (quoting Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 579 (1994)).

[118] *Id.* at 706–08 (citing Leibovitz, v. Paramount Pictures Corp., 137 F.3d 109, 114 (2d Cir. 1998)).

[119] *Campbell*, 510 U.S. at 583.

[120] Bell v. Powell, 350 F. Supp. 3d 723, 729–30 (S.D. Ind. 2018) (holding that the inclusion of a photograph in a brochure about sexual assault was fair use); *Bill Graham*, 448 F.3d at 607 (holding that the use of seven photographs in a coffee table book of 2000 photographs was fair use).

[121] Righthaven, L.L.C. v. Jama, No. 2:10–CV–1322, 2011 WL 1541613, at *5 (D. Nev. Apr. 22, 2011).

[122] *Id.* (finding a different, transformative purpose from engaging in litigation).

Righthaven is an especially helpful precedent in countering copyright trolls.

The Eleventh Circuit found transformative use where the surrounding commentary in the blog posts changed the context in which the copyrighted work was originally used.[123] "Courts often find such uses [of faithfully reproduced works] transformative by emphasizing the altered purpose or context of the work, as evidenced by the surrounding commentary or criticism[,]" which is frequently the case with news and information sources.[124] For example, using a headshot was transformative when it was embedded in an article criticizing the subject of the headshot, rather than using the headshot for identification, as was the purpose of the original use.[125] On the other hand, the Southern District of New York rejected "allow[ing] media companies to steal personal images and benefit from the fair use defense by simply inserting the photo in an article which only recites factual information."[126] As that Court noted, "the use of an image solely to illustrate the content of that image, in a commercial capacity, has yet to be found as fair use."[127] Instead of looking solely at new context, the Fourth Circuit looked at whether this new use would "generate a societal benefit by imbuing the original with new function or meaning."[128] In *Brammer*, it found that the mere placement

[123] Katz v. Google Inc., 802 F.3d 1178, 1182–83 (11th Cir. 2015).
[124] Swatch Grp. Mgmt. Servs. Ltd. v. Bloomberg L.P., 756 F.3d 73, 84 (2d Cir. 2014).
[125] Dhillon v. Does 1-10, No. C 13–01465, 2014 WL 722592, at *5 (N.D. Cal. Feb. 25, 2014) (noting that the headshot was initially used for identification instead of criticism).
[126] Otto v. Hearst Commc'ns, Inc., 345 F. Supp. 3d 412, 428 (S.D.N.Y. 2018).
[127] *Id.* (citing BWP Media USA, Inc. v. Gossip Cop Media, Inc., 196 F. Supp. 3d 395, 407 (S.D.N.Y. 2016)).
[128] Brammer v. Violent Hues Prods., LLC, 922 F.3d 255, 263 (4th Cir. 2019) (citing Perfect 10, Inc. v. Amazon.com, Inc., 508 F.3d 1146, 1165 (9th Cir. 2007)).

of a photograph on a webpage for tourists, without more, was not transformative.[129]

While surrounding commentary can make the use transformative, merely making small changes to the work does not. For example, if willfully concealing the copyright notice on a reproduced work is the only change, the work is not fair use.[130] Similarly, merely changing the size of the picture and adding a hashtag are too minimal of changes to rise to the requisite level of transformativeness set out by the Second Circuit in *Cariou*.[131] In one case, these mere cosmetic changes added no new expression and the aesthetic remained the same, so the Court found no fair use.[132] Adding a photo with no actual engagement with the photo in a blog weighs strongly against fair use.[133] Similarly, putting original content in a data dump does not qualify as transformative.[134]

B. Commercial Purpose

The use of a photograph on a nonprofit or educational blog also supports fair use. The use of a work on a "wholly noncommercial blog" that does not request

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[129] *Id.* at 263–64.
[130] Wilen v. Alt. Media Net, Inc., No. 03CIV2524, 2005 WL 167589, at *4 (S.D.N.Y. Jan. 26, 2005).
[131] N. Jersey Media Grp., Inc. v. Pirro, 74 F. Supp. 3d 605, 615–6 (S.D.N.Y. 2015); *see also Brammer*, 922 F.3d at 263 (holding that mere cropping of a photograph does not make it transformative).
[132] *N. Jersey Media Grp.*, 74 F. Supp. 3d. at 616–17.
[133] Ferdman v. CBS Interactive Inc., 342 F. Supp. 3d 515, 534, 542 (S.D.N.Y. 2018) ("[A] wholly untransformative and unaltered copy of Plaintiff's photographs [weighs strongly against fair use.]" (citing BWP Media USA, Inc v. Gossip Cop Media, Inc., 196 F.Supp.3d 395, 407 (S.D.N.Y. 2016))).
[134] Barcroft Media, Ltd. V. Coed Media Grp., LLC, 297 F. Supp. 3d 339, 352–53 (S.D.N.Y. 2017).

payment favors a finding of fair use.[135] Using a photograph on a blog for an educational purpose where no money is derived from the use cuts in favor of fair use.[136] Using a work for a charitable or public interest purpose also cuts in favor of fair use.[137]

"For a commercial use to weigh heavily against a finding of fair use, it must involve more than simply publication in a profit-making venture," such as publishing photographs on the front page of a newspaper to solicit purchases.[138] In *Kelly v. Arriba Soft Corp.*, the Ninth Circuit drew a distinction between directly using a copyrighted work to gain income through self-promotion or sale—which militated against a finding of fair use—and merely including photographs in a search or blog, because "it was more incidental and less exploitative in nature than more traditional types of commercial use."[139]

It is important to note that receiving advertising revenue for the posted content is a commercial use.[140] However, advertising revenue, while it weighs against fair use, is not dispositive.[141] One factor is determining what

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[135] Dhillon v. Does 1-10, No. C 13–01465, 2014 WL 722592, at *1, 4 (N.D. Cal. Feb. 25, 2014) (finding fair use where a non-commercial blog published a headshot in an article about the subject of the headshot).

[136] Katz v. Google Inc., 802 F.3d 1178, 1182 (11th Cir. 2015) (finding that the use of a photograph on a blog was educational and non-commercial since no money was made from the post); Clark v. Transp. Alts., Inc., No. 18 Civ. 9985, 2019 WL 1448448, at *4 (S.D.N.Y. Mar. 18, 2019) (finding that an opinion post on a non-profit organizations' blog was non-commercial and weighed in favor of fair use).

[137] Bell v. Powell, 350 F. Supp. 3d 723, 728–30 (S.D. Ind. 2018) (finding that the use of a photograph in a brochure about professional networking to reduce sexual assault was fair use).

[138] Nunez v. Caribbean Int'l News Corp., 235 F.3d 18, 22 (1st Cir. 2000).

[139] Kelly v. Arriba Soft Corp., 336 F.3d 811, 818 (9th Cir. 2003).

[140] Otto v. Hearst Commc'ns, Inc., 345 F. Supp. 3d 412, 429 (S.D.N.Y. 2018).

[141] Philpot v. WOS, Inc., No. 1:18-CV-339-RP, 2019 WL 1767208, at *4 (W.D. Tex. Apr. 22, 2019) (holding that a transformative purpose can

exactly is driving the advertising revenue, which is a complicated and costly determination.[142] On the other hand, the purpose of building personal reputation alone is not a commercial use.[143]

A use does not have to generate direct revenue or include advertising, however, to be a commercial use. Instead, courts ask "whether the use was exploitative, in that others usually pay to engage in similar conduct."[144] With blogs, it is customary for a commercial enterprise to buy licenses to use stock photography.[145] Since a commercial market exists for stock imagery, a commercial enterprise's failure to pay the customary licensing fee weighs against a finding of fair use.[146]

C. Market Effect

If the publication has a minimal effect on the original author's photography business, it weighs in favor of fair

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outweigh advertising revenue); *see also* Ferdman v. CBS Interactive, Inc., 342 F. Supp. 3d 515, 537 (S.D.N.Y. 2018) (noting that the commercial nature of the use cannot, by itself, be dispositive (quoting NXIVM Corp. v. Ross Inst., 364 F.3d 471, 477 (2d Cir. 2004))).

[142] *See Philpot*, 2019 WL 1767208, at *4.

[143] Super Future Equities, Inc. v. Wells Fargo Bank Minn., N.A., 553 F. Supp. 2d 680, 698 (N.D. Tex. 2008) ("If mere recognition by one's peers constituted 'personal profit' to defeat a finding of a noncommercial use, courts would seldom find any criticism fair use and much valuable criticism would be discouraged." (quoting Religious Tech. Ctr. v. Netcom On-Line Commc'ns Servs., Inc., 923 F. Supp. 1231, 1244 (N.D. Cal. 1995))).

[144] Brammer v. Violent Hues Prods., LLC, 922 F.3d 255, 265 (4th Cir. 2019).

[145] *See id.* (citing Eric E. Johnson, *The Economics and Sociality of Sharing Intellectual Property Rights*, 94 B.U.L. REV. 1935, 1962-72 (2014)).

[146] *Id.*

use.[147] Where, on the other hand, the "[d]efendant's use of these photographs is a perfect substitute for the intended market," this factor weighs against fair use.[148]

The plaintiff must prove that there is a tangible detrimental effect on the copyright owner's market for the copyrighted work; there does not have to be an actual, calculable effect.[149] The Southern District of Indiana dismissed the existence of actual market effect where the assertion was "highly speculative."[150] This can be shown by demonstrating that the owner has "[n]ever sought or received a licensing fee [for the image] from anyone at any time."[151] In addition, a mere willingness to charge for the use at issue in litigation does not win the market effect element.[152] Being used for the same purpose shows that the defendant usurped the market,[153] but so does being used for a related, derivative

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[147] Nunez v. Caribbean Int'l News Corp., 235 F.3d 18, 21–22 (1st Cir. 2000) (citing Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 579 (1994)).

[148] Ferdman v. CBS Interactive Inc., 342 F. Supp. 3d 515, 534, 542 (S.D.N.Y. 2018) (citing BWP Media USA, Inc v. Gossip Cop Media, Inc., 196 F.Supp.3d 395, 407 (S.D.N.Y. 2016)).

[149] *Campbell*, 510 U.S. at 590 (articulating that the court must consider "whether unrestricted and widespread conduct of the sort engaged in by the defendant. . . would result in a substantially adverse impact on the potential market" (quoting 3 M. NIMMER & D. NIMMER, *Nimmer on Copyright* § 13.05(A)(4), p.13-102.61 (1993))).

[150] Bell v. Powell, 350 F. Supp. 3d 723, 729 (S.D. Ind. 2018).

[151] Dhillon v. Does 1-10, No. C 13–01465, 2014 WL 722592, at *6 (N.D. Cal. Feb. 25, 2014).

[152] Bill Graham Archives v. Dorling Kinderseley, Ltd., 448 F.3d 605, 615 (2d Cir. 2006) ("A publisher's willingness to pay license fees for reproduction of images does not establish that the publisher may not, in the alternative, make fair use of those images.").

[153] Barcroft Media, Ltd. v. Coed Media Group, LLC, 297 F. Supp. 3d 339, 355 (S.D.N.Y. 2017); *see also* Brammer v. Violent Hues Prods., LLC, 922 F.3d 255, 268 (4th Cir. 2019) (noting that since the heart of the work was copied, the plaintiff "need not demonstrate that the licensing market for his Photo would be depressed" if the defendant's use became widespread).

market.[154] Being a commercial use creates a presumption of harm to the market, but the defendant can rebut this presumption by showing that there was no actual market.[155]

A notable example for the blog context is that excerpting from publicly available documents generally does not harm the market. For example, the District of Nevada found that posting the first few lines of an article and linking to the full original article did not dilute the market, even though it was a commercial blog.[156]

D. Overall Approach to Fair Use on Blogs

Having surveyed the body of existing case law on copyright cases related to blogs, we can now draw several important rules from this analysis for blogs and fair use.

First, the second factor has been actively deemed insubstantial by courts.[157] But the third factor, despite not being vocally lambasted like the second, is also insignificant in blog fair use cases.[158] The overriding focus of the fair use analysis for blogs then is on the first and fourth factors.

For clarity, it is valuable to break the first factor into two components: transformativeness and commerciality. The key aspect of transformativeness for blogs is that copyrighted content cannot be included just for its aesthetic appeal; the blog must comment on or address it or adapt it in

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[154] *Campbell*, 510 U.S. at 590 ("The enquiry 'must take account not only of harm to the original but also of harm to the market for derivative works.'" (quoting Harper & Row Publishers, Inc. v. Nation Enters., 471 U.S. 539, 568 (1985))).

[155] Philpot v. WOS, Inc., No. 1:18-CV-339-RP, 2019 WL 1767208, at *6–7 (W.D. Tex. Apr. 22, 2019) (finding that the Defendant introduced substantial evidence that there was no market for the Plaintiff's photographs despite being a commercial use).

[156] Righthaven, L.L.C. v. Realty One Grp., Inc., No. 2:10–cv–1036, 2010 WL 4115413, at *2–3 (D. Nev. Oct. 19, 2010) (finding fair use).

[157] *See supra* note 98 and accompanying text.

[158] *See supra* note 98 and accompanying text.

a way that makes it something new.[159] One way of doing this is to use the work for a different purpose than the original work or change the surrounding context of the work by using the larger blog for a different purpose, even if the copyrighted work is being used in the same way.[160] Surrounding content directly addressing the copyrighted work is perhaps the most effective way to have the blog post qualify as fair use, although this cannot be *de minimis*; there must be actual engagement with the photo.[161]

The commercial aspect of the first fair use factor in the context of blogs draws a line that favors free, noncommercial blogs, and weighs against blogs that charge for access.[162] Intangible benefits such as building personal reputation do not count against a finding of fair use, and although advertising revenue does count, it is not dispositive since some advertising revenue needs to be driven by the use.[163] However, the mere inclusion of a copyrighted work in a blog lowers the strength of its commercial nature, since it is usually derivative to the larger content of an article, but could be more commercial if it is the primary part of the post.[164] On the other hand, courts have found that where the copyrighted work could have been licensed, the use should be considered a commercial use.[165]

The fourth factor, market effect, is very similar for blogs and other types of more traditional media. If the use is for the same or a derivative market purpose, it is seen as weighing against fair use.[166] However, related but non-

[159] *See supra* Part V(A).
[160] *See supra* Part V(A).
[161] *See supra* Part V(A).
[162] *See supra* Part V(B).
[163] *See supra* Part V(B).
[164] *See supra* Part V(B).
[165] *See supra* Part V(B).
[166] *See supra* Part V(C).

harmful uses, such as excerpting an article in a blog and linking to the full article, do not weigh against fair use.[167]

Finally, the three factors of transformativeness, commerciality, and market effect must be weighed together. This is by far the most opaque part of the fair use determination, but transformativeness and market effect appears to predominate in line with the broader fair use dispute about the preeminence of these two factors.[168] While the exact outcome of any fair use case is still subjective, especially in regards to weighing the factors, the above conclusions from case precedent helps elucidate what conduct on blogs aligns with or against fair use.

VI. CONCLUSION

Elkin-Koren and Fischman-Afori's work started the conversation on the importance of clearer rules for fair use. This Article continued that conversation, focusing especially on the importance of delineating rules for fair use for specific online media. While this Article delineated such rules for the important fair use media of blogs, this should not be the end of the conversation. Given the complex, sometimes contradictory, and often subjective state of fair use, such delineation of rules benefits the courts and creative persons, allowing for a more straightforward path for fair use in the digital age built on the precedents of both bygone eras and the nascent twenty-first century.

[167] *See supra* Part V(C).
[168] *See supra* Part I.

THE "INVENTIVE CONCEPT" TEST FOR PATENT ELIGIBILITY CONTRAVENES CONGRESSIONAL INTENT

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ABSTRACT

Substantial scholarship addresses the "inventive concept" patent eligibility test that emerged from the Supreme Court's decisions in Mayo Collaborative Services v. Prometheus Laboratories and Alice Corp. v. CLS Bank International, but none evaluates deeply the test's consistency (or inconsistency) with Congress's intentions in creating the United States Court of Appeals for the Federal Circuit, as expressed as Congress promulgated and passed the Federal Courts Improvement Act of 1982. This article develops and presents that evaluation, against the backdrop of Congress's passage of the 1952 Patent Act beforehand; its roughly contemporaneous passage of the 1980 Computer Software Copyright Act; and finally, its subsequent passage of the Leahy-Smith America Invents Act in 2011. The article concludes that the Court's "inventive concept" test defies Congressional intent. The article also observes that, given

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the current force of the same public policy concerns that animated Congress in creating the Federal Circuit — namely, spurring innovation as a means to furthering domestic industrial strength and, correspondingly, national economic competitiveness — 40 years ago, the test's deviation from Congress's intentions deserves renewed focus by policymakers and even the Court.

I. INTRODUCTION

In its 2012 decision in *Mayo Collaborative Services v. Prometheus Laboratories*,[1] the United States Supreme Court announced, through its "inventive concept" test for

[1] Mayo Collaborative Serv. v. Prometheus Lab'ys., Inc., 566 U.S. 66 (2012).

patent subject matter eligibility under 35 U.S.C. § 101, the latest iteration of its assertions over the years that "something more" is required for patent eligibility than what the statutes say.[2] Reading *Mayo* together with the Court's opinion two years later in *Alice Corp. v. CLS Bank*, the "inventive concept" test purports to apply as the second of two steps in a § 101 subject matter eligibility analysis, with the first step purporting to test whether the patent claims at issue are "directed to" a "patent-ineligible concept"; i.e., the judge-made exceptions to patent eligibility of "laws of nature, natural phenomena, or abstract ideas.[3] But since all patent claims — and indeed, all inventions — rest on such things, the "inventive concept" test is, arguably, the more significant of the two *Alice/Mayo* prongs. That test is this article's focus.

Belief is widespread that the Supreme Court's subject matter eligibility analysis, as embodied in *Alice/Mayo*, is deeply flawed.[4] Beyond further limiting the

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[2] *See* Giles S. Rich, *Laying the Ghost of the "Invention" Requirement*, 1 APLA Q. J. 26, 29–31 (1972) [hereinafter *Ghost*].

[3] Alice Corp. v. CLS Bank Int'l, 573 U.S. 208, 217–18 (2014) (citing *Mayo*, 566 U.S. at 71–78).

[4] David O. Taylor, *Patent Eligibility & Investment*, 42 CARDOZO L. REV. (forthcoming 2020) [hereinafter *Investment*] ("Numerous inventors, scientists, lawyers, lawyer groups, companies, industry groups, professors, and judges have decried this sea change in patent law."); Burman Y. Mathis III, *The Search for the 'Inventive Concept' and Other Snipe Hunts*, IPWATCHDOG (Nov. 7, 2019), https://www.ipwatchdog.com/2019/11/07/search-inventive-concept-snipe-hunts/id=115653/ [https://perma.cc/9EBW-5M77] ("The public has for far too long been subjected to one mindless decision after another that claims are 'abstract' because they lack an 'inventive concept.' However, every court decision that invalidates a patent based on the 'inventive concept' standard is garbage, and the judges and justices that believe they are constitutionally enabled to use such a standard (post 1952) are peddlers of snake oil."); Jacob C. Jones et al., *Section 101 in 2019* 1 (Apr. 11, 2019), https://www.swlaw.com/assets/pdf/publications

ambit of patentable subject matter, it has seriously eroded the predictability of return on investment in innovation that could otherwise be protected by patent rights.[5]

Former Solicitor General Noel Francisco did a creditable job in late 2019 advancing the argument in connection with cert petitions in *Hikma Pharmaceuticals*

/2019/09/10/Section101in2019.pdf [https://perma.cc/8JQB-QEQ2] (noting recent complaints regarding "current judicial formulation of Section 101"); Timothy J. Busse, *The Relativity of an Abstract Idea: A Practicable Approach to Alice's Inventive Concept*, 16 HOUS. BUS. & TAX L.J. 252, 254 (2016) ("[T]his inventive concept standard is shrouded in ambiguity."); *see, e.g.*, David O. Taylor, *Confusing Patent Eligibility*, 84 TENN. L. REV. 157, 158 (2016) [hereinafter *Confusing*] ("Patent law—and in particular the law governing patent eligibility—is in a state of crisis. What started as a crisis of confidence in the patent system has now transformed into a crisis of confusion in the patent system."); *see also id.* at 161 ("[T]he Supreme Court's test for eligibility provides no objective guidelines. There are no objective guidelines, in particular, to help a patent examiner or judge determine what constitutes an abstract idea or an inventive concept."); *id.* at 227 ("Beyond confusing relevant policies and doctrines, the current approach to determining patent eligibility lacks administrability. It is exceedingly difficult to understand whether a patent examiner or a court should find subject matter eligible for patenting given the overarching test for eligibility articulated by the Supreme Court. That test includes no objective guidance but leaves the determination of eligibility to the unconstrained, subjective opinion of a patent examiner or judge."); Christopher M. Holman, *Patent Eligibility Post-Myriad: A Reinvigorated Judicial Wildcard of Uncertain Effect*, 82 GEO. WASH. L. REV. 1796, 1822 (2014).

[5] *See, e.g.*, *Investment*, *supra* note 4, at 1 (citing survey results "reveal[ing] investors' overwhelming belief that patent eligibility is an important consideration in investment decisionmaking, and that reduced patent eligibility makes it less likely their firms will invest in companies developing technology").

USA v. Vanda Pharmaceuticals,[6] *HP v. Berkheimer*,[7] and *Athena Diagnostics v. Mayo Collaborative Services*,[8] that the Supreme Court's judge-made patentable subject matter exceptions of laws of nature, natural phenomena, and abstract ideas actually are grounded in the statutory text and legislative history of section 101. To no avail. The Court denied cert in all these cases and has in every instance since, where a cert petitioner sought clarification or revision of "Supreme Court 101 law."[9] The Solicitor General did not argue that the judge-made exceptions themselves reflect or embody an unlawful usurpation of Congress's authority to define what is and what is not patent-eligible subject matter.[10] To do so would have been inconsistent with the theory advanced by the Solicitor General why the Supreme Court should revisit *Alice/Mayo*.[11] The Court, having treated the exceptions as legitimate statements of patent law for a century-and-a-half, not to mention four times within the past decade, was unlikely to have entertained such an argument

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[6] *See* Brief for the United States as Amicus Curiae at 21, Hikma Pharm. USA Inc. v. Vanda Pharm., 887 F.3d 1117 (2019) (No. 18-817) [hereinafter *Hikma Amicus Brief*], supremecourt.gov/DocketPDF/18/18-817/124768/20191206151701002_18-817%20-%20Hikma%20-%20CVSG%20-%20v28.pdf [https://perma.cc/7SER-P6A3].

[7] *See* Brief for the United States as Amicus Curiae at 17, HP Inc. v. Berkheimer, 890 F.3d 1369 (2019) (No. 18-415) [hereinafter *Berkheimer Amicus Brief*], supremecourt.gov/DocketPDF/18/18-415/124825/20191206211755583_18-415%20-%20HP%20v.%20Berkheimer.pdf [https://perma.cc/RQX6-QBMK].

[8] *See, e.g., Hikma Amicus Brief, supra* note 6, at 22; *see also, Berkheimer Amicus Brief, supra* note 7, at 13.

[9] *E.g.*, *Trading Techs. Int'l v. IGB LLC,* cert. denied, 589 U.S. ____; *ChargePoint, Inc. v. Semaconnect, Inc.*, cert. denied, 589 U.S. ____; *Chamberlain Group v. Techtronic Indus.,* cert. denied, 592 U.S. ____; *Morsa v. Iancu,* cert. denied, 592 U.S. ____; *Thomas v. Iancu,* cert. denied, 592 U.S. ____; *Primbas v. Iancu,* cert, denied, 592 U.S. ____.

[10] *See Hikma Amicus Brief, supra* note 6; *Berkheimer Amicus Brief, supra* note 7.

[11] *See Hikma Amicus Brief, supra* note 6; *Berkheimer Amicus Brief, supra* note 7.

even had the Solicitor General advanced it.[12] Nor is that argument advanced here — though it could be.[13]

Rather, this article tackles a different but closely related question: whether, setting aside the judge-made exceptions forming the first part of the *Alice/Mayo* test, the "something more" imposed by the Court as the second part is, itself, as stark a divergence from Congressional design as it appears to be. The article considers the problem from the perspective of Congressional action and, insofar as it can be discerned, Congressional intent. It travels from Congress's passage of the 1952 Patent Act,[14] through a deep dive into Congress's consideration of federal appellate reforms in the 1970s — in connection with each of which the idea of a patent-focused court was advanced, then rejected — through the creation of just that, with the Federal Circuit in 1982.

That journey reveals substantial evidence that Congress created the Federal Circuit not only because it viewed patents generally, and uniformity and predictability in patent law's application in particular, as important to the national interest, but also to overcome particular patent law eligibility aberration wrought by the courts before the Federal Circuit's creation: the "something more" once

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[12] *Cf.* Giles S. Rich, *Escaping the Tyranny of Words—Is Evolution in Legal Thinking Impossible*, 60 J. PAT. OFF. SOC'Y 271, 273 (1978) [hereinafter *Tyranny*] (expressing agreement that, "[i]t can hardly be denied that recent decisions of the Supreme Court in patent validity cases are illogical, contrary to the patent statute, and self-contradictory. However, it will get litigants nowhere to tell the lower federal courts that the Supreme Court has lost its marbles!").

[13] That the Court in Bilski v. Kappos, 561 U.S. 593, 602–03 (2010), paid such homage to the principle that "courts 'should not read into the patent laws limitations and conditions which the legislature has not expressed,'" 561 U.S. 593, 602–03 (2010) (quoting *Diamond v. Diehr*, 450 U.S. 175, 182 (1981)), while holding the claimed process invalid as an "abstract idea" barred not by any statutory text, but by judge-made precedent, *see infra* notes 183–186 and accompanying text, speaks for itself.

[14] Patent Act of 1952, ch. 950, 66 Stat. 792.

referred to as "invention," and then more recently manifesting itself as "synergism." (As related below, the Federal Circuit promptly relegated synergism to the dustbin of patent law.)

Congress's killing of the "invention" and "synergism" species of the genus "something more" made reasonably clear that Congress intended the genus itself to die. As its adoption of the Patent Act of 1952 reflects, Congress viewed the judicial process as ill-equipped to determine on an ad hoc basis when a purported invention adds "enough" of "something more" to the store of useful knowledge to justify patenting, and instead limited the conditions for patenting to those set forth in sections 101, 102, 103, and 112.[15] When the Supreme Court's articulation of the law of patentability strayed too far from the 1952 Act's conception, Congress passed the Federal Courts Improvement Act of 1982 ("FCIA")[16] to again wield its authority to bring the law back in line. Nothing Congress has done since, including enactment of the Leahy-Smith America Invents Act of 2011, indicates contrary intent.[17]

In view of that history, the article posits that Congress cannot have meant the Supreme Court to resuscitate a test requiring "something more" for patentability — in today's Court cant, "inventive concept" — that effectively revives judicial constructs Congress attempted, on multiple occasions, to put to rest. It follows that, whatever else one can say about the Court's "inventive concept" test, one certainly can say it runs afoul of Congressional intent.

Straightforward as this conclusion is, others that might follow from it are not. First, and obviously, congressional intent is one thing; congressional expression

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[15] *See Ghost*, *supra* note 2, at 35–36.

[16] Federal Courts Improvement Act of 1982, Pub. L. No. 97-164, 96 Stat. 25 (1982).

[17] *See infra* note 179 and accompanying text.

is another. Nothing in the FCIA explicitly barred the Court from exercising the full range of appellate review powers over decisions of the Federal Circuit.[18] Indeed, nothing in the FCIA explicitly bars adoption of an "inventive concept" test.[19] That said, one would think the Court would, in the absence of a well-developed reason *under the Constitution* not to,[20] defer to Congress in establishing patent policy — especially where Congress spoke already, in replacing "invention" with section 103. [21]

In any event, it appears clear that the Court's latest iteration of "something more" — the "inventive concept" test — flies in the face of what Congress wanted, as expressed in the 1952 Patent Act, the 1982 FCIA, or otherwise.

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[18] *See* 96 Stat. 25.

[19] *Id.*

[20] This article focuses on whether the Supreme Court's recent subject matter eligibility decisions, in fact, contravene Congressional intent, not whether the Supreme Court constitutionally has the power to do so. For treatment of the latter question, see, e.g., Max S. Oppenheimer, *Patents 101: Patentable Subject Matter and Separation of Powers*, 15 VAND. J. ENT. & TECH. L. 1, 44 (2012); David J. Kappos, John R. Thomas & Randall J. Bluestone, *A Technological Contribution Requirement for Patentable Subject Matter: Supreme Court Precedent & Policy*, 6 NW. J. TECH. & INTELL. PROP. 152, 155–56 (2008); Thomas B. Nachbar, *Intellectual Property & Constitutional Norms*, 104 COLUM. L. REV. 272, 325–28 (2004); Edward C. Walterscheid, *"Within the Limits of the Constitutional Grant": Constitutional Limitations on the Patent Power*, 9 J. INTELL. PROP. L. 291, 319–21 (2002); M.R. Spielman, *Some Constitutional Aspects of the Patent Statutes*, 36 J. PAT. OFF. SOC'Y 237, 238 (1954).

[21] *See infra* Part II.A.2.

II. ATTEMPTING TO REDUCE DOCTRINAL UNCERTAINTY, ADVANCE PROTECTIONS FOR TECHNOLOGICAL INNOVATION, AND THEREBY PROMOTE NATIONAL ECONOMIC COMPETITIVENESS, CONGRESS CREATES THE FEDERAL CIRCUIT.

A. Overview: Judicial Imposition of an Amorphous "Invention" Requirement for Patentability, and Congress's Initial Attempt to Eliminate It

1. Early Patent Statutes and Judicial Skepticism of Patents

Congress's right to create patent laws is enshrined in the Constitution, in Article I, Section 8, Clause 8. Congress created the first patent laws as early as 1790.[22] Thomas Jefferson was centrally involved in both the promulgation of the Patent Clause, early patent statute drafting, and implementation of that statute as a member of the initial Committee on patents.[23]

Critically, from the earliest, patents were viewed with suspicion in some quarters — including, initially, by Jefferson himself.[24] To some, patents were unattractively reminiscent of those granted by the English Crown — though those "patents" granted exclusive rights as a matter of royal prerogative, and for matters other than to induce innovation[25] as was the explicit purpose of the United States constitutional provision.[26] For others, the exclusivity conferred by the patent right emitted an anticompetitive

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[22] *See* Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 6 (1966).
[23] *See id.* at 6–7; *see also* H.R. REP. NO. 82-1923, at 4 (1952) [hereinafter 1952 Act Report].
[24] *See Graham*, 383 U.S. at 7–9.
[25] *See id.* at 7–8.
[26] U.S. CONST. art. I, § 8, cl. 8.

reek.[27] As we will see, this distrust found voice in Court decisions over the ensuing decades.[28]

In particular, two strains of judicial limitations to the patent statutes emerged.

One, notwithstanding their absence from 35 U.S.C. § 101 or any predecessor statute, the Court asserted the existence of three categories of exceptions to patentable subject matter: "laws of nature, physical phenomena, and abstract ideas."[29]

Two, the Court developed the concept of "invention" — one found nowhere in the patent laws[30] — as a requirement for patentability, to differentiate deserving patent claims from those too close to, or based too much on, what is already known.[31] More specifically, the judiciary "sought to supplement the novelty and utility requirements . . . through the use of a variety of vague and often inconsistent concepts asserted . . . commonly[] as a judicial construction of 'invention.'"[32] "The emerging doctrines required that a device contain a 'new principle' or exhibit a 'new result or new function' in order to be patented."[33] "Though most . . . were couched in terms of an 'invention'

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[27] *See, e.g.*, Edmund W. Kitch, Graham v. John Deere Co.: *New Standards for Patents*, 49 J. PAT. OFF. SOC'Y 237, 249–50 (1967) (citing Thompson v. Haight, 23 Fed. Cas. 1040, 1041 (C.C.S.D.N.Y. 1826)).

[28] *See infra* Parts II.A.1 and II.B.

[29] *See, e.g.*, Diamond v. Chakrabarty, 447 U.S. 303, 309 (1980); Bilski v. Kappos, 561 U.S. 593, 601 (2010) (asserting that "the exceptions have defined the statute's reach as a matter of statutory *stare decisis* going back 150 years"); Holman, *supra* note 4, at 1817–18 (noting the same and noting that articulation of the three exceptions has varied over time and often arose as dicta).

[30] *Confusing*, *supra* note 4, at 177.

[31] *See generally* Kitch, *supra* note 27, at 248–51.

[32] Timothy J. O'Hearn, *Patent Law Reform via the Federal Courts Improvement Act of 1982: The Transformation of Patentability Jurisprudence*, 17 AKRON L. REV. 453, 458 (1984) (citing Kitch, *supra* note 27, at 237).

[33] *Id.* (citing Kitch, *supra* note 27, at 262, 273).

requirement during the[] entire 159 year period" between the Patent Acts of 1793 and 1952, "no one seemed to know for sure what the 'invention' standard meant."[34] As Judge Learned Hand put it, the "invention" requirement was "as fugitive, impalpable, wayward, and vague a phantom as exists in the whole paraphernalia of legal concepts."[35] As Judge Giles Rich put it:

> The requirement for "invention" was at one and the same time a hard reality and a great mystery. Really, it was an absurdity. . . . If one asked for an explanation, the answer was, as the Supreme Court had pontifically announced in *McClain v. Ortmayer*, 141 U.S. 419, 427, in 1891, . . . [that] "[invention] cannot be defined."[36]

Both these judge-made concepts created great uncertainty and unpredictability as to the ability to secure patents on the fruits of research and innovation. And both undermined the certainty and predictability that such patents would, if asserted in litigation, be enforced.

2. The 1952 Patent Act

The 1952 Patent Act marked the first comprehensive effort since 1897 to overhaul the patent laws.[37] For present purposes, two brief points are salient.

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[34] *Id.*

[35] Harris v. Air King Prods., 183 F.2d 158, 162 (2d Cir. 1950).

[36] *Ghost*, *supra* note 2, at 30; Giles S. Rich, *Principles of Patentability*, 28 GEO. WASH. L. REV. 393, 403 (1960) [hereinafter *Principles*] (noting circularity of "invention" requirement); Mathis III, *supra* note 4 ("I invite any and all judges and justices to explain what an 'inventive concept' is. Man-up already. A string of 169 years of total failure is enough, isn't it?"); *see also* David O. Taylor, *Patent Reform, Then & Now*, 2019 MICH. ST. L. REV. 431, 438–39 (2017) [hereinafter *Then & Now*] (recounting frustration with "invention" requirement's vagueness).

[37] *See generally Confusing*, *supra* note 4, at 164–70 (summarizing patent statute history).

First, the 1952 Patent Act's adoption did not substantially change the statutory law regarding patent-eligible subject matter.[38] The word "process" replaced the word "art" to avoid confusion with the latter term's use elsewhere.[39] The legislative history made clear Congress's view that, as a matter of section 101 subject matter eligibility, "anything under the sun that is made by man" could be patented.[40]

Second, the 1952 Act sought to clarify — and codify — how much of "something more," beyond the prior art, is required for patentability. The judge-made version of this concept, referred to as "invention" as noted above,[41] had been "expressed in a large variety of ways in decisions of the courts and in writings."[42] In the hope that doing so would "have a stabilizing effect and minimize great departures which have appeared in some cases,"[43] the 1952 Act replaced that judicial construct with a new section 103, "Conditions for patentability; non-obviousness subject

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[38] *See* 1952 Act Report, *supra* note 23, at 6.

[39] *See id.*

[40] *See id.*; *see also Patent Law Codification and Revision: Hearings Before Subcomm. No. 3 of the Comm. on the Judiciary,* 82d Cong. 37 (1951) (statement of P.J. Federico) [hereinafter 1952 Act Hearings].

[41] *See supra* notes 31–36 and accompanying text; 1952 Act Report, *supra* note 23, at 5 ("[T]here are a number of changes in substantive statutory law. . . . The major changes or innovations in the title consist of incorporating a requirement for invention in § 103 . . ."); *id.* at 7; *Principles*, *supra* note 36, at 405; *Confusing*, *supra* note 4, at 171; O'Hearn, *supra* note 32, at 459 (citing 1952 Act Report); *see also Tyranny*, *supra* note 12, at 287; Robert Desmond, Comment, *Nothing Seems Obvious to the Court of Appeals for the Federal Circuit: The Federal Circuit, Unchecked by the Supreme Court, Transforms the Standard of Obviousness Under the Patent Law*, 26 LOY. L.A. L. REV. 455, 469–70 (1993) ("Congress sharply curtailed the increasingly subjective, anti-patent sympathies of the Supreme Court with the Patent Act of 1952.").

[42] 1952 Act Report, *supra* note 23, at 7.

[43] *Id.*; *see also* 1952 Act Hearings, *supra* note 40, at 38 (statement of P.J. Federico); Holman, *supra* note 4, at 1806–07.

matter," with the question becoming whether the differences between the claimed invention and the prior art are such that the claimed invention as a whole would be obvious to a person having ordinary skill in the pertinent art.[44] If yes, then even were the claimed invention new, it did not add "enough" of "something more" to permit patenting. If no, then assuming the other statutory conditions for patenting had been met, the patent would be granted.[45]

B. Supreme Court Recalcitrance: Graham (1966), Adams (1966), Anderson's-Black Rock (1969).

Yet, notwithstanding passage of the 1952 Act, the Court continued to add its own requirements for patentability to those crafted by Congress.

The most famous case in this line, and the first to interpret new section 103, was the Court's 1966 decision in *Graham v. John Deere Co.*[46] There, the Court acknowledged that "the statutory emphasis on 'non-obviousness' rather than 'invention' was intended to correct the wide variance of interpretation of the less definite . . . 'invention' standard."[47] Yet, in holding invalid patent issued on claimed inventions in agricultural plow and insecticide sprayer technology, the Court asserted that the statutory nonobviousness requirement of section 103 was meant to codify the "prior judge-made requirement of 'invention' first

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[44] 35 U.S.C. § 103; *see generally* P.J. Federico, *Origins of Section 103*, 5 APLA Q. J. 87 (1977).

[45] *Ghost*, *supra* note 2, at 29; *Then & Now*, *supra* note 36, at 474; *e.g.*, Giles S. Rich*, The Vague Concept of Invention as Replaced by Sec. 103 of the 1952 Patent Act*, 46 J. PAT. OFF. SOC'Y 855, 866 (1964). *But see* George Edwards, *That Clumsy Word "Nonobviousness"!*, 60 J. PAT. OFF. SOC'Y 3, 7–8 (1978) (arguing that § 103 did not entirely supplant pre-existing "something more" standards established by case law).

[46] Graham v. John Deere Co. of Kansas City, 383 U.S. 1 (1966).

[47] O'Hearn, *supra* note 32, at 461; *Ghost*, *supra* note 2, at 29–30.

developed in *Hotchkiss v. Greenwood*," an 1850 Court decision.[48]

This assertion laid the groundwork for future deviation from congressional intent. That the Court viewed section 103 as consistent with *Hotchkiss* is not problematic, so far as it goes. There was nothing inherently wrong with asserting that Congress and the Court had traveled different paths to arrive at the same place. The problem is that this treatment of section 103 left open the door for the Court to assert in future cases that the determination of whether "enough" of "something more" had been added was determined by *its* path leading up to passage of the 1952 Act, rather than merely the language of the Act itself.[49] And as we shall see,[50] the Court has since walked through that door and well down the same road — notwithstanding that in the companion case to *Graham*, *United States v. Adams*,[51] the Court upheld the validity of a wet battery patent by exclusive reference to section 103's nonobvious requirement, without reference to *Hotchkiss*.[52]

The Court somewhat clarified its obstinacy against Congress's new nonobviousness standard in its 1969 opinion in *Anderson's-Black Rock v. Pavement Salvage Co.*[53] There, in an opinion by long-serving Justice William O. Douglas, the Court held invalid as obvious a claimed invention in

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[48] O'Hearn, *supra* note 32, at 461 (citing *Hotchkiss v. Greenwood*, 52 U.S. 248 (1850)); *see generally* Kitch, *supra* note 27, at 255 (discussing at length *Hotchkiss* and its historical context).

[49] *Ghost*, *supra* note 2, at 29; *see also* Kitch, *supra* note 27, at 299 ("The myth of *Hotchkiss v. Greenwood* seems to be part of an even larger myth in patent law—the myth that invention decisions differ only on the 'facts' or the 'attitude' of the court, but that they all embody the same law. The courts ought not permit this myth to overtake *Deere*.").

[50] *See infra* Part IV.B.

[51] United States v. Adams, 383 U.S. 39 (1966).

[52] *See id.*

[53] Anderson's Black Rock, Inc. v. Pavement Salvage Co., 396 U.S. 57 (1969).

asphalt paving machinery technology.[54] While paying lip service to the statutory standard, the Court rested its decision on the pre-1952 Act "invention" standard, citing both *Graham*'s invocation of *Hotchkiss* as establishing the section 103 standard, as well as its own 1950 opinion in *Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp.*,[55] in which the Court held invalid for lack of "invention" a patent on a device for efficiently unloading groceries before a cashier.[56] Moreover, Justice Douglas, who had expressed his contempt for patentability of mere "gadgets" as opposed to "invention[s] . . . serv[ing] the ends of science — . . . push[ing] back the frontiers of chemistry, physics, and the like" in a concurring opinion in *Great Atlantic*,[57] planted the seed for a new articulation — "synergy" — of the old, extra-statutory patentability standard as applied to combinations of old elements: "A combination of elements may result in an effect greater than the sum of the several effects taken separately. No such synergistic result is argued here."[58]

C. Early 1970s Congressional Efforts at Appellate Court Reform

Meanwhile, efforts were underway to evaluate the functioning of the federal court system. These efforts led to increasing scrutiny of the administration of patent law as the 1970s unfolded.

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[54] *Id.*

[55] Great Atlantic & Pacific Tea Co. v. Supermarket Equipment Corp., 340 U.S. 147 (1950).

[56] *Id.*

[57] *See* Robert P. Merges, *One Hundred Years of Solicitude: Intellectual Property Law, 1900-2000*, 88 CALIF. L. REV. 2187, 2229 (2000) ("[I]t was [Justice Douglas's] wont in patent cases generally to find the patent invalid.").

[58] *Anderson's Black Rock*, 396 U.S. at 60.

1. The Freund Committee

In 1967, Congress created the Federal Judicial Center[59] to "conduct research and study . . . the operation of the courts of the United States."[60] The Center appointed a committee, headed by Harvard Law Professor Paul Freund, which issued its report in December 1972.[61] Focusing on managing the Supreme Court's workload, the committee primarily recommended creation of a national court of appeals lodged between the regional circuit courts and the Supreme Court, as well as changes in Supreme Court case review practices and Court operations.[62]

Significantly, for present purposes, the Freund Committee considered, but rejected, the idea of creating new federal review tribunals devoted to "specialties such as taxation, labor law, or, more broadly, administrative law."[63] As the Committee saw it, "the more specialized the appellate tribunal the greater the risks," because a narrow range of review might narrow judicial perspective, because specialized appellate panels might resolve matters inconsistently, because specialized appellate judges might vote in blocs, and because their appointment might become politicized over a single set of issues.[64]

Although the Committee's report did not address the particular prospect of a patent-focused appellate court, scholars see the Committee's work as launching a legislative

[59] Act of Dec. 20, 1967, Pub. L. No. 90-219, 81 Stat. 665.
[60] *See* Federal Judicial Center, Report of the Study Group on the Caseload of the Supreme Court, 57 F.R.D. 573, 573 (1972) [hereinafter Freund Report]; *see also* O'Hearn, *supra* note 32, at 453 (citing 28 U.S.C. § 620(a) (1976)).
[61] O'Hearn, *supra* note 32, at 453–54 (citing Freund Report at 595).
[62] *See* Freund Report, *supra* note 60, at 590–93.
[63] Freund Report, *supra* note 60, at 585.
[64] *See id.*

evaluative process that culminated in creation of the Federal Circuit ten years later.[65]

2. The Hruska Commission

In late 1972, Congress created the Commission on Revision of the Federal Court Appellate System,[66] which came to be known informally as the "Hruska Commission" after its chair, Senator Roman Hruska of Nebraska. The Commission issued its report in June 1975.[67] Like the Freund report, the Commission report recommended creation of a new national court of appeals — albeit with differences from that recommended by the Freund Committee — which, again, Congress ultimately did not adopt.[68] Unlike the Freund Committee, which came at its recommendation from the perspective of advancing Supreme Court functionality, the Hruska Commission reached its recommendation by focusing on the federal intermediate appellate courts.[69]

That focus, in turn, generated intense scrutiny of the prospect of creating new, subject matter-focused intermediate appellate courts. Indeed, unlike the Freund Committee, the Hruska Commission "extensively discuss[ed]" the prospect of creating a "specialized" patent appeal court — something the Commission noted had been

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[65] S*ee* Harold C. Petrowitz, *Federal Court Reform: The Federal Courts Improvement Act of 1982—and Beyond*, 32 AM. U. L. REV. 543, 544 (1983); *see also* Charles Adams, *The Court of Appeals for the Federal Circuit: More Than a National Patent Court*, 49 MO. L. REV. 43, 56, 56 n.101 (1984); O'Hearn, *supra* note 32, at 454.

[66] O'Hearn, *supra* note 32, at 454.

[67] Commission on Revision of the Federal Court Appellate System Structure and Internal Procedures: Recommendations for Change 67 F.R.D. 195, 234 (1975) [hereinafter Hruska Report].

[68] *Compare id.* at 199–200 *with* Freund Report, *supra* note 60, at 590–93.

[69] Petrowitz, *supra* note 65, at 545–56.

proposed periodically over at least the preceding quarter century.[70] The Commission's final report ruled out the prospect, not only as to patent appeals, but also as to tax, administrative, environmental, and criminal appeals.[71]

That the Commission rejected the concept of a patent-focused appellate court does not detract from the weight that patent law — and, in particular, uncertainty in its application — carried in the Commission's deliberations. [72] The Commission had retained patent law consultants James Gambrell and Donald Dunner,[73] and the Commission's final report noted the consultants' confirmation of the "particularly acute" problem of inconsistent application of the patent law among the regional circuits, particularly as to patent validity,[74] leading to a disparity of results and egregious forum shopping.[75] While asserting that the "Supreme Court has set, and can be expected to continue to set, national policy in the area of patent law as in other areas of federal law," the Commission also noted the "widely acknowledged" "need for more appellate supervision" in an

[70] Hruska Report, *supra* note 67, at 234.
[71] *Id.* (The Commission did so based on its perception that such a court might produce judicial "tunnel vision"; corresponding diminution in the influence specialist judges might have on regional circuit court reasoning; loss of regional court influence; undue judicial influence on policy within the "specialized" area; a disincentive to articulate judicial reasoning in those decisions; interest group capture; divergence of opinion within the patent bar; the preferences of the Seventh Circuit — which at the time bore the heaviest patent caseload — for retaining appellate jurisdiction in the regional circuit courts; and that the broader problems the Commission sought to address would not be remedied by the creation of "specialized" appellate tribunals); *id.* at 345–46.
[72] *Id.* at 217.
[73] *See* James B. Gambrell & Donald R. Dunner, *Study of the Problems, Consequences and Remedies in the Appellate Review of Decisions Involving Patent-Related Issues*, 216 BNA's Patent, Trademark & Copyright Journal 1 (Feb. 20, 1975).
[74] Hruska Report, *supra* note 67, at 370.
[75] *Id.* at 219–20, 361, 369–71.

area[76] "which do[es] not and probably should not command extensive attention from the Supreme Court."[77] The Commission reported the consultants' views that a new appellate court was needed to help "eliminate or at least minimize the attitudinal aberrations" confronting those attempting to predict patent law's application.[78]

The Commission also reported the consultants' views that the Supreme Court's few decisions in "critical patent law areas, e.g., obviousness," which the Commission considered conceptually the same as "invention,"[79] had "done little to provide the circuit courts with meaningful guidance."[80]

The Commission put forth this summary after hearing testimony from Gambrell and Dunner, the upshot of which was that the consultants probably preferred a patent-focused appellate court to a national appeals court, but, given concerns that had been asserted regarding the former, were amenable to the latter in preference to no change at all.[81] The consultants suggested that enough binding decisions applying *Graham vs. John Deere* likely would ameliorate the anti-patent leanings of some courts.[82] They

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[76] The Commission made this same comment with respect to tax law, an area the Commission likened to patent law for purposes of analysis throughout its report.

[77] Hruska Report, *supra* note 67, at 241.

[78] *Id.* at 361; *see also id.* at 370–71.

[79] *Id.* at 228.

[80] *Id.* at 370–71.

[81] *See Hearing on S. 21 and S. 537 Before the Subcomm. on Cts. of the Comm. on the Judiciary, 97th Cong.* 244 (May 18, 1981) [hereinafter *May 1981 Senate Hearings*] (Dunner, testifying about proposed Federal Circuit, stating he would not prefer a national court of appeals instead and, "[a]side from the fact that it is my personal belief that that legislation [to create a national court of appeals] is unlikely from my own reading of the situation to come about, at the time we were consultants to the Hruska Commission, Professor Gambrell and I, we never had before us an imaginative bill such as this").

[82] *See May 1981 Senate Hearings*, *supra* note 81, at 101.

characterized *Graham* as a well-crafted opinion but acknowledged that some appellate courts and even the Supreme Court itself sometimes didn't follow it.[83] The implication was that if only enough interpretive opinions could be developed to offer true guidance, the law would be applied not only consistently but correctly.

D. Carter-Era Legislative Efforts Intensify Focus on Certainty as a Driver of Innovation, Industrial Strength, and National Competitiveness.

By the late 1970s, the policy impetus that prompted Congress to commission the Freund Committee's and Hruska Commission's work — appellate reform — joined together with a new policy impetus that neither had considered, seriously or at all: the need to improve the nation's industrial strength and competitiveness, including promoting innovation, as means to combat the then-current national economic malaise.[84]

As a matter of appellate reform, the Hruska Commission's recommendations had fared no better than the Freund Committee's, with Congress unwilling to create a national court of appeals. "Their work," however, "raised awareness among Washington policy makers that a major problem existed with respect to U.S. patent law jurisprudence."[85]

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[83] *See id.* at 256, 258.

[84] *See* Daniel J. Meador, *Origin of the Federal Circuit: A Personal Account*, 41 AM. U. L. REV. 581, 615 (1992); *see also May 1981 Senate Hearings*, *supra* note 81, at 244 (Dunner: "[S]ince the Hruska Commission time we have had a crisis in innovation in the United States, one which led to the appointment of a Domestic Policy Review 2 years ago.").

[85] George C. Beighley, Jr., *The Court of Appeals for the Federal Circuit: Has It Fulfilled Congressional Expectations?*, 21 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 671, 687 (2011).

By 1979, several intervening developments had prompted Congress to consider vestiges of those earlier proposals as a set of new proposals which morphed into the form ultimately adopted as the FCIA in 1982. These included, centrally, a proposal through the Department of Justice[86] (authored by professor Daniel J. Meador)[87] that a new intermediate appellate court be established on the same level as the regional circuits, to be formed by merging the Court of Claims and the Court of Customs and Patent Appeals (CCPA), and having the appellate jurisdiction of those courts as well as appellate jurisdiction in civil tax, environmental, and patent cases.[88] Additionally, the Carter Administration had convened a domestic policy review on industrial innovation, which concluded that patent reform was necessary to maintain the United States's international competitiveness in technological advances.[89] In February 1979, President Carter transmitted a message to Congress to that same effect.[90]

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[86] Daniel J. Meador, U.S. Dept. of Just., Office for Improvements in the Admin. of Just., *A Proposal to Improve the Federal Appellate System* (July 21, 1978) *reprinted in* 389 Pat. Trademark & Copyright J. (BNA) D-1 (August 3, 1978) [hereinafter *Meador Proposal*].

[87] *Federal Courts Improvement Act of 1979: Addendum to Hearings on S. 677 and S. 678 Before the Subcomm. on Improvements in Judicial Machinery of the Comm. on the Judiciary*, 96th Cong. 11 (1979) [hereinafter *1979 Act Hearings*].

[88] Petrowitz, *supra* note 65, at 550; *Meador Proposal*, *supra* note 86, at D-6; *see also* Charles R. Haworth & Daniel J. Meador, *A Proposed New Federal Intermediate Appellate Court*, 12 U. MICH. J.L. REFORM 201 (1979).

[89] Linda Le, *Entrepreneurship and Small Business Policies under the Presidential Administrations of Presidents Carter, Reagan, Bush and Clinton: 1977 to 2001*, *in* PUBLIC POLICY IN AN ENTREPRENEURIAL ECONOMY: CREATING THE CONDITIONS FOR BUSINESS GROWTH 38 (Zoltan J. Acs & Roger R. Stough eds., 2008).

[90] Jimmy Carter, Federal Civil Justice System Message to the Congress on Proposed Legislation (February 27, 1979) (transcript available at https://www.presidency.ucsb.edu/documents/federal-civil-justice-system-message-the-congress-proposed-legislation).

Through Senator Edward Kennedy, the Carter Administration on March 15, 1979, introduced S. 677, entitled the Judicial Improvement Act of 1979, which proposed "creat[ion] of a new intermediate appellate court to be known as the U.S. Court of Appeals for the Federal Circuit."[91] Beyond the appellate jurisdiction inherited from the Court of Claims and the CCPA, the Federal Circuit would, under S. 677, have jurisdiction over not only patent, but also trademark and unfair competition appeals.[92] That same day, Senator Kennedy and Senator DeConcini separately introduced S. 678, the Federal Courts Improvement Act of 1979, which made substantially the same proposals with the addition of creating a new U.S. Court of Tax Appeals.[93]

The Judiciary Committee's Subcommittee on Improvements in Judicial Machinery heard testimony on these bills.[94] As in testimony before the Hruska Commission, proponents of a new patent-focused appellate court argued the evils of uncertainty in appellate patent law adjudication. Before the Hruska Commission, proponents had focused on the uncertainty wrought by conflicted regional circuit dispositions and attitudes, and argued that this uncertainty created a drag on the patent system by promoting forum-shopping.[95] Before the Subcommittee, proponents made these same arguments, but added the argument that this uncertainty disincentivized research and innovation, and thereby operated to the detriment of American industry generally.[96]

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[91] *1979 Act Hearings*, *supra* note 87, at 28 (statement of Daniel J. Meador).
[92] S. 677, 96th Cong. (1979).
[93] *Id.*
[94] *1979 Act Hearings*, *supra* note 87.
[95] *See supra* notes 72–83 and accompanying text.
[96] *E.g.*, *id.* at 45 (statement of Daniel J. Meador).

Dunner testified:

> [I]t it is the informed judgment of many that numerous companies have cut back their patent programs as too expensive. Many have cut back their R&D as not providing any return on investment.
>
> During the recent deliberations of the Subcommittee on Patent Policy of the Advisory Committee on Industrial Innovation of President Carter's Domestic Policy Review, members of the subcommittee related the pessimism that infects the decisionmaking process in the U.S. industrial environment: No right to exclude competitors can be obtained in much less than about 4 years or for less than z hundred thousand dollars, and the odds of success are no better than 50 percent. Given these conditions, much thought is given to spending money on business investments other than patent litigation as providing a better return on investment. The mood is one which permeates not only the decision on a particular plagiarism, but the boardroom when the R&D department budget comes up and the anticipated return from prior research is seen to be at best a possible dream.
>
> While it is difficult to quantify the extent to which frustration over the short-comings of the patent system has deterred investment in R&D, it is clear that R&D is per se a high-risk investment, with cost overruns more the rule than the exception. Our society is becoming more security conscious at all levels, including the board or budget committee room. When decisions are being made, the gambler's spirit is low and any minor cold water on a request for research-with its cost and ROI uncertain-is apt to militate against a favorable research decision. And this is particularly so given the fact that any ROI realized is apt to come well after the present budget committee members have hopefully moved on to other positions. Such decisionmakers need a more immediate and certain return on their dollar expenditure than is frequently provided by the R&D dollar.

> R&D and innovation are not popularly placed to spend money when a safe savings and loan is paying over 8 percent. What does it take to attract money from safe, high-yield investments into R&D? In my view and that of the DPR Patent Policy Subcommittee, it takes at least a modicum of competitive safety and high yield. Moreover, it is my view, again shared by the DPR Patent Policy Subcommittee, that **the uniformity and reliability made possible by a centralized patent court would contribute meaningfully to the achievement of those conditions, their perception by industrial decisionmakers and the inevitable improvement in the presently unfavorable climate pervading industrial innovation in the United States.** That same uniformity and reliability will inevitably result in a reduction of forum shopping and, perhaps more significantly, the increased predictability of outcome would inevitably reduce the amount and expense of litigation in the patent field.[97]

Harry Manbeck of General Electric testified:

> Significant economic decisions are made from time to time based upon the existence or the lack of patent coverage or on the law as it may apply to the administration of patents. The businessman wants to know if a patent is likely to be sustained or overturned and not that his chances are at one percentage level if the trial occurs in one circuit and at another percentage level if it occurs in another circuit. **Patents, in my judgement [sic], are a stimulus to the innovative process, which includes not only investment in research and development but also a far greater investment in facilities for producing and distributing the goods. Certainly, it is important to those who must make these investment decisions that we decrease unnecessary uncertainties in the patent system.**[98]

[97] *Id.* at 56–57 (emphasis added); *see also id.* at 61.
[98] *Id.* at 67–68 (emphasis added).

Richard Witte of Procter & Gamble, speaking for the Industrial Research Institute, noted IRI's conclusion:

> "Continued industrial success of the U.S. requires the incentives of the patent system, not only to encourage the necessary investment of capital and effort in research and for the commercialization of inventions so that society can enjoy their benefits, but also to encourage the disclosure of inventive technology."
>
> [IRI] also identified several areas for improvement. Among these were the need for greater certainty, uniformity, and speed when patents are asserted in the U.S. court system. To achieve these objectives, the IRI supported the concept of a single court of patent appeals for all patent litigation.[99]

And Homer Blair of Itek Corporation testified:

> My management wants to get opinions from me as to what is the value of these patents that we are prepared to pay money to get a license under with the know-how involved. It isn't a very good answer to say, well, it depends on where somebody is going to file a patent suit.[100]

Questions of "obviousness" or "invention" continued to serve as the witnesses' primary example of conflicted, and therefore uncertain, regional circuit application of patent law. Dunner testified, for example:

> [C]ontrary to the view of some that there exists no plethora of actual conflicts in the classical sense between the various Federal courts of appeal, there has been a wide variety of views among the circuits as to the nature of the test to be applied to determine whether patentable invention exists. **By way of example, some courts insist that "synergism" must**

[99] *Id.* at 71.
[100] *Id.* at 65.

> **be present before an invention rises to the level of patentability; other courts reject this requirement. Some courts impose a special test of patentability applicable to so-called "combination" inventions; other courts recognize that all inventions are "combinations" of old elements and that there can, accordingly, be no such special test. And so on.**
>
> The consequences of the foregoing are not susceptible to ready documentation. Certain consequences, however, are easily discernible without documentation and common to the experience of most practicing patent lawyers. With the inability of lawyers to advise their clients reliably in a given fact situation and with the courts under even the most favorable of reported surveys holding patents valid in no more than approximately 50 percent of the litigated cases, the necessary end result is that litigation-conventionally costing each side a quarter of a million dollars or more in a typical patent case—obtains in abundance. Moreover, businessmen of ordinarily high ethics dishonor patents (as the courts so often do) and indulge in the self-help of compulsory license by infringement-plus-a-long-drawn-out litigation, secure in the knowledge that courts hardly ever find infringement to be deliberate since they are deemed by most to be public-policy-favored tests of the validity of presumptively odious patent monopolies.[101]

Even an opponent of the measure, patent practitioner George Whitney, acknowledged that, as of the time of the Hruska Commission, obviousness was not being adjudicated consistently.[102] Dunner characterized these conflicts as "primarily attitudinal" in nature, testifying, "there is no question that the attitudes of the court of appeals [toward patents] vary from circuit to circuit."[103]

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[101] *Id.* at 56 (emphasis added); *see also id.* at 61; *id.* at 64, 66 (statement of Homer O. Blair).
[102] *Id.* at 78; *see also id.* at 92 (statement of John O. Tramonte) ("Only one instance of conflicting patent decisions has been identified.").
[103] *Id.* at 61.

Subcommittee witnesses generally assumed, it appears, that while the Supreme Court *could* review patent cases from the Federal Circuit if it chose,[104] it would follow past practice and not review many.[105] The Subcommittee also heard some criticism that the Court's past decisions had been inconsistent and fraught with "rhetorical flourishes" rather than offering meaningful guidance.[106] According to Dunner, "[t]he number of cases the Supreme Court deals with in the patent area is miniscule and, worst of all, in those few cases where the Supreme Court has granted certiorari it has spoken rhetorically, and, unfortunately, it has created more conflict than it has solved."[107] According to Dunner, "[i]n 1952, there was a general codification and revision of the patent laws. The drafters of that act felt that — or hoped that — that act would cure the many disparities in judicial approaches to patent problems. Unfortunately, it has not cured that problem."[108]

Effective June 21, 1979, the Judiciary Committee reported out a new bill, S. 1477, which effected modifications to the earlier bills' proposals, including eliminating appellate jurisdiction in environmental and trademark cases,[109] though preserving it in patent cases as well as tax cases.[110] The Committee report reflected broad acceptance of the "special need for national uniformity" in patent appeals[111] — not merely because its absence produced systemic inefficiencies due to forum shopping, and not merely because uncertain outcomes discouraged investment

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[104] *Id.* at 56 (statement of Donald R. Dunner); *id.* at 64 (statement of Homer O. Blair).
[105] *Id.* at 3 (statement of Erwin N. Griswold).
[106] *Id.* at 56, 58, 61 (statement of Donald R. Dunner).
[107] *Id.* at 61.
[108] *Id.*
[109] S. REP. NO. 96-304, at 10 (1979).
[110] Petrowitz, *supra* note 65, at 552; S. REP. NO. 96-304, at 2, 16 (1979).
[111] S. REP. NO. 96-304, at 10 (1979).

in innovation, but also because the absence of predictable patent protection impaired national competitiveness:

> The establishment of the Court of Appeals for the Federal Circuit also provides a forum that will increase doctrinal stability in the field of patent law. Based on the evidence it had compiled, the Hruska Commission singled out patent law as an area in which the application of the law to the facts of a case often produces different outcomes in different courtrooms in substantially similar cases. Furthermore, in a Commission survey of practitioners, the patent bar indicated that uncertainty created by the lack of national law precedent was a significant problem, and the Commission singled out patent law as an area in which widespread forum-shopping is particularly acute.
>
> Although the proposal to centralize patent appeals in a single court is not without its critics, the issue was amply addressed in the hearings held earlier this year on S. 677 and S. 678. The great weight of the testimony, which included statements from distinguished jurists, patent practitioners, and representatives of major technologically-oriented business enterprises, confirmed the findings of the Hruska Commission that patent cases are inconsistently adjudicated. The testimony received by the committee also supported the basic objective of providing for uniformity of doctrinal development in the patent area. The committee found particularly persuasive the testimony of the users of the patent system. For example, Industrial Research Institute is a private, non-profit corporation with a membership of approximately 250 industrial companies that conduct a major portion of the industrial research and development carried on in the United States. It polled its membership and found them overwhelmingly in favor of centralizing patent appeals in a single court.
>
> The creation of the Court of Appeals for the Federal Circuit will produce desirable uniformity in this area of the law. Such uniformity will reduce the forum-

> shopping that is common to patent litigation. The Hruska Commission's patent law consultants, James B. Gambrell and Donald R. Dunner, concluded that forum-shopping on the scale that occurs in patent law increases the cost of litigation and "demeans the entire judicial process and the patent system as well." Removing the incentive to forum-shop thus will reduce costs to litigants and will also be a positive improvement from the standpoint of the judicial system. Moreover, as the new court brings uniformity to this field of law, the number of appeals resulting from attempts to obtain different rulings on disputed legal points can be expected to decrease.
>
> Likewise, uniformity in the law will be a significant improvement from the standpoint of the businesses that rely on the patent system. Business planning will become easier as more stable and predictable law is introduced. This can have important ramifications upon our economy as a whole.[112]

The Committee went on to report Manbeck's testimony, above, in support of the general proposition that "stability in the patent law has an effect on technological innovation."[113]

A House counterpart, H.R. 3806, passed on September 15, 1980, and the House and Senate reached agreement on a compromise bill, H.R. 4482, in substantially the same form.[114]

The House Judiciary Committee's September 5, 1980 report on H.R. 3806 echoed the Senate Judiciary Committee's views on S. 1477 set forth above, but further emphasized the goal of fostering innovation as serving the national interest, as well as the centrality of uniformity and predictability in application of the patent law to achieving that goal. Noting, among other things, the views of the

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[112] S. REP. NO. 96-304, at 11–12 (1979).
[113] *Id.* at 12.
[114] Petrowitz, *supra* note 65, at 552, 552 n.81.

Hruska Commission's patent law consultants[115] and the Industrial Research Institute in favor of the Federal Circuit's creation,[116] the Committee reported:

> Presently, there are three possible forums for patent litigation: the Court of Customs and Patent Appeals a federal district court, or the Court of Claims. Although these multiple avenues of review do result in some actual unresolved conflicts in patent law, **the primary problem in this area is uncertainty which results from inconsistent application of the law to the facts of an individual case. Even in circumstances in which there is no conflict as to the actual rule of law, the courts take such a great variety of approaches and attitudes toward the patent system that the application of the law to the facts of an individual case produces unevenness in the administration of the patent law**. . . . It is particularly difficult for small businesses to make useful and knowledgeable investment decisions where patents are involved when they fear a patent may be tied up for years in expensive litigation and when the standard of patentability varies from circuit to circuit. **A single court of appeals for patent cases will promote certainty where it is lacking to a significant degree . . . .**
>
> Similarly, the uniformity in the law that will result from the centralization of patent appeals in a single court will be a significant improvement from the standpoint of the industries and businesses that rely on the patent system. Business planning becomes easier as more stable and predictable patent law is introduced. Patents have thus serve[d] as a stimulus to

[115] H.R. REP. NO. 96-1300, at 19 (1980).
[116] *Id.* at 20.

> the innovative process. This can have important positive ramifications for the nation's economy.[117]

The Committee, too, assumed that the Supreme Court would continue to handle patent cases infrequently.[118]

Due to an amendment unrelated to patent law, the bill was withdrawn, and no further action was taken before the Ninety-Sixth Congress concluded.[119]

E. The 1982 Federal Courts Improvement Act

The White House changing hands with the 1980 presidential election, the Ninety-Seventh Congress continued to consider the Federal Circuit creation proposal in substantially the same form the Ninety-Sixth had left it. On January 5, 1981, the Federal Circuit legislation was re-introduced in the Senate as S. 21, and then, after "technical revisions and parliamentary maneuvering," as S. 1700 on October 5, 1981.[120]

Meanwhile, in the House, the legislation was re-introduced on March 10, 1981, as H.R. 2405.[121] In April 1981 hearings before the House Judiciary Committee's Subcommittee on Courts, Civil Liberties, and the Administration of Justice, proponents of the House bill continued to press the adverse effects of uncertainty in application of the patent laws on American economic competitiveness, on top of the drag that uncertainty exerted

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[117] *Id.* at 19–21 (emphasis added) (footnotes omitted); *see also id.* at 25 ("The second aspect of the subcommittee's inquiry was into industrial innovation as a key to increased productivity in the United States.").
[118] *Id.* at 20.
[119] Petrowitz, *supra* note 65, at 552, 552 n.82; *see also May 1981 Senate Hearings*, *supra* note 81, at 2.
[120] Petrowitz, *supra* note 65, at 553.
[121] Court of Appeals for the Federal Circuit Act of 1981, H.R. 2405, 97th Cong. (1981).

on the functioning of the judicial system.[122] And they continued to cite "attitudinal differences" as a cause,[123] and the particular examples of obviousness and "synergism" as manifestations, of that uncertainty.

Chief Judge Howard Markey of the Court of Customs and Patent Appeals, for example, testified on April 2, 1981, to the Judiciary Committee's Subcommittee on Courts, Civil Liberties, and the Administration of Justice, invoking the H.R. 3806 House Report as identifying patent litigation as "a problem area, characterized by undue forum shopping and unsettling inconsistency in adjudications."[124] He continued:

> The crying need for definitive, uniform, judicial interpretation of the national law of patents, on which our citizens may rely and plan with some certainty, has been recognized and increasingly discussed for over 60 years. In 1952 Congress created a good statute in Title 35. Yet the problem is even greater in a nation of 220 million and after a quarter century of conflicting confusion in cumbersome court opinions. The need for a law of patents on which our people may rely is even greater when our nation is faced with a need to reindustrialize, to improve a productivity growth rate now approaching zero, to reverse a falling status in international trade, and to encourage the investment in innovative products and new technology so necessary to achieve those goals.[125]

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[122] *Court of Appeals for the Federal Circuit—1981*: *Hearings on H.R. 2405 Before the Subcomm on Cts., C.L., & the Admin. of Just. of the H. Comm. on the Judiciary*, 97th Cong. 1 (1981) [hereinafter *April 1981 House Hearings*] (Chair Kastenmaier's introductory remarks); *see also id.* at 11 (Hon. H. Markey noting Judicial Conference of the United States' March 12, 1981 substantially identical proposal).

[123] *Id.* at 53.

[124] *Id.* at 128.

[125] *Id.* at 6–7; *see also id.* at 52 (statement of J. Jancin); *id.* at 56 (citing April 15, 1980, testimony to Subcommittee regarding reexamination legislation that "reexamination and the formation of a federal court with

Future Federal Circuit Judge Pauline Newman, testifying on behalf of an ad hoc group of industries supporting the legislation, advanced their

> belief that this court will have a definite impact on the industrial incentive toward technological growth.
>
> We are much concerned about the recovery of industrial productivity, as is essential to the resolution of our present economic ills. This is one of the reasons why we feel that this proposal is particularly timely.
>
> . . . .
>
> As an industrialist, let me say a word about the risk-return calculation, with respect to patents, in business decisions. Technical advance, and especially our national goal of technological leadership, start with invention. They can't start without invention, without . . . research and development commitments . . . .
>
> . . . .
>
> [T]he successful research must carry the unsuccessful. Most advanced technology is much more expensive to invent and develop than to copy. Thus the businessman calculates the potential return on this R. & D. investment, with all of the uncertainties of such calculations.
>
> . . . .
>
> In my experience, and the experience of those of us in industry who view it from that insider perspective, the patent factor is an extraordinarily troublesome one in

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exclusive appellate patent jurisdiction – would, I submit, have a greater positive impact on the future of industrial innovation than any patent-oriented proposals considered by Congress during my 25-year professional career" and testifying "This statement is as valid today as it was approximately one year ago.").

> these considerations because of its unpredictably defeasible nature: maybe you have an enforceable patent, or maybe you don't; maybe it will shield your investment to enable the calculated return, or it may suddenly fail to fulfill this purpose. An estimated percentage chance that your patent may survive attack, depending on the forum, gives indigestion to the computer that calculates risk ratios, and it gives worse indigestion to the businessman, the decisionmaker.
>
> . . . .
>
> The patent aspect is more a necessary underpinning to these commercial decisions than an acceptable variable risk factor. All that a patent does is convert your idea into your property. Who would build a house on land to which the title is in doubt, on land to which the title may vary with the court; and to complete the analogy, on land to which the title won't be clarified until after you have moved into the house?[126]

Chair Kastenmaier remarked:

> Ms. Newman restated the case, which I think largely had been lost upon the subcommittee which has been looking at the technical aspects of the case that was stated in 1979 and 1980 for the creation of this Court; she reminded us that it is not merely for the patent lawyers themselves but for the industrial and research organizations of this country upon whom we depend for advances in technology and for economic competitiveness for the world that this was in the first place suggested.
>
> Therefore, if it serves that end it has to be given great weight whether or not we approve this legislation.[127]

[126] *April 1981 House Hearings*, *supra* note 122, at 188–89, 195.
[127] *Id.* at 208.

Testifying against the legislation on behalf of the American Bar Association, James Geriak acknowledged that "unacceptabl[e] unpredictab[ility]" marked the most important argument advanced by the legislation's proponents.[128] Geriak singled out obviousness as the primary source of disquiet among those urging adoption.[129] Opposing the legislation, private attorney Sidney Neuman testified that "the issue of 'obviousness' under 35 U.S.C. § 103 and only that issue" supplied the basis for complaints about "'widespread lack of uniformity and uncertainty'"[130] and disagreed that the "alleged 'synergism' conflict is either significant or serious."[131] Geriak argued that uniformity for its own sake was not desirable, and that inter-circuit differences "reap[ed] the reward that various ideas are able . . . to 'compete for acceptance in the marketplace.'"[132]

Testifying as a proponent of the proposed legislation, former Commissioner of Patents and Trademarks Donald Banner disagreed that "obviousness is really the only important issue," but concurred that obviousness was a "serious" issue, some "circuits . . . clearly today say that you

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[128] *Id.* at 74.

[129] *Id.* at 128; *see also May 1981 Senate Hearings*, *supra* note 81, at 126–27.

[130] *April 1981 House Hearings*, *supra* note 122, at 128 (citing H.R. REP. NO. 96-1300 at 18); *see also id.* at 145 ("[T]he proponents of the new court are only complaining about the manner in which the regional courts handle the 'obviousness' issue under 35 U.S.C. § 103."); *id.* at 150; *id.* at 131–34 (discussing *Graham*, *Anderson's Black Rock*, and *Sakraida*); *May 1981 Senate Hearings*, *supra* note 81, at 86 (statement of Sidney Neuman) ("As to alleged lack of stability in patent decisions, so far as I have been able to ascertain this ground relates principally to the decisions of the courts dealing with the obviousness issue under section 103 of the Patent Code.").

[131] *April 1981 House Hearings*, *supra* note 122, at 128, 133 (see comment addressed in footnote); *see also id.* at 151–52.

[132] *April 1981 House Hearings*, *supra* note 122, at 85 (quoting O.W. Holmes); *May 1981 Senate Hearings*, *supra* note 81, at 136 (quoting O.W. Holmes).

have to have in addition to obviousness this magical something called synergism."[133]

Witnesses also appeared to assume, as before, that the Supreme Court would continue to take relatively few patent cases.[134] They also disclaimed that the new appellate court would effectuate substantive change in the law.[135]

The Senate Judiciary Committee heard additional testimony, to the same general effect, at hearings held during April and May 1981.[136] Chief Judge Markey testified, for example:

> **The fundamental problem in patent law in this country lies in the approach to decision** illustrated in appellate court opinions, **wherein nonstatutory slogans are employed and grow into mindless decisional rules for all cases.** Time and space precluding a full list, I will mention just two: (1) "A combination of old elements is unpatentable and certainly suspect." The fact is that **every invention of man is necessarily made of old elements and the slogan as a standard decisional rule would totally destroy the patent system**; (2) **"Absent a new function, the invention is unpatentable."** The fact is that 99% or more of all inventions are improvements, the statute specifically provides for patenting improvements, and every improved device necessarily performs the old function of the thing improved. **Again, universal application of a nonstatutory**

[133] *April 1981 House Hearings*, *supra* note 122, at 174–75.
[134] *Id.* at 50 (statement of J. Jancin, President Elect of Am. Pat. L. Ass'n); *id.* at 56 (statement of Jancin); *id.* at 63 (statement of Jancin); Beighley, *supra* note 85, at 701.
[135] *Id.* at 206 (statement of Newman, responding to Kastenmeier).
[136] *Additional Judicial Positions: Hearing on Additional Judicial Positions for the Courts of Appeals and District Courts of the United States Before the Subcomm. on Cts. of the S. Comm. on the Judiciary*, 97th Cong. 115–16, at 121 (1981) [hereinafter *April 1981 Senate Hearings*].

> **demand for a new function would totally destroy the patent system.**[137]

The pertinent House and Senate reports of November 1981 reflected the same animating spirit embodying the "almost" Federal Circuit legislation that had passed both houses of Congress late the preceding year.[138] Reiterating that "[p]atents have served as a stimulus to the innovative process . . . [which] can have important positive ramifications for the nation's economy,"[139] as well as the earlier House report's observations regarding

- the lessons that "emerged" from the Freund Committee, the Hruska Commission, and other study groups;
- the emphasis on "industrial innovation as a key to increased productivity in the United States" that had joined appellate operational concerns as a focal point of testimony on the proposed legislation before the Ninety-Sixth Congress;
- support for creation of a single patent appellate court by President Carter's Domestic Policy Review, as an "indispensable part" of the President's "industrial innovation program";
- the continuing absence of certainty in patent law's application, and corresponding adverse impact on business investment in innovation; and
- the support of American industry for the legislation,

the House Judiciary Committee report of November 4, 1981, observed that

> [t]he establishment of a single court to hear patent appeals was repeatedly singled out by the witnesses

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[137] *Id.* (emphasis added).
[138] *See supra* text accompanying notes 114–119.
[139] H.R. REP. NO. 97-312, at 23 (1981).

> who appeared before the Committee as **one of the most far-reaching reforms that could be made to strengthen the United States patent system in such a way as to foster technological growth and industrial innovation. The new Court of Appeals for the Federal Circuit will provide nationwide uniformity in patent law, will make the rules applied in patent litigation more predictable** and will eliminate the expensive, time-consuming and unseemly forum-shopping that characterizes litigation in the field.[140]

The Senate Judiciary Committee report reiterated its conclusions from the previous year.[141] And both the House and the Senate reports reflected the continuing assumption that the Supreme Court would take few patent cases.[142]

After "minor amendments" to H.R. 2405, the House Judiciary Committee reported out a "clean bill," H.R. 4482, on November 4, 1981.[143] The House amended its bill and passed the measure on November 18, 1981.[144] On March 22, 1982, the Senate passed the House bill, which became law as the Federal Courts Improvement Act of 1982 on April 2, 1982,[145] upon President Reagan's signature.[146]

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[140] *Id.* at 19–20, 22, 28 (emphasis added).
[141] S. REP. NO. 97-275 at 1–2 (1981).
[142] H.R. REP. 97-312 at 22; S. REP. NO. 97-275 at 3 ("[O]ur Federal judicial system lacks the capacity, short of the Supreme Court, to provide reasonably quick and definitive answers to legal questions of nationwide significance. The Supreme Court now appears to be operating at—or close to—full capacity; therefore, in the future the Court cannot be expected to provide much more guidance in legal issues than it now does."); *id.* at 2 (noting the legislation's purpose "to fill a void in the judicial system by creating an appellate forum capable of exercising nationwide jurisdiction over appeals").
[143] H.R. REP. NO. 97-312 at 1, 29.
[144] *See* Petrowitz, *supra* note 65, at 553 n.90.
[145] *Id.* at 553 n.91.
[146] Meador, *Origin of the Federal Circuit*, *supra* note 84, at 618.

III. THE STATE OF THE LAW ON "SOMETHING MORE" AS OF THE FEDERAL CIRCUIT'S CREATION IN 1982

A. Congressional Expectations: "Invention" Dead, Uncertainty to Be Avoided, Supreme Court Intervention Expected to Continue to Be Limited.

As of 1982, at least this much was known about Congress's intentions with regard to how much of "something more," beyond what came before, an inventor had to show in order to claim a valid patent right.

One, broadly, Congress viewed patents as special. The mere fact that Congress considered, but ultimately rejected, the addition of other subject matter besides patents — tax, environmental, and trademark matters — to the Federal Circuit's jurisdiction, suggests as much.[147]

Two, relatedly, any non-statutory judicial construct that created undue uncertainty as to the ambit of protectable subject matter was disfavored, as undermining the national economic interest. Congress had identified that kind of uncertainty as a particular problem stifling industrial advancement and technological innovation.[148] As practitioner George C. Beighley, Jr., put it:

> Ultimately a consensus seems to emerge from examining the statements of judges and the legislative history that the purpose of Congress in creating the Federal Circuit was to create a court with subject matter jurisdiction over national issues that would promote uniformity of patent law, eliminate forum

[147] *See, e.g.*, *May 1981 Senate Hearings*, *supra* note 81, at 248 (statement of Howard T. Markey) ("Tax, environmental, and trademark matters were originally included. Congress in its wisdom eliminated those three items."); *see generally supra* Part II.D.

[148] *E.g.*, Lee Petherbridge, *Patent Law Uniformity?*, 22 HARV. J.L. & TECH. 421, 422–23 (2009); Beighley, *supra* note 85, at 673–74; *see generally supra* Part II.E.

> shopping in patent cases, and thereby increase and promote technological innovation in the United States.[149]

The concept of "synergy," in particular, had developed enough during the course of the legislative process to arise as a particular subject of debate between proponents and opponents of legislative reform, and to be roundly criticized by the winners of that debate.[150]

Three, the judicial construct of "invention" was dead, or at least, it was supposed to be. It was widely understood that Congress had adopted section 103's obviousness requirement as part of the Patent Act of 1952 in order to dispose of that construct.[151]

Finally, Congress had reason to expect that the Supreme Court would continue to intervene only infrequently in patent matters. While there is no indication Congress expected the Supreme Court to formally surrender its constitutional authority to interpret the patent laws, the new Federal Circuit could be expected to carry the lion's share of that interpretive workload — and to do so consistent with the foregoing Congressional objectives.[152]

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[149] Beighley, *supra* note 85, at 705; *see also id.*at 736 ("The congressional objective in creating the Federal Circuit was to provide uniformity to the law and thereby to promote innovation.").

[150] *See supra* text accompanying notes 101–103 and 123–33.

[151] *See, e.g.*, *Ghost*, *supra* note 2, at 14 ("The first policy decision underlying § 103 was to cut loose altogether from the century-old term 'invention.' It really *was* a term impossible to define, so we knew that any effort to define it would come to naught."); *see also, e.g.*, *id.* at 15 ("As compared to finding or not finding 'invention,' § 103 was a whole new way of thinking and a clear *directive* to the courts to think that way."); *id.* at 17 ("Whatever you call it, the purpose was to substitute § 103 for the requirement of 'invention' . . . . It was to be statutory, not case law in the future."); *see generally supra* Part II.A.2.

[152] *See supra* text accompanying notes 138–141.

B. Potential Sources of Future Judicial Deviation.

Admittedly, there existed nubs of uncertainty. These have been commented on extensively.[153] It bears noting here simply that any effort to discern Congressional intent in enacting the FCIA must acknowledge the existence of some murk.

1. "Something More"

First, as shown above, the Supreme Court's section 103 decisions in *Graham* in 1966 and *Anderson's-Black Rock* in 1969 had continued to inject some uncertainty as to the degree to which a judicial requirement of "something more" — in the form of "synergy" — had been laid to rest by section 103's adoption. The Court's 1976 decision in *Sakraida v. Ag-Pro*,[154] which had elliptically alluded to that same construct, had exacerbated this uncertainty,[155] particularly after the Court's decision that same year in *Dann v. Johnston* had held a claimed invention of a computerized "machine system for automatic record-keeping of bank checks and deposits" obvious under section 103 without resort to the "synergy" concept while, like *Sakraida*, acknowledging that Congress had replaced the old "invention" requirement with the statutory obviousness inquiry.[156] Much as one might like to think Congress expected the uncertainty would be resolved through future

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[153] *See, e.g. Ghost*, *supra* note 2, passim.; *Tyranny*, *supra* note 12, passim.; *Then & Now*, *supra* note 36, at 435–37.

[154] Sakraida v. Ag Pro, Inc., 425 U.S. 273, 81 (1976).

[155] *See* Edwards, *supra* note 45, at 12 (arguing from *Sakraida* in 1978 that "the requirement of invention for patentability is alive and well in the Supreme Court of the United States, and as a consequence, in all of the federal courts—and the Patent Office").

[156] Dann v. Johnston, 425 U.S. 219, 225–26 (1976); *see generally Tyranny*, *supra* note 12, at 210 (discussing synergy concept as referenced in *Anderson's-Blackrock* and *Sakraida*).

decisions of the new Federal Circuit, consistent with Congress's objectives as well as *Graham*, there is no material indication in the FCIA's legislative history that Congress focused in particular on these decisions as the Act marched toward passage.

2. Section 101 Cases

Second, there were the Supreme Court's roughly-contemporaneous decisions on patentable subject matter under section 101: *Gottschalk v. Benson*,[157] *Parker v. Flook*,[158] *Diamond v. Chakrabarty*,[159] and *Diamond v. Diehr*.[160]

In a unanimous (six-justice) 1972 opinion authored by Justice Douglas, *Benson* held a computer program for converting binary-coded decimal numerals into binary numerals unpatentable as a mere mathematical formula or abstraction.[161] *Benson* has been roundly criticized.[162] For purposes here, it suffices to note that the opinion made scant reference to section 101, and focused on whether the claimed process fell into judicial exceptions to subject matter eligibility, rather than whether the process contributed enough of "something more" to qualify for patent protection.

In a 1978, 6-3 decision authored by Justice Stevens, *Flook* had used the term "inventive concept" in refusing to

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[157] Gottschalk v. Benson, 409 U.S. 63 (1972).
[158] Parker v. Flook 437 U.S. 584 (1978).
[159] Diamond v. Chakrabarty, 447 U.S. 303 (1980).
[160] Diamond v. Diehr, 450 U.S. 175 (1981).
[161] *See Benson*, 409 U.S. at 71–72.
[162] *See, e.g.*, Merges, *supra* note 57, at 2229 ("The problem was that the decision was conceptually flawed, if not plain wrong. Great volumes of legal scholarship have documented over the intervening years what common experience also tells us: software is engineered, not discovered. . . . [P]erhaps Justice Douglas was simply searching for a way to keep this new subject matter out of the clutches of the patent system of which he was so suspicious. Whatever the reason, he made a major mistake.").

distinguish the claimed application of an algorithm for "updating alarm limits" from the unpatentable algorithm itself.[163] *Flook* followed *Dann*, in which, two years earlier, the Court had ducked subject matter eligibility in favor of deciding the case on obviousness grounds.[164] *Flook* itself drew little scholarly commentary.

In a 1980, 5-4 decision authored by Chief Justice Burger, *Chakrabarty*, the Court had held a human-made microorganism patentable, with no reference to "inventive concept."

And in a March 1981, 5-4 decision authored by Justice Rehnquist, *Diehr*, the Court held that a claimed rubber product molding process including an algorithm was patent-eligible subject matter, without any reference to "inventive concept."

Here too, one might wish for more clarity as to Congress's intentions regarding the substance of these decisions as the FCIA journeyed toward passage. Perhaps the absence of breadcrumbs is unsurprising; the trail was winding, and the decisions' significance looms larger in hindsight than it probably did in real time. In any event, none of these decisions, nor the issue of statutory patentable subject matter generally, had commanded the attention of the Freund Committee, the Hruska Commission, or the legislators and witnesses whose work during the Ninety-Sixth and Ninety-Seventh Congresses had culminated in the FCIA.[165]

[163] Parker v. Flook, 437 U.S. 584 (1978).
[164] Dann v. Johnston, 425 U.S. 219, 225–26 (1976).
[165] *See supra* Parts II.B through II.E.

3. The (Roughly Contemporaneous) Computer Software Copyright Act of 1980.

Third, Congress had enacted the Computer Software Copyright Act of 1980,[166] adopting "wholesale" the recommendations of the National Commission on New Technological Uses of Copyrighted Works ("CONTU") that software be protected under copyright law. CONTU's final report, cited as a strong indicator of Congress's intent in passing the Act,[167] had observed:

> It is still unclear whether a patent may ever be obtained for a computer program. On three occasions the Supreme Court has considered cases involving program patents. In each it has found the programs before it to be ineligible for such protection. However, the Court has never addressed the broader question whether programs are patentable subject matter. The holdings of those three cases, although carefully limited in scope, make it appear that it would be difficult for any applicant to secure a patent in a program, since novel and useful mathematical formulas may not be patented and since useful 'post-solution applications' of them meet the same fate.[168]

The FCIA and the 1980 Act both journeyed to passage during the 1970s. Interestingly, the final report of

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[166] Computer Software Copyright Act of 1980, Pub. L. No. 96–517, § 10, 94 Stat. 3015, 3028 (1980).

[167] Ralph Oman, *Computer Software As Copyrightable Subject Matter: Oracle v. Google, Legislative Intent, and the Scope of Rights in Digital Works*, 31 HARV. J. L. & TECH. 639, 642 n.11 (2018) (citing Sega Enters. v. Accolade, Inc., 977 F.2d 1510, 1519 n.5 (1992) ("Congress adopted all of the statutory changes recommended by CONTU verbatim. Subsequent Congresses, the courts, and commentators have regarded the CONTU Report as the authoritative guide to congressional intent.").

[168] CONTU, FINAL REPORT OF THE COMMISSION ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS, at 17 (1978) (citing *Benson*, *Dann*, and *Flook*).

CONTU, which largely was delegated the "thinking work" on the 1980 Act, issued its final report on July 31, 1978.[169] Meanwhile, the Meador Proposal, which served as the fulcrum between the Freund Commission's and Hruska Committee's earlier work and the legislative efforts of the Ninety-Sixth and Ninety-Seventh Congresses culminating in the FCIA, issued just 10 days earlier, on July 21, 1978.[170] Judging exclusively by these two reports—a full exposition of the legislative history of the two acts being beyond this article's space constraints—a fair synthesis of Congress's attitude appears to be, "We need not decide computer programs' patentability; we decide such programs are copyrightable."[171] The legislative history of both statutes, however, evinces Congressional intent to reward innovation with exclusivity. As CONTU put it, "Computer programs are the product of great intellectual effort and their utility is unquestionable. The Commission is, therefore, satisfied that some form of protection is necessary to encourage the creation and broad distribution of computer programs in a competitive market."[172]

IV. THE SUPREME COURT RESUSCITATES "SOMETHING MORE" UNDER SECTION 101

A. The Federal Circuit Waves Away Extant Versions of "Something More"

On "synergy," the Federal Circuit wasted little time. In its July 1983 opinion affirming the invalidity

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[169] *Id.*

[170] *Meador Proposal*, *supra* note 86.

[171] *See* CONTU, FINAL REPORT OF THE COMMISSION ON NEW TECHNOLOGICAL USES OF COPYRIGHTED WORKS, at 17 (1978).

[172] *See id.* at 11, 17 (citing *Benson*, *Dann*, and *Flook*).; *see also* Timothy K. Armstrong, *Symbols, Systems, & Software as Intellectual Property: Time for CONTU, Part II?*, 24 MICH. TELECOMM. & TECH. L. REV. 131, 141 (2018).

determination in *Chore-Time Equip. v. Cumberland Corp.*,[173] the Federal Circuit criticized the trial court's reference to "synergistic result":

> In determining patentability, we are guided, as we must be guided, by the statute. A requirement that an invention reflect "synergism" or achieve a "synergistic result," before it may be held patentable appears nowhere in the statute, 35 U.S.C. The test of obviousness under 35 U.S.C. § 103, as the statute makes plain, is whether the invention as a whole would have been obvious at the time it was made to one of ordinary skill in the art. References to synergism as a patentability requirement are, therefore, unnecessary and confusing.[174]

That same month, affirming the invalidity determination in *Stratoflex v. Aeroquip Corp.*,[175] the Federal Circuit similarly criticized the trial court's reference to "synergism" as "a symbolic reminder of what constitutes nonobviousness when a combination patent is at issue": "A requirement for 'synergism' or a 'synergistic effect' is nowhere found in the statute, 35 U.S.C. When present, for example in a chemical case, synergism may point toward nonobviousness, but its absence has no place in evaluating the evidence on obviousness."[176]

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[173] Chore-Time Equip. v. Cumberland Corp., 713 F.2d 774, 781 (Fed. Cir. 1983).
[174] *Id.* at 782; O'Hearn, *supra* note 32, at 464 ("[P]atent law practitioners and commentators expected the new Federal Circuit to discard the synergism requirement. That expectation has been met."); *see also* Desmond, *supra* note 41, at 473 ("[O]ne of the CAFC's primary tasks was to create a uniform interpretation of patent law. In an effort to accomplish this goal, the CAFC held that a number of district courts had erred in requiring proof of synergistic effects in order for combination patents to be nonobvious.").
[175] Stratoflex v. Aeroquip Corp., 713 F.2d 1530, 1541 (Fed. Cir. 1983).
[176] *Id.* at 1540.

As for "inventive concept," the Federal Circuit's pre-*Bilski* era decisions contain little or no indication that the court viewed, or would countenance, this as an expression of "something more" required for patentability. It took almost two decades for the court even to cite *Parker v. Flook* for its "inventive concept" reference.[177] Before that, the court came far closer to dismissing the concept, than to accepting it. As early as November 1983, reversing certain of the trial court's invalidity determinations, the court observed:

> Because it permeated so much of the district court's analysis, we note more fully its frequent restriction of its consideration to 10% per second of stretching, which it called the "thrust of the invention." That approach is repeated throughout Garlock's briefs, which refer repeatedly to the "thrust of the invention," to "the inventive concept," and to the claims "shorn of their extraneous limitations." That facile focusing on the "thrust," concept," and "shorn" claims, resulted in treating the claims at many points as though they read differently from those actually allowed and in suit. . . . In determining obviousness, there is "no legally recognizable or protected 'essential,' 'gist,' or 'heart' of the invention."[178]

B. The Supreme Court's Recent Section 101 Jurisprudence

More recent decisions from the Court, meanwhile, led "something more" to manifest itself under section 101's subject matter eligibility regime, rather than the obviousness

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[177] *See* EMI Grp. N. Am. v. Cypress Semiconductor Corp., 268 F.3d 1342, 1549 (Fed. Cir. 2001).

[178] W.L. Gore & Associates. v. Garlock, Inc., 721 F.2d 1540, 1547 (Fed. Cir. 1983) (quoting Aro Mfg. Co. v. Convertible Top Replacement, 365 U.S. 336, 345 (1961)); *see also* In re Morris, 127 F.3d 1048, 1056 (Fed. Cir. 1997) (rejecting applicant's invocation of "their 'inventive concept,' whatever that means" in arguing examiner erred in rejecting claim in view of prior art).

regime established by Congress under section 103. This, notwithstanding that, in passing substantial patent reform legislation in the form of the Smith-Leahy America Invents Act of 2011, Congress had said and done nothing suggesting it contemplated a change in the general substantive law of patent subject matter eligibility.[179] Perhaps unsurprisingly, none of the following decisions made any reference to the AIA or, for that matter, the FCIA.

As a prelude, in his 2006 dissent from the Supreme Court's dismissal following grant of cert in *Lab'y Corp. v. Metabolite*,[180] Justice Breyer invoked the judge-made exceptions to patentable subject matter. Breyer argued that one of the petitioner's claims, "A method for detecting a deficiency of cobalamin or folate in warm-blooded animals comprising the steps of: assaying a body flued for an elevated level of total homocysteine; and correlating an elevated level of total homocysteine in said body flued with a deficiency of cobalamin or folate," claimed an unpatentable law of nature inconsistent with 35 U.S.C. § 101.[181]

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[179] In the AIA, Congress made no change to the language of § 101. It considered doing so with respect to tax strategies, but ultimately relegated that issue to treatment under §§ 102–03. AIA § 14, available at uspto.gov/web/offices/pac/mpep/consolidated_laws.pdf; *see* Gene Quinn, *AIA Oddities: Tax Strategy Patents and Human Organisms*, IPWATCHDOG (Sept. 12, 2013), ipwatchdog.com/2013/09/12/aia-oddities-tax-strategy-patents-and-human-organisms/id=45113/#_ftnref [https://perma.cc/SB4R-EKGG]. Congress also enacted a separate statute providing, "Notwithstanding any other provision of law, no patent may issue on a claim directed to or encompassing a human organism." AIA § 33, available at uspto.gov/web/offices/pac/mpep/consolidated_laws.pdf; *see also* Quinn, *supra* note 151; *see generally* Patrick A. Doody, *Comprehensive Legislative History of the Leahy-Smith America Invents Act*, PILLSBURY LAW (Sept. 26, 2012), https://www.pillsburylaw.com/images/content/4/0/v2/4067/AIA-LegislativeHistory-final.pdf [https://perma.cc/L3E2-85MZ].

[180] Lab'y Corp. v. Metabolite, 548 U.S. 124, 127 (2006).

[181] *Id.*

In its 2010 decision in *Bilski v. Kappos*,[182] citing *Benson*, *Flook*, and *Diehr*, the Court held invalid under section 101, as claiming an "abstract idea," a process for hedging risk. Claim 1 consisted of

> (a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumers;
>
> (b) identifying market participants for said commodity having a counter-risk position to said consumers; and
>
> (c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions.[183]

Claim 4, according to the Court, "put[] the concept articulated in claim 1 into a simple mathematical formula."[184] And the remaining claims, according to the Court, "attempt[ed] to patent the use of the abstract idea of hedging risk in the energy market and then instruct the use of well-known random analysis techniques to help establish some of the inputs into the equation."[185]

In 2012's *Mayo Collaborative Services v. Prometheus Laboratories*,[186] the Court held invalid under section 101 a claimed process for ascertaining the appropriate dosage of thiopurine drugs by reference to the

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[182] Bilski v. Kappos, 561 U.S. 593, 609 (2010).
[183] *Id.* at 599.
[184] *Id.* Nowhere, though, did the Court recite Claim 4's actual language.
[185] *Id.* at 612.
[186] Mayo Collaborative Servs. v. Prometheus Lab'ys., Inc., 566 U.S. 66, 74–75 (2012).

level of thiopurine metabolites in the blood. The Court recited as typical the following claim:

> A method of optimizing therapeutic efficacy for treatment of an immune-mediated gastrointestinal disorder, comprising:
>
> (a) administering a drug providing 6–thioguanine to a subject having said immune-mediated gastrointestinal disorder; and
>
> (b) determining the level of 6–thioguanine in said subject having said immune-mediated gastrointestinal disorder,
>
> wherein the level of 6–thioguanine less than about 230 pmol per $8x10^8$ red blood cells indicates a need to increase the amount of said drug subsequently administered to said subject and
>
> wherein the level of 6–thioguanine greater than about 400 pmol per $8x10^8$ red blood cells indicates a need to decrease the amount of said drug subsequently administered to said subject.[187]

The Court held the "relationships between concentrations of certain metabolites in the blood and the likelihood that a dosage of a thiopurine drug will prove ineffective or cause harm" as unpatentable "laws of nature."[188] And, since the patents claimed a process rather than the law itself, the Court adopted the *Flook* term "inventive concept" — which it had not mentioned at all in *Bilski* — as the means to ensure "that a [patent on a] process that focuses upon the use of a natural law also contain other elements or a combination of elements

[187] *Id.* at 74–75.
[188] *Id.* at 77.

. . . amount[] to significantly more than a patent upon the natural law itself."[189]

In 2013's *Association for Molecular Pathology v. Myriad Genetics*,[190] the Court held that naturally-occurring DNA, even if isolated, is not a "new . . . composition of matter" under section 101, but that the claimed synthetic DNA was patent-eligible.

Finally, the following year, the Court in *Alice Corp. v. CLS Bank*[191] held invalid as "drawn to" the "abstract idea of intermediated settlement" method, system, and media claims "relat[ing] to a computerized scheme for mitigating 'settlement risk'—*i.e.*, the risk that only one party to an agreed-upon financial exchange will satisfy its obligation."[192] The following claim, according to the Court, was a representative method claim:

> A method of exchanging obligations as between parties, each party holding a credit record and a debit record with an exchange institution, the credit records and debit records for exchange of predetermined obligations, the method comprising the steps of:
>
> (a) creating a shadow credit record and a shadow debit record for each stakeholder party to be held independently by a supervisory institution from the exchange institutions;
>
> (b) obtaining from each exchange institution a start-of-day balance for each shadow credit record and shadow debit record;

[189] *Id.* at 72–73; *see also id.* at 82 (describing patent claim in *Flook* as one in which, "putting the formula to the side, there was no 'inventive concept' in the claimed application of the formula").
[190] Ass'n for Molecular Pathology v. Myriad Genetics, 569 U.S. 576, 589, 594–95 (2013).
[191] Alice Corp. v. CLS Bank, 573 U.S. 208 (2014).
[192] *Id.* at 213–14, 216.

> (c) for every transaction resulting in an exchange obligation, the supervisory institution adjusting each respective party's shadow credit record or shadow debit record, allowing only these transactions that do not result in the value of the shadow debit record being less than the value of the shadow credit record at any time, each said adjustment taking place in chronological order, and
>
> (d) at the end-of-day, the supervisory institution instructing on[e] of the exchange institutions to exchange credits or debits to the credit record and debit record of the respective parties in accordance with the adjustments of the said permitted transactions, the credits and debits being irrevocable, time invariant obligations placed on the exchange institutions.[193]

The Court in *Alice* refined *Mayo* into an analytical subject matter eligibility "framework."[194]

First, notwithstanding that "all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas,"[195] the court is to "determine whether the claims at issue are *directed to* one of those patent-ineligible concepts."[196] Though the Court cited *Mayo*, that decision had used neither the "directed to" construct nor the "drawn to" alternative appearing elsewhere in *Alice*.[197]

Second, based on the Court's assertion that "something more" besides those "building blocks of human ingenuity" is required for subject matter eligibility,[198] the court is to search for an "inventive concept," i.e., "an

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[193] *Id.* at 213 n.2.
[194] *Id.* at 217.
[195] *Id.* (quoting *Mayo*, 566 U.S. at 70).
[196] *Id.* (emphasis added).
[197] *See* Mayo Collaborative Servs. v. Prometheus Lab'ys., Inc., 566 U.S. 66 (2012).
[198] Alice Corp. v. CLS Bank, 573 U.S. 208, 216–17 (2014).

element or combination of elements that is 'sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.'"[199]

Applying this framework, the Court first focused on the claimed methods.[200] Primarily in reliance on *Bilski*, the Court held them "directed to the abstract idea of intermediated settlement," with "mere[] . . . generic computer implementation" insufficient to satisfy the second, "something more" requirement of an "inventive concept."[201] That disposed of the petitioner's media and system claims as well—the former because petitioner conceded they "r[o]se or f[e]ll" with the method claims, and the latter because "the system claims [we]re no different from the method claims in substance."[202]

C. The Supreme Court Rebuffs Invitations to Revisit Mayo/Alice.

The Supreme Court has not taken up a subject matter eligibility case since *Alice*. As noted in the introduction, in 2019 the United States took the position, in connection with cert petitions filed in *HP v. Berkheimer*, *Hikma v. Vanda*, and *Athena v. Mayo*, that the judge-made exceptions of laws of nature, natural phenomena, and abstract ideas actually reflected the text and legislative history of section 101.[203] The Court denied cert in all those cases and has denied cert on every section 101-based cert petition since.[204] The uncertainty, and corresponding adverse impacts on innovation and investment in same wrought by the

[199] *Id.* at 217–18 (quoting *Mayo*, 566 U.S. at 71); *see also id.* at 221.
[200] *Id.* at 219–20.
[201] *Id.* at 225–26.
[202] *Id.* at 226.
[203] *See, e.g., Hikma Amicus Brief, supra* note 6; *see also, Berkheimer Amicus Brief, supra* note 7.
[204] *See supra* note 9.

Mayo/Alice test for subject matter eligibility, continue to vex clients, practitioners, and others.

V. ANALYSIS: THE LATEST ITERATION OF "SOMETHING MORE" JUDICIALLY IMPOSED BY THE COURT IS INCONSISTENT WITH CONGRESSIONAL INTENT.

This article leaves to others the question of whether the Court's latest incarnation of "something more" — the "inventive concept" of *Mayo/Alice* — is consistent with the Court's own precedents.[205] The question here is whether that test is consistent with Congressional intent. The answer, as should by now be clear, is "no."

Start with the judicial construct of "invention," used by courts for decades to try to determine whether a claimed invention added enough to the prior art to justify patenting.[206] With the 1952 Patent Act, Congress adopted section 103's obviousness inquiry in order to dispose of "invention" as a requirement for patentability.[207] That the Supreme Court would later adopt an "inventive concept" test to determine whether claims "drawn to" certain subject matter add enough to justify patenting seems, self-evidently, inconsistent with what Congress had in mind.[208] The mere passage of time cannot change that reality.

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[205] *See Investment*, *supra* note 4, at 6 (citing Ariosa Diags. v. Sequenom, Inc., 788 F.3d 1371 (Fed. Cir. 2015) (Linn, J., concurring)).

[206] *See Tyranny*, *supra* note 12, at 285–86 (recounting history of "requirement of invention"); *see also supra* Part II.A.1.

[207] *See supra* Part II.A.2.

[208] *See, e.g.*, John M. Golden, *Flook Says One Thing, Diehr Says Another: A Need for Housecleaning in the Law of Patentable Subject Matter*, 82 GEO. WASH. L. REV. 1765, 1790 (2014) ("For certain patent law practitioners and academics, the language of this fourth paragraph [in *Mayo*] undoubtedly sounds gratingly resonant of concerns with 'synergy' in the context of analyzing a claim for nonobviousness . . ."); *Confusing*, *supra* note 4, at 180–81 ("To say that the Supreme Court's

Beyond the change itself, there is the reason Congress supplanted the judicial "invention" construct with section 103 nonobviousness. Though expressed delicately — that "invention" had been "expressed in a large variety of ways in decisions of the courts and in writings" and that new section 103 would "have a stabilizing effect and minimize great departures" — the legislative history's upshot is that Congress viewed the "invention" standard as vague, subjective, and unworkable, and intended for that reason to eliminate it entirely.[209] The new "inventive concept" test under section 101 is comparably vague, subjective, and unworkable.[210] It is difficult to imagine that, when Congress enacted section 103, it did so with the intention to leave open the door to the same or a substantially similar concept, functioning substantially the same way, reemerging under another section of the patent code.

Fast forward to Congress's creation of the Federal Circuit.

As seen, though the genesis of that creative enterprise lay in federal appellate reform efforts,[211] those efforts found footing with the addition of the policy goals of promoting industry and technology innovation, and thereby

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understanding of patent eligibility in *Mayo* was shocking to patent law professors and practitioners would be a gross understatement . . . [T]he Court, when it invoked a search for an inventive concept, showed its failure to understand that Congress eliminated any search for inventiveness in favor of a requirement of non-obviousness articulated in § 103.").

[209] *See supra* Part II.A.2.

[210] *See Confusing*, *supra* note 4, at 182 ("[T]he test the Supreme Court articulated provides no guidance. Instead it incorporates a purely subjective standard, the correct application of which cannot be predicted with any certainty."); *see also, e.g.*, Peter Hecker, *How an Old Non-Statutory Doctrine Got Worked Into the § 101 Test for Patent Eligibility*, 99 J. PAT. & TRADEMARK OFF. SOC'Y 4 (2017) (comparing *Alice*'s inventiveness requirement to pre-1952 Patent Act subject matter eligibility standards).

[211] *See supra* Part II.C.

enhancing national economic competitiveness.[212] Congress viewed patent rights as important to achieving those goals. In particular, Congress viewed certainty and predictability in application of the patent law as essential.[213] It also heard substantial testimony criticizing the "synergy" embodiment of "something more," added by judicial fiat in the wake of the 1952 Patent Act to the statutory requirements for patentability, as paradigmatic judicial subversion of the desired certainty and predictability[214] Here too, it beggars belief that Congress could have imagined, having created the Federal Circuit to help make patent law more certain and more predictable in furtherance of promoting industry and innovation, that someday the Supreme Court would promulgate a "something more" requirement that operates so sharply to the contrary.[215]

And there can be little doubt that the results wrought by the *Alice/Mayo* test run contrary to what Congress had in mind when it enacted the FCIA. The first step — ascertaining whether the purported invention is "drawn to" or "directed to" laws of nature, natural phenomena, or abstract ideas — has analytical problems aplenty of its

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[212] *See supra* Part II.D.

[213] *See supra* Part II.D–E.

[214] *See supra* notes 101–103, 123–133, and accompanying text.

[215] *Cf.* Jason Rantanen & Lee Petherbridge, *Disuniformity*, 66 FLA. L. REV. 2007, 2040 (2014) ("A larger picture that might be emerging from the analysis of this data is one in which the Supreme Court and the Executive Branch have been cooperating to undermine Congress's goal for the Federal Circuit-that is, a uniform patent law, reasonably predictable in application. To begin with, when we say 'undermine Congress's goal for the Federal Circuit,' we are not announcing a conspiracy theory or some sort of centrally-managed artifice or scheme. We have something much more descriptive and mundane in mind: That actors capable of influencing the development of patent law-in particular, the Supreme Court and the Executive Branch (outside of the patent office) are working on patent law and may have goals that do not emphasize doctrinal uniformity.").

own.[216] At their root, of course, most or all inventions draw upon such things.[217] And beyond that, the expressions "drawn to" or "directed to" are themselves vague. When "inventive concept" is added to complete the *Mayo/Alice* framework, the end result is an "environment [that] substantially reduces incentives to invest in research and development, particularly in the biotechnology and software technology areas. If the prevailing perception is that, because of the eligibility requirement, patents will not be available to protect inventions, individuals and companies may not invest efficiently in research and development. And this is the prevailing perception."[218] Empirical research by Professor David Taylor indicates that the erosion in certainty wrought by the Court's recent section 101 jurisprudence has reduced investment in innovation[219] — precisely the opposite result from that Congress wanted.[220]

There are contrary arguments, but upon scrutiny, they do not hold up.

One argument is that proponents pitched the Federal Circuit to Congress less to remedy — let alone ordain — any particular substantive law outcome, than to harmonize judicial outcomes whatever those outcomes might manifest in substantive law terms. To be sure, the legislative history

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[216] Michael Borella, *Stupid § 101 Tricks*, JDSUPRA (Nov. 2, 2020), [https://perma.cc/W3JY-KQY7] ("What does it mean to be 'directed to' an abstract idea? There is no clear answer, but all too often it involves a process that resembles a self-fulfilling prophecy.").

[217] *See, e.g.*, *Ghost*, *supra* note 2, at 4.

[218] *Confusing*, *supra* note 4, at 240; Xuan-Thao Nguyen & Jeffrey A. Maine, *Attacking Innovation*, 99 B.U.L. REV. 1687, 1722–23 (2019); David Kappos, *Over-Reliance on Section 101 Puts Innovation at Risk*, LAW.COM (May 7, 2015), [https://perma.cc/6SDC-2UL6] ("When courts and the USPTO take the 'I know it when I see it' approach to Section 101 jurisprudence, businesspeople, investors and innovators will allocate resources away from innovation in those industries that are perceived to fall on the wrong side of the fence.").

[219] *See Investment*, *supra* note 4, at 12, 59.

[220] *See supra* Parts II.D and II.E.

contains elements supporting this characterization.[221] On the other hand, Congress *had* determined *the* substantive patent law outcome pertinent here — abrogation of the judicial "invention" requirement — 30 years before, with the 1952 Patent Act.[222] It would be farfetched to expect Congress to pass another statute saying, "We really meant it." Intervening events, including the Supreme Court's general reticence to take patent cases, the emergence of the judicial "synergy" construct, and the opportunity afforded by the regional intermediate appellate court system to amplify that construct's departure from Congress's intentions in enacting section 103, made Congress's solution of creating a single intermediate appellate court to harmonize the substantive law an eminently practical one.

A more specific manifestation of this same argument is that the Supreme Court *had* made pronouncements — including, for example, 1969's *Anderson's-Black Rock*'s rehashing of "invention" and reference to "synergy" as well as 1978's reference in *Parker v. Flook* to "inventive concept" — before the Federal Circuit was created, yet the legislative history of the Federal Circuit's creation evinces no explicit intention to upset these decisions.[223] The same answers apply. Moreover, *Anderson's-Black Rock* still had to be reconciled with the precedent set by *Graham v. John Deere* as an expression of the judicial branch's attitude toward "something more."[224] And the "inventive concept" reference in *Flook* had not, as of 1982, achieved the significance later attributed to it by the Court. Indeed, in

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[221] *See Investment*, *supra* note 4, at 12.
[222] *See supra* Part II.A.2.
[223] *April 1981 Hearings*, *supra* note 122, at 207 (statement of Kastenmeier, Subcommittee Chair) ("the desirability or not of this legislation will not depend on their understanding of obviousness, synergism, or *Graham v. Deere*, because I am afraid that we may not be able to quite reduce all of those things to a sufficient understanding to necessarily base our view on this legislation this morning.").
[224] *See Tyranny*, *supra* note 12, at 294–95.

Diamond v. Chakrabarty just two years after *Flook*, the Court had made no reference to "inventive concept" at all.[225]

Another argument is that Congress's 1980 passage of the Computer Software Copyright Act signaled Congressional ambivalence, or perhaps indifference, toward the patentability of software inventions.[226] Here too, there is support in the legislative history — albeit, the legislative history of the CSCA — for this argument.[227] Yet, even beyond the fact that the CSCA is specific to software, nothing in the legislative history of the FCIA bespeaks ambivalence (or indifference) to patentability outcomes in any particular industry or field. To the contrary, the legislative history bespeaks the general view that patents are both important and good in achieving Congress's policy goals.[228] Finally, though the legislative history of the CSCA and FCIA developed approximately contemporaneously, the FCIA did in fact pass later, [229] creating a plausible argument that, to the extent of any inconsistency, the FCIA's legislative intent trumps.

Finally, as noted at the outset, nothing in the legislative history of either the 1952 Patent Act or the FCIA indicates any intention to deprive the Supreme Court of any of its authority to interpret the law, whether in connection with patents or anything else. Congress appeared to understand and intend that the new Federal Circuit would operate as an inferior court to, and be subject to the pronouncements of, the Supreme Court. That said, the FCIA's legislative history suggests Congress anticipated that the Court would continue to take a relatively inactive role in interpreting the patent laws.[230] And, unsurprisingly,

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[225] *See supra* Part III.B.2.
[226] *See supra* Part III.B.3.
[227] *See supra* Part III.B.3.
[228] *See supra* Parts II.D and II.E.
[229] The FCIA passed in 1982; the CSCA passed in 1980.
[230] *See supra* Parts II.D and II.E.

nothing in the FCIA's legislative history suggests Congress intended to surrender its own lawmaking authority to the Court.

VI. CONCLUSION

With the 1952 Patent Act, and specifically the enactment of 35 U.S.C. § 103's nonobviousness requirement, Congress established the substantive law governing how much of "something more" is required, beyond the prior art, to justify issuance of a patent. As the Supreme Court and inferior appellate courts began to stray from — and more precisely, to add to — that requirement, Congress responded in 1982 by creating the Federal Circuit.

The legislative history accompanying passage of the Federal Courts Improvement Act strongly suggests that Congress viewed patents in general, and patents with predictable enforceable reach in particular, as uniquely important to the national economic interest.

One can say with considerable confidence that the Supreme Court's "inventive concept" test is at odds with what Congress had mind, particularly when viewed against the backdrop of the 1952 Patent Act. No other legislative enactment, including the roughly contemporaneous Computer Software Copyright Act of 1980, or the 2011 America Invents Act, supplies any substantial reason to question this repeated expression of Congressional will.

The point here is narrow: What the Supreme Court has done, Congress would not have wanted. Whether that truth makes any difference turns on other questions left to others, including whether anything in the Constitution justifies the Court in simply ignoring Congressional will. Judging by current events — including but by no means limited to the Covid-19 pandemic[231] — the objective of

[231] *See, e.g.*, Paul Michel & John Battaglia, *Pandemics & the Need for U.S. Patent Laws That 'Promote … Progress' and Invention: The*

promoting domestic innovation as a vehicle for advancing national economic competitiveness would seem as worthy now as it was in the 1970s.[232] One must wonder whether the Court is better-equipped than Congress to make the call — as, with respect to patents, Congress repeatedly has — how to go about it.[233]

Federal Circuit, En Banc, Can Fix This, IPWATCHDOG (Apr. 12, 2020), ipwatchdog.com/2020/04/12/pandemics-need-us-patent-laws-promote-progress-invention-federal-circuit-en-banc-can-fix/id=120575/ [https://perma.cc/W7AQ-QWYT].

[232] *See, e.g.*, Robert D. Atkinson, *Who Lost Lucent?: The Decline of America's Telecom Equipment Industry*, AM. AFFAIRS (Fall 2020), americanaffairsjournal.org/2020/08/who-lost-lucent-the-decline-of-americas-telecom-equipment-industry/ [https://perma.cc/8487-AGAR]; David Adler, *The American Way of Innovation & Its Deficiencies*, AM. AFFAIRS (Summer 2018), americanaffairsjournal.org/2018/05/the-american-way-of-innovation-and-its-deficiencies/ [https://perma.cc/E9DT-P829] ("When it comes to applied research and downstream 'process innovation, America lags behind its competitors. . . . Corporate research labs that once developed and commercialized breakthrough technologies have been eliminated. And critically, the United States, unlike Germany or Japan or South Korea, lacks key institutions focused on applied research and innovation. In other countries, such organizations help translate new ideas in science and technology into practical applications in manufacturing.").

[233] Dennis Crouch, *Letter to Congress: Iancu is Good for the Patent System*, PATENTLYO (Oct. 26, 2020) ("We all believe that the future of the U.S. economy, including domestic job growth and our competitive advantage in the global economy, depends on a strong patent system that incentivizes innovators to invent and protects their inventions from unfair theft by others.") [https://perma.cc/FDT8-Y4X5].

THE CASE FOR INTEGRATING COPYRIGHT LAW WITH THE CONSTITUTIONAL RIGHT TO EDUCATION IN NIGERIA AND DEVELOPING COUNTRIES

BY: SAMUEL W. UGWUMBA*

ABSTRACT

The commitment to ensure access to education, particularly in developing countries, is a developmental imperative. Lack of education is life-threatening and, if there was any doubt, this is clear from the numerous studies that show a positive correlation between education and other development components.

The sad reality, however, is that available data shows a growing crisis of access to education in developing countries exacerbated by socio-economic inequalities and legal obstacles. Particularly, the regime of copyright law, as a market institution, poses challenges to the achievement of education, a non-market good and a developmental imperative. Yet, there is very little analysis in many DCs on the interface between copyright and access to education, preferring instead to see the regime of copyright on a narrow legalistic normative lens that privileges wealth-maximization and undermines the value of access to education. Nigeria is a case study.

In this paper, the approach adopted to address this crisis of access to education in DCs, and particularly in Nigeria, is a novel one in as much as it seeks to integrate the

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constitutional right to education with copyright. By interacting with external norms imbedded in the constitution--and given the supreme status of the constitution--copyright can yield to concerns of access to education. However, there are challenges to integrating copyright with the constitutional right to education and will be examined in this paper.

> When people don't have free access to books, then communities are like radios without batteries.
>
> ____Anne Lamott____

I. INTRODUCTION

Education is a development imperative. Its social, economic, and human development value can hardly be exaggerated. The sacrosanct importance of education is underscored by global, regional, and national initiatives as well as efforts aimed at achieving universal education: international human rights instruments, constitutional rights, and UN Sustainable Development Goals (SDGs) are laudable examples. Together these efforts serve to reaffirm, if ever there was any doubt, that education remains a powerful tool to foster development.

This goal of education, though universal, is particularly pressing for developing countries (DCs) for obvious reasons.[1] The literacy rate in some of these countries is discouraging and alarming. For example,

[1] The data presented below are for African DCs, but the same pattern is observable in many South Asian DCs. *See Literacy Rate, Adult (% Ages 15 and Older)*, UNDP: HUMAN DEVELOPMENT REPORTS, http://hdr.undp.org/en/indicators/101406 [https://perma.cc/TDE3-5NLF].

according to the UNESCO Institute for Statistics (UIS), the literacy rate of South Sudan's population for persons aged 15-24 years old was a mere 47.90% in 2018; Mali's was 50.13% in 2018; and Senegal's was 69.48% in 2017.[2] Even though, in general, there has been a steady increase of literacy rates in DCs over the years, the literacy proficiency level might still be an issue, i.e. whether a primary student from a DC has a comparable literacy proficiency level with a developed country's student of same standing. Given that the quality of education is a significant factor that affects literacy proficiency level, it is feared that, in many cases, the outlook negative since many DCs struggle with the material and financial resources to invest in quality education.[3] In fact, the UIS may not even represent the accurate picture of literacy in DCs. Illiteracy is a problem but so is functional illiteracy.[4] This is problematic because illiteracy has huge economic and social developmental costs.

This issue of (functional) illiteracy is a result lack of access to education (A2E). And even when there is A2E, the quality may be poor. Data from UIS shows the percentage

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[2] The United Nations Educational Scientific and Cultural Organization Institute for Statistics [hereinafter UNESCO Institute for Statistics], *Education: Literacy Rate*, SUSTAINABLE DEVELOPMENT GOALS, http://data.uis.unesco.org/index.aspx?queryid=166#%22%20http://data.uis.unesco.org/index.aspx?queryid=166 [https://perma.cc/39KE-F4T2].

[3] Recently a Ghanaian teacher had to resort to drawing Microsoft Word on a blackboard to teach students who had to sit for a national examination that includes questions on ICT, as the school did not have a computer since 2011. *See* Gianluca Mezzofiore, *New Word Order: Ghanaian Teacher Uses Blackboard to Explain Software*, CNN (Mar. 1, 2018, 2:26 PM GMT), https://edition.cnn.com/2018/03/01/africa/ghana-teacher-blackboard-intl/index.html [https://perma.cc/X7HG-A6CX].

[4] Even when someone is not illiterate, their writing and readings skills may not be adequate to enable the person carry out important daily tasks. This is functional illiteracy. *See* DR ANTHONY CREE ET AL., THE ECONOMIC & SOCIAL COST OF ILLITERACY: A SNAPSHOT OF ILLITERACY IN A GLOBAL CONTEXT 3 (2012).

of the population age twenty-five and older, that have at least completed their primary education in DCs is dwarfed by the same statistics from developed countries.[5] In 2017, this rate was 95.87% for the same demographic Belgians, whereas Mali recorded 15.62% in 2018.[6] Similar disparities between developed countries and DCs are replicated in other areas. For example, based on UIS data, the dropout rates in primary education for both sexes in Austria, Denmark, and Italy in 2014 were 0.57%, 0.23%, and 0.82% respectively; whereas in Cameroon, Burkina Faso, and Senegal, they were 61.97%, 31.15%, and 39.67% respectively in 2017.[7] Similarly, wide gaps emerge between the mean years of schooling for developed countries and DCs, as shown by the UNDP human development report (HDR).[8] Furthermore, in DCs there is a gender imbalance in A2E, wherein females have substantially less access than males.[9] Clearly, A2E is a problem in DCs, and quality education even more so.

Of course, the statistics do not show, nor should they be interpreted to show, that African DCs place little value on education or fail to understand its developmental importance. On the contrary, the UNESCO statistics concerning government expenditures on education show that

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[5] UNESCO Institute for Statistics, *Educational Attainment Rate, Completed Primary Education or Higher, Population 25+ Years (Both Sexes),* SUSTAINABLE DEVELOPMENT GOALS, http://data.uis.unesco.org/index.aspx?queryid=121 [https://perma.cc/39KE-F4T2].

[6] *Id.*

[7] UNESCO Institute for Statistics, *Education: Drop-Out Rate in Primary Education*, SUSTAINABLE DEVELOPMENT GOALS, http://data.uis.unesco.org/index.aspx?queryid=166#%22%20http://data.uis.unesco.org/index.aspx?queryid=166 [https://perma.cc/4CS8-3Q4C].

[8] *Mean Years of Schooling (Years)*, UNDP: HUMAN DEVELOPMENT REPORTS, http://www.hdr.undp.org/en/indicators/103006 [https://perma.cc/228J-8YFY].

[9] *Mean Years of Schooling, Female (Years)*, UNDP: HUMAN DEVELOPMENT REPORTS, http://hdr.undp.org/en/indicators/24106 [https://perma.cc/G4M8-9U5N]; *Mean Years of Schooling, Male (Years)*, UNDP: HUMAN DEVELOPMENT REPORTS.

these countries place commendable value on education, although in some cases the education expenditure falls short of the UNESCO benchmark.[10] There is ample reason for DCs to be enormously concerned about access to quality education. For instance, the UNDP HDR data shows a positive correlation between education and other components of development.[11]

Given this developmental importance of access to quality education, one might expect an outpouring of literature on the relationship between copyright and A2E in DCs. Afterall, copyright is concerned with the governance of cultural works, of which learning materials are a significant part. Crucially, if the global South is to enhance A2E, thereby promoting development, all areas affecting A2E—legal, socio-economic, and cultural—should be critically addressed. Unfortunately, for Nigeria in particular, there is almost no analysis on the role of copyright in facilitating A2E. When such an issue is explored, it is mainly touched upon in passing within the broader framework of access to knowledge (A2K).[12] Several reasons

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[10] UNESCO Institute for Statistics, *Education: Expenditure on Education as a Percentage of Total Government Expenditure*, SUSTAINABLE DEVELOPMENT GOALS, http://data.uis.unesco.org/index.aspx?queryid=166#%22%20http://data.uis.unesco.org/index.aspx?queryid=16 [https://web.archive.org/web/20200920172954/http://data.uis.unesco.org/index.aspx?queryid=166]; *see also* World Education Forum 2015, *Education 2030: Incheon Declaration and Framework for Action*, 9, ED-2016/WS/28 (May 21, 2015) (recommending that governments commit 15% to 20% of the national budget to education).

[11] For instance, there is a correlation between mean years of schooling and the Human Development Index (HDI) rank of countries. *See Mean Years of Schooling (Years)*, UNDP: HUMAN DEVELOPMENT REPORTS, http://hdr.undp.org/en/indicators/103006 [https://perma.cc/6PDG-T2XA].

[12] *Contra* ANDREW RENS ET AL., PROPERTY, EDUCATION AND ACCESS TO KNOWLEDGE IN SOUTHERN AFRICA 28 (2006); *see* ACCESS TO KNOWLEDGE IN AFRICA: THE ROLE OF COPYRIGHT 1–17 (Chris Armstrong et al. eds., 2010); *cf.* SUSAN I. ŠTRBA, INTERNATIONAL

can be attributed to this lack of analysis, but four are particularly dangerous. First, in Nigeria, there is a legalistic normative approach to copyright law and policy which focuses on copyright enforcement, and how everyday practices fall short of norms in copyright law.[13] Second, the prevailing understanding of copyright law in Nigerian scholarship and policy is mainly economic, and this is not surprising given the creative industries' interests informing copyright policy and scholarship. Third, there is no reported judicial decision that discusses or interrogates the interface between copyright and human rights or development. Most copyright judicial decisions are concerned with either copyright infringement of musical works or book piracy.[14] Fourth, A2E, if and when it is discussed, is often analyzed within the context of state funding, i.e. the problem of poor A2E is a matter for the government which can only be addressed by increasing the budgetary allocation of education. While increased government funding will ensure

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COPYRIGHT AND ACCESS TO EDUCATION IN DEVELOPING COUNTRIES: EXPLORING MULTILATERAL LEGAL AND QUASI-LEGAL SOLUTIONS (2012) (focusing broadly on copyright and access to education, but not analyzing any specific DC).

[13] Jeremy de Beer & Chidi Oguamanam, *Open Minds: Lessons from Nigeria on Intellectual Property, Innovation, and Development*, *in* OPEN DEVELOPMENT: NETWORKED INNOVATIONS IN INTERNATIONAL DEVELOPMENT 249, 259 (Mathew L. Smith & Katherine M.A. Reilly eds., 2013) (noting that "the tone and approach to IP that the [Nigerian Copyright Commission] champions in Nigeria issues from an unquestioned belief that a strict IP regime… is the panacea to economic and social development challenges in the polity"); Wahab Akanmu Aboyade et al., *Copyright Infringement and Photocopy Services Among University Students and Teachers in Nigeria*, 8(1) INT'L J. ARTS & SCIS. 463, 471 (2015) (focusing largely on the inadequacy of copyright enforcement in Nigerian higher institutions without paying attention to concerns of access to education).

[14] *Copyright Cases in Nigeria*, NIGERIAN LAW INTELLECTUAL PROPERTY WATCH, https://nlipw.com/copyright-cases-nigeria/ [https://perma.cc/4JLF-93ZU].

improved A2E for many Nigerian youths, the COVID-19 pandemic and falling oil prices have shown the limits of relying solely on state funding to address concerns of A2E.[15] Even before the COVID-19 pandemic, the budgetary allocation to education as a percentage of the national budget has continued to fall in succeeding years.[16] Accordingly, even though state funding is an indispensable package, there is a need to look beyond this funding to solve the crisis of poor A2E in DCs.

This article, therefore, provides pathways to solving the crises of poor access to learning materials (ALM) and A2E generally by integrating copyright law with the constitutional right to education, an established economic, social, and cultural (ESC) right in various national constitutions. This is a novel approach. Existing approaches have focused on limitations and exceptions (L&Es) in copyright law informed by A2K theory, and international human rights.[17] These are interesting and valuable

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[15] Mariano Cortes et.al., *Nigeria in Times of Covid-19: Laying Foundations for a Strong Recovery*, NIGERIA DEV. UPDATE, June 2020, at 2 (estimating that Nigeria's economy would likely contract by 3.2% due to falling oil prices); Amos Hochstein, *The World Isn't Ready for Peak Oil*, THE ATLANTIC (June 28, 2020) (noting that Nigeria's oil exports account for more than half of government revenue and that "the price decline means that Nigerian oil is currently being traded at prices lower than it can be produced"), https://www.theatlantic.com/ideas/archive/2020/06/were-not-ready-transition-away-oil/613621/ [https://perma.cc/X758-EUKD].

[16] *See* BUDGIT, PUBLIC EDUCATION FINANCING: ISSUES AND RECOMMENDATIONS 7 (2018).

[17] *See* Ruth L. Okediji, *Intellectual Property in the Image of Human Rights: A Critical Review*, *in* FRAMING INTELLECTUAL PROPERTY LAW IN THE 21ST CENTURY 234, (Rochelle C. Dreyfuss & E. Siew-Kuan Ng eds., 2018) (showing there are challenges with framing copyright in the language of human rights); Amy Kapcyznski, *Access to Knowledge: A Conceptual Genealogy*, *in* ACCESS TO KNOWLEDGE IN THE AGE OF INTELLECTUAL PROPERTY (Gaëlle Krikorian and Amy Kapcyznski eds., 2010) (attempting to place A2K on a theoretical footing); Jack M.

perspectives, but the constitutional approach can provide strong reinforcements given that the constitution is the supreme law of the land.

Section 2, therefore, inquires whether there is an enforceable right to education under the Nigerian Constitution. Furthermore, this section notes that the topic of ALM is part of a complex mix of institutional, economic, and legal issues. These issues and their resulting effect, poor ALM, are not peculiar to Nigeria. The patterns are similar and observable in many DCs, particularly in India and Brazil as discussed below. Aided by technology and black markets, students in these DCs have responded to the crisis of ALM by adopting expedient measures—photocopying, downloading, purchasing pirated copies, and shadow libraries—that trespass the boundaries of copyright law. Publishers on the other side have responded to these measures by aggressively seeking increased enforcement and punitive damages for copyright infringement. There are many ways to unpack this narrative, but the sad reality is that given reduced government spending budget for education and the weak purchasing power of students in Nigeria and other DCs, copyright law and policy has failed to prioritize A2E for students in these countries. Section 3 analyzes the interface between copyright law and A2E and points to pathways by which copyright can enhance A2E. Section 4 concludes.

Balkin, *What is Access to Knowledge*, BALKINIZATION (Apr. 21, 2006, 7:05 PM), https://balkin.blogspot.com/2006/04/what-is-access-to-knowledge.html [https://perma.cc/JEE3-SSG9]. *But see* Ruth L. Okediji, *IP Essentialism and Authority of the Firm*, 117 YALE L.J. POCKET PART 274 (2008) (discussing the limits of A2K theory in factoring concerns of development); Amy Kapcyznski, *Linking Ideas to Outcomes: A Response*, 117 YALE L.J. POCKET PART 289, 291 (2008) (accepting that "A2K is oriented more towards the terms of IP law than to discourses of development").

II. ACCESS TO EDUCATION IN NIGERIA AND BEYOND: ISSUES AND PROMISES TO KEEP.

A. Nigeria at a Glance: History and Socio-Economic Realities.[18]

The issue of A2E in Nigeria, as with any other country, needs to be examined in its proper socio-economic and historic contexts.

Nigeria is a country located in West Africa with the Gulf of Guinea in between its borders with Benin in the west and Cameroon in the east while also having borders with Niger and Chad in the north and east respectively. A federal republic, it gained independence on October 1, 1960 after almost a century under British colonial rule.[19] English is the official language with Igbo, Hausa, and Yoruba being the three main ethnic languages, although there are more than 350 indigenous languages.[20] With a population of more than 190 million, it is easily the most populous country in Africa and seventh globally.[21] Demographically, 43% of the population are under the age of fifteen; almost 20% of the population fall within the age bracket of 15-24 years, and 31% fall within the age bracket of 25-54 years.[22] While the age structure and population growth of Nigeria might prove

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[18] *See generally* JOHN CAMPBELL & MATTHEW T. PAGE, NIGERIA: WHAT EVERYONE NEEDS TO KNOW (2018); RICHARD BOURNE, NIGERIA: A NEW HISTORY OF A TURBULENT CENTURY (2015); ARTHUR AGWUNCHA NWANKWO, THE POWER DYNAMICS OF THE NIGERIAN SOCIETY: PEOPLE, POLITICS AND POWER (1988).

[19] *Nigeria Profile—Timeline*, BBC NEWS AFRICA (Feb. 18, 2019), http://www.bbc.co.uk/news/world-africa-13951696 [https://perma.cc/9HMC-4AY7].

[20] *See* CAMPBELL & PAGE, *supra* note 18, at 9.

[21] *Id.* at 5, 66.

[22] *The World Factbook: Africa – Nigeria – People and Society*, CENTRAL INTELLIGENCE AGENCY, https://www.cia.gov/Library/publications/the-world-factbook/geos/ni.html [https://perma.cc/4SNC-VSRR].

challenging when realizing the economic benefits of the demographic dividend, they clearly show the need for facilitating A2E.[23]

Economically, Nigeria is Africa's largest oil-producer and is the sixth largest globally.[24] Although it's economy is petroleum-based, there have been efforts in recent years to diversify.[25] When judged by the economic indicator of Gross Domestic Product (GDP), either in nominal terms or Purchasing Power Parity (PPP), Nigeria is Africa's largest economy.[26] The GDP (PPP) and GDP (nominal) for 2017 are 1.1 trillion USD and 376 billion USD respectively.[27] In comparison to the world, this places Nigeria 24th for GDP (PPP) and 187th for real GDP growth rate.[28] Given Nigeria's population, GDP (PPP) per capita is

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[23] Johns Hopkins, *Country Highlights: Nigeria*, DEMOGRAPHIC DIVIDEND: INVESTING IN HUMAN CAPITAL, http://www.demographicdividend.org/countryhighlights/nigeria/ [https://perma.cc/U47P-YNE7].

[24] CAMPBELL & PAGE, *supra* note 18, at 172.

[25] H.E. Yemi Osinbajo, *Reviving Nigeria's Economy Through Economic Diversification*, BROOKINGS (Jan. 25, 2019), https://www.brookings.edu/blog/africa-in-focus/2019/01/25/reviving-nigerias-economy-through-economic-diversification/ [https://perma.cc/B62S-Q9WL].

[26] Kate Whiting, *5 Facts to Know About Africa's Powerhouse - Nigeria*, WORLD ECONOMIC FORUM (Aug. 9, 2019), https://www.weforum.org/agenda/2019/08/nigeria-africa-economy/#:~:text=Last%20year%2C%20Nigeria's%20economy%20was,2%20million%20barrels%20each%20day [https://perma.cc/WN74-U6T6].

[27] *World Economic Outlook Database April 2018*, INT'L MONETARY FUND, http://www.imf.org/external/pubs/ft/weo/2018/01/weodata/index.aspx [https://perma.cc/6CL2-VL46].

[28] *The World Factbook: Country Comparison - GDP (Purchasing Power Parity)*, CENTRAL INTELLIGENCE AGENCY, https://www.cia.gov/Library/publications/the-world-factbook/rankorder/2001rank.html#ni [https://perma.cc/E2UD-3Q2S]; *The World Factbook: Country Comparison - GDP-REAL GROWTH RATE*, CENTRAL INTELLIGENCE AGENCY, https://www.cia.gov/Library/publications/the-world-factbook/fields/210.html#NI [https://perma.cc/3WB5-8M2W].

5900 USD placing 164th globally.[29] Although 5900 USD is not a huge amount, it will certainly provide for basic needs, given the cost of living in Nigeria. But of course, it would be a mistake to translate the GDP data literally without any context of a population's lived experiences since GDP does not tell us anything about the distribution of wealth.

This is exactly the case of Nigeria where the GDP data does not translate into economic prosperity for a majority of the population. The poverty rate is alarming and depressing. According to a World Bank report, the number of people living in extreme poverty in Nigeria, defined as those people living on less than 1.90 USD a day, has only increased.[30] In 1990, this population was 51 million, yet by 2013 it increased to 86 million.[31] According to World Poverty Clock (WPC), which provides real-time poverty estimates, 102.4 million people in Nigeria currently live in extreme poverty, i.e., 50% of the total population.[32] Indeed, the WPC confirms that poverty is rising in Nigeria which means that *vis-a-vis* the UN SDG Goal 1 (ending extreme poverty, in all forms everywhere, by 2030), Nigeria is regressing rather than making *any* progress.[33] Effectively,

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[29] *The World Factbook: Country Comparison - GDP Per Capita (PPP)*, CENTRAL INTELLIGENCE AGENCY, https://www.cia.gov/Library/publications/the-world-factbook/rankorder/2004rank.html#ni [https://perma.cc/39RD-XYUN].

[30] WORLD BANK, ATLAS OF SUSTAINABLE DEVELOPMENT GOALS 2017: FROM WORLD DEVELOPMENT INDICATORS 16–17 (Elizabeth Purdie et al. eds., 2017).

[31] *Id.* at 2–3.

[32] *World Poverty Clock*, WORLD DATA LAB, https://worldpoverty.io/map [https://perma.cc/MC8G-KPSR] (originally accessed May 24, 2020, 4:07 PM).

[33] G.A. Res. A/70/1, Transforming Our World: The 2030 Agenda for Sustainable Development, ¶ 24 (Sept. 25, 2015). For the relationship between the SDGs and human development, see Pedro Conceição, *Human Development and the SDGs*, UNDP: HUMAN DEVELOPMENT REPORTS (June 24, 2019),

Nigeria is the world poverty capital.[34] Though heart-breaking, this is not surprising given the country's abysmal record on corruption, insecurity, and mismanagement. The effects of these are palpably clear: failed healthcare and poor access to quality education.[35] This creates a feedback loop in the system in which more poverty is created, which in turn exacerbates the failures in health care and lack of A2E.

B. The State of A2E in Nigeria

1. Why A2E: A Special Case for Developing Countries

What is the value of education?[36] The question is not whether education has value, but rather the question is an

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http://hdr.undp.org/en/content/human-development-and-sdgs [https://perma.cc/B8LS-7489].

[34] Yomi Kazeem, *Nigeria has Become the Poverty Capital of the World*, QUARTZ AFRICA (June 25, 2018), https://qz.com/africa/1313380/nigerias-has-the-highest-rate-of-extreme-poverty-globally/ [https://perma.cc/6PWE-ZDKR]; Homi Kharas et al., *Future Development: The Start of a New Poverty Narrative*, BROOKINGS (June 19, 2018), https://www.brookings.edu/blog/future-development/2018/06/19/the-start-of-a-new-poverty-narrative/ [https://perma.cc/WQ7J-G9Z6].

[35] *Why Nigeria's Educational System Is in Crisis—and How to Fix It*, BBC MINUTE, https://www.bbc.co.uk/programmes/articles/3RbFXDdBw3g0HQG0fpyD0xF/why-nigerias-educational-system-is-in-crisis-and-how-to-fix-it [https://perma.cc/6BXU-4Y68]; Oluwatosin Adeshokan, *Surgery by Candlelight: Hospitals in Nigeria Suffer Losing Power-And Staff*, THE GUARDIAN (Jan. 7, 2020), https://www.theguardian.com/global-development/2020/jan/07/surgery-by-torchlight-hospitals-in-nigeria-suffer-losing-power-and-staff [https://perma.cc/ED3L-EBJM] (narrating the huge challenges facing the health care system in Nigeria).

[36] Although the term education in this paper is generally employed in its formal and narrow sense i.e. the act of learning in schools carried out by certified teachers following a standardized curricula and assessment tests/exams, the completion of which determines the eligibility of the learner to progress to a higher level or graduate, the discussions in this

invitation to enumerate its values. Few people, if any, would doubt the value of education, but given the appalling education statistics in many DCs, a reminder of the benefits of education is appropriate. Therefore, the purpose of this question is to serve as a reminder—rather than to convince—of the benefits of education.

a. Global Efforts on A2E

The commitment to provide universal basic education is of supreme importance on the international stage. These commitments and aspirations find their unequivocal expressions in various human rights treaties, declarations, programs of action, and conferences. In 1990, the global education movement was launched in Jomtien with the adoption of the World Declaration on Education for All (EFA).[37] The Jomtien conference was a significant moment for global education because it encouraged greater international cooperation by fostering the cooperative efforts of different sectors of society—governments, IGOs, civil society, education professionals, private sector—thereby emphasizing the goal of education as a shared responsibility.[38] Furthermore, education was understood to

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and subsequent sections are equally applicable to informal education unless otherwise stated.

[37] UNESCO, WORLD DECLARATION ON EDUCATION FOR ALL AND FRAMEWORK FOR ACTION TO MEET BASIC LEARNING NEEDS (1990) [hereinafter UNESCO 1990].

[38] GEM Report, *The Jomtien Conference in 1990 was A Game Changer*, World Education Blog (Aug. 22, 2014), https://gemreportunesco.wordpress.com/2014/08/22/the-jomtien-conference-in-1990-was-a-game-changer-for-education/ [https://perma.cc/6PGB-BA9P]; *cf.* Lene Buchert, *The Concept of Education for All: What Has Happened After Jomtien?* 41(6) INT'L. REV. OF EDUC. 537, 537 (1995) (stating that the Jomtien conference "was attended by some 1,500 participants representing national and multinational donor organisations, national governments, inter-

be more than just access to primary education but also addressed the learning needs of youth and adults.[39] These commitments were reiterated in 2000 with the adoption of the Dakar Framework for Action in the World Education Forum (WEF), Dakar, laying out six EFA goals.[40] In the same year, the UN adopted the eight Millennium Development Goals (MDGs) with the second goal being to achieve universal primary education by 2015.[41] This battle for global education is still ongoing. In 2015, the WEF adopted the Incheon Declaration for Education in Incheon, South Korea.[42] The declaration continued the EFA movement and focused on "inclusive and equitable quality education and lifelong learning for all. "[43] In the same year, the UN adopted the 17 SDGs, with Goal 4 focusing specifically on quality education.[44]

On the legal front, several international declarations and covenants have established the right to education as a fundamental human right: the UDHR,[45] the ICESCR,[46] the

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governmental and non-governmental organisations, the educational research community as well as specialists in other sectors").

[39] *Id.*; UNESCO 1990, *supra* note 37, at 6.

[40] UNESCO, THE DAKAR FRAMEWORK FOR ACTION: EDUCATION FOR ALL: MEETING OUR COLLECTIVE COMMITMENTS 8 (2000).

[41] G.A. Res. 55/2, United Nations Millennium Declaration, ¶ 19 (Sept. 18, 2000).

[42] UNESCO, INCHEON DECLARATION AND FRAMEWORK FOR ACTION FOR THE IMPLEMENTATION OF SUSTAINABLE DEVELOPMENT GOAL 4, at 20 (2015).

[43] *Id.* preamble ¶ 5.

[44] G.A. Res. 70/1, Transforming Our World: The 2030 Agenda for Sustainable Development, at 17 (Sept. 25, 2015).

[45] G.A. Res. 217 (III) A, Universal Declaration of Human Rights, art. 26, U.N. Doc. A/810 (Dec. 10, 1948).

[46] International Covenant on Economic, Social and Cultural Rights, art. 13, Dec. 16, 1966, 993 U.N.T.S. 3.

CRC,[47] the CEDAW,[48] and the CRPD.[49] At the regional level, the ACHPR is prominent.[50] Article 13(1) of ICESCR, the longest provision of the covenant and on education in any international human rights instrument, recognizes the right of everyone to education.[51]

Clearly, education is of great importance in the global agenda. Not only is education firmly rooted within the international human rights regime but also the interaction between this regime and development-based approaches in combating the lack of A2E highlights its importance. Furthermore, in adopting a rights-based approach, the right to education is supplied with concrete normative content and is properly elevated to the realm of human dignity.

b. The Value of Education

The world faces pressing challenges that are clearly an issue of life and death: hunger, poverty, insecurity, and disease are among the most prominent. Lack of education, one might opine, is not life-threatening, therefore in a world of scare resources, the commitment to addressing issues surrounding A2E may give way these "life-threatening" concerns. This stance is false. In many instances these life-threatening concerns are the effect of a lack of education. As Dr. David E. Bloom notes:

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[47] G.A. Res. 44/25, Convention on the Rights of the Child, art. 28 (Nov. 20, 1989).

[48] G.A. Res. 34/180, Convention on the Elimination of All Forms of Discrimination against Women, art. 10 (Dec. 18, 1979).

[49] G.A. Res. 61/106, Convention on Rights of Persons with Disabilities, art. 24 (Dec. 13, 2006).

[50] African Charter on Human and Peoples' Rights, art. 17, June 27, 1981, 1520 U.N.T.S. 217.

[51] International Covenant on Economic, Social and Cultural Rights, art. 13(1), Dec. 16, 1966, 993 U.N.T.S. 3.

> [P]eople may not grasp the crises of poor education in developing nations because they may never turn on CNN and see someone dying from a lack of education. But make no mistake about it: when you look at the effect of education on family structure, health, infant mortality, and maternal mortality, there is no question that every day thousands of children die from a lack of education.[52]

Lack of education is a life-threatening issue. This fact is not appreciated because most times education is primarily seen as an economic investment to improve the earnings of an individual. The calculus is mostly couched in a cost-benefit analysis (CBA),[53] i.e., weighing the costs of attending education (direct costs plus opportunity costs) minus the benefits measured in the form of improved income earnings over a lifetime. Of course, this is not to say that the economic value of education is not important. Clearly, it is of great importance. The point is that we undervalue the benefits of education if the focus is only on its economic value. And this is so, especially for DCs like Nigeria where the unemployment rate is exceedingly high.[54] In such cases a rational utility-maximizer might consider investment in a child's education to yield poor returns, given the gloomy prospects of employment.

However, the value of education extends beyond merely economic considerations. Education is a public good

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[52] David E. Bloom, *Education in the Developing World*, 60(4) BULL. AM. ACAD. ARTS & SCIS. 13, 19 (2007).

[53] Thomas E. Snider, *Education: An Economic Analysis*, 22(1) IMPROVING COLL. & U. TEACHING 69, 69 (1974); *cf.* Suhas L. Ketkar, *The Economics of Education in Sierra Leone*, 15(2) J. MOD. AFR. STUD. 301, 301 (1977) (providing a cost-benefit analysis of Sierra Leone's educational system).

[54] Yomi Kazeem, *Nigeria's Unemployment Rate Has More Than Tripled in the Last Five Years—and It Will Only Get Worse*, QUARTZ AFRICA (Apr. 14, 2020), https://qz.com/africa/1892237/nigerias-unemployment-rate-tripled-in-five-years/ [https://perma.cc/H3GP-DQ9S].

and it creates positive externalities, i.e., benefits external to the educated individual. Accordingly, the benefits of education will be examined in two dimensions. First is whether the benefits are private or social.[55] A benefit is private if it is captured by the individual or their family. On the other hand, the social benefits of education are not captured by the individual. There is a risk that there might be an under-investment in education as the social benefits are not captured by the individual although they are equally as important as the private benefits and contribute immensely to the welfare of society. Second is whether the benefits are either monetary or non-monetary.[56]

The most recognized and associated benefit of education is economic.[57] This private economic benefit is well established in the literature.[58] In many societies, the welfare gap between the educated and non-educated is substantially due to their income earnings and this in turn is

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[55] Luis E. Vila, *The Non-Monetary Benefits of Education*, 35(1) EUR. J. EDUC. 21, 22 (2000). *See generally* Barbara L. Wolfe & Robert H. Haveman, *Social and Non-Market Benefits of Education in an Advanced Economy*, 47 CONF. SER. FED. RSRV. BANK BOSTON 97, 98 (2002) (cataloguing the private and social benefits of education while emphasising that a full evaluation of the effects of education on welfare requires moving beyond its market-based effects); Edgar H. Bedenbaugh, *Education Is Still a Good Investment*, 59(3) CLEARING HOUSE 134, 135–6 (1985) (dividing the benefits of education broadly into private and social).

[56] I use monetary interchangeably with economic and *vice-versa* although the latter term is broader.

[57] Jere R. Behrman et.al, *Introduction*, *in* THE SOCIAL BENEFITS OF EDUCATION 1, 1 (Jere R. Behrman & Nevzer Stacey eds., 1997) (stating that "[f]or decades, the primary argument in justifying education has been based on its direct economic effects").

[58] John Conlisk, *A Bit of Evidence on the Income-Education-Ability Interrelation*, 6(3) J. HUM. RES. 358, 360–61 (1971); Orley Ashenfelter & Alan Krueger, *Estimates of the Economic Return to Schooling from a New Sample of Twins*, 84(5) AM. ECON. REV. 1157, 1157 (1994) (finding that "an additional year of schooling increases wage by 12–16 percent").

significantly affected by education.[59] There is abundant evidence that educational investment has a positive effect on market earnings.[60] It is partly based on this that education is considered an effective tool to lift people out of poverty. And this redeeming effect of education is even more salient in knowledge societies where labor is skills-based.

Given the private economic value of education, it is not difficult to imagine the effect of education investment (or lack thereof) on the social level. If education has a positive effect on market earnings, which is soundly established,[61] then the cumulative effect on the social level would be higher GDP per capita and therefore increased economic growth. Conversely, the forgone income growth owing to underinvestment in education would have a negative impact on economic growth.[62] This also explains the gap in economic growth between societies that encourage and invest in girl-child education and those that do not.[63] It is plain and simple: the opportunity cost of underinvestment in girl-child education is the foregone value in the form of earnings that would have been realized had the girl-child been schooled instead of attending to house chores. In fact, there is a positive correlation between girl-child education and GDP per capita if one examines the HDR statistics as represented in table 1.

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[59] Ashenfelter & Krueger, *supra* note 58.

[60] Luis E. Villa, *The Outcomes of Investment in Education and People's Well-Being*, 40(1) EUR. J. OF EDUC. 3, 3 (2005); Ashenfelter & Krueger, *supra* note 58.

[61] Villa, *supra* note 60.

[62] Nancy Birdsall et al., *Underinvestment in Education: How Much Growth Has Pakistan Foregone?*, 32(4) PAK. DEV. REV. 453, 453 (1993).

[63] Kaushik Basu, *Why is Bangladesh Booming?*, PROJECT SYNDICATE (Apr. 23, 2018), https://www.project-syndicate.org/commentary/bangladesh-sources-of-economic-growth-by-kaushik-basu-2018-04?barrier=accesspaylog [https://perma.cc/7PTK-8GVE].

Table 1: Positive correlation between female mean years of schooling and GNI.[64]

Country	Mean years of schooling (Female)	Mean years of schooling (Male)	Gross National Income (GNI) per Capita
Afghanistan	1.9	6.0	1,746.00
Bangladesh	5.3	6.8	4,057.00
Iraq	6.0	8.6	15,365.00
Nigeria	5.3	7.6	5,086.00
Pakistan	3.8	6.5	5,190.00
Sri Lanka	10.5	11.6	11,611.00

But certainly, the benefits of education extend beyond the purely economic. And although it is difficult to quantify the non-economic benefits of education due to measurement problems, there are strong reasons to believe that they outweigh the economic benefits. These non-economic benefits are diverse and, as we shall see, contribute substantially to the value of the economic benefits.

On a private level, one of the key primary benefits of education is its role in guaranteeing effective freedom.[65] As

[64] The tabulated information is compiled based on a study of available data from HDR statistics for the year 2018. *Human Development Data (1990-2018)*, UNDP: HUMAN DEVELOPMENT REPORTS, http://hdr.undp.org/en/data [https://perma.cc/LWW9-F3KA].

[65] Kiran Bhatty, *Educational Deprivation in India: A Survey of Field Investigations*, 33(28) ECON. & POL. WKLY. 1858, 1859 (1998) (explaining that "[t]he most fundamental benefit of education, not cited often enough, is its intrinsic value to the well-being or 'effective freedom' of a person"). On the difference between 'effective freedom'

Nietzsche thoughtfully considers, "[n]o one can build you the bridge on which you, and only you, must cross the river of life."[66] In order to accomplish this, one must have the capacity to make informed daily decisions and map out a life-plan. However, illiteracy is certainly an impediment in attaining this capacity. When one is illiterate, daily market and social transactions become practically impossible. At a basic level, simple but potentially life-changing tasks such as reading drug dosage instructions, safety manuals, nutrition information or hygiene instructions become difficult. The task of education is to prevent this sort of unfreedom and empower the individual to make informed choices.[67] Of equal importance is the intrinsic benefit of education. This intrinsic value of education is clearly captured in the General Comment on Article 13 by the Committee on Economic, Social and Cultural Rights (CESCR) when it notes that "the importance of education is not just practical: a well-educated, enlightened and active mind, able to wander freely and widely, is one of the joys and rewards of human existence."[68]

Apart from the enabling of substantive freedom, education is correlated with many positive outcomes. As Anderson and Portner state, "[p]eople who drop out of high

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and 'formal freedom' see ADAM SWIFT, POLITICAL PHILOSOPHY: A BEGINNERS' GUIDE FOR STUDENTS AND POLITICIANS 61 (2014) (stating that "[t]he difference between effective and formal freedom is the difference between having the power or capacity to act in a certain way and the mere absence of interference"). *See also* AMARTYA SEN, DEVELOPMENT AS FREEDOM 17 (1999).

[66] FRIEDRICH W. NIETZSCHE, SCHOPENHAUER AS EDUCATOR 4 (E. Vivas ed., James W. Hillesheim & Malsolm R. Simpson trans., 1965).

[67] Kenneth J. Arrow, *The Benefits of Education and the Formation of Preferences*, *in* THE SOCIAL BENEFITS OF EDUCATION 11, 12 (Jere R. Behrman & Nevzer Stacey eds., 1997) (discussing the social benefit of education in preference formation).

[68] U.N. Comm. on Econ., Soc. and Cultural Rts., General Comment No. 13: The Right to Education, art. 13 ¶ 1, U.N. Doc. E/C.12/1999/10 (Dec. 8, 1999) [hereinafter UN CESCR].

school do substantially worse compared to those who graduate. Dropouts earn less, report lower levels of happiness, commit more crimes, and suffer from poorer health."[69] The authors also "find evidence supporting a positive relationship between dropping out of high school and the risk of contracting an STI for females."[70] In a different study concerning the effects of literacy on health in Canada, Rootman and Ronson confirm that literacy has a direct effect on health.[71] Other authors have even found a causal relationship between education and health.[72] In their study that concerned the effects of a compulsory schooling law introduced in the Netherlands, Kippersluis et al. conclude that "education significantly reduces mortality in old age."[73] It could therefore be said that education is positively correlated with life expectancy. Furthermore, education is correlated with crime reduction in society.[74] There is also evidence of a strong correlation between education and civic participation such as voting and

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[69] D. Mark Anderson & Claus C. Pörtner, *High School Dropouts and Sexually Transmitted Infections*, 81(1) S. ECON. J. 113, 113 (2014) (internal citations omitted).

[70] *Id.*

[71] Irving Rootman & Barbara Ronson, *Literacy and Health Research in Canada: Where Have We Been and Where Should We Go?*, 96(2) CAN. J. PUB. HEALTH S62, S68 (2005). Although education is not the sole determinant of literacy, it is certainly the most important.

[72] Hans van Kippersluis et al., *Long-Runs Return to Education: Does Schooling Lead to an Extended Age?*, 46(4) J. HUM. RES. 695, 713 (2011).

[73] *Id.*; *see also* Simon Wigley & Arzu Akkoyunlu-Wigley, *Human Capabilities Versus Human Capital: Gauging the Value of Education in Developing Countries*, 78(2) SOC. INDICATORS RSCH. 287, 290 (2006). (evaluating education in terms of human capabilities, such as life expectancy).

[74] Lance Lochner & Enrico Moretti, *The Effect of Education on Crime: Evidence from Prison Inmates, Arrests and Self-Reports*, 94(1) AM. ECON. REV. 155, 183 (2004).

volunteerism.[75] This is not surprising since education enables effective freedom and the formation of preferences.[76] Education is also one of the most proven effective tools for ensuring gender equality, and nowhere is this more important than in DCs where boy-child education is prioritized over girl-child education.[77] Finally, education is essential to the smooth functioning of a democratic polity.[78]

2. Is there A Fundamental Right to Education Under Nigerian Law?

Whether there is a fundamental right to education under Nigerian law is disputed, although it would seem to have been conclusively settled. Perhaps one of the reasons for this disputation lies in the status of the right to education as an (ESC) right in the human rights regime. Many African states guarantee lesser protection to ESC rights than civil and political (CP) rights.[79]

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[75] Horacio Larreguy & John Marshall, *The Effect of Education on Civil and Political Engagement in Nonconsolidated Democracies: Evidence from Nigeria*, 99(3) REV. ECON. & STAT. 387, 387 (2017); Thomas S. Dee, *Are There Civic Returns to Education*, 88 J. PUB. ECON. 1697, 1717 (2004).

[76] Arrow, *supra* note 67.

[77] Homi Kharas & Rebeca Winthrop, *Education for Fragile States*, PROJECT SYNDICATE (Sept. 18, 2018), https://www.project-syndicate.org/commentary/strengthening-fragile-states-by-improving-education-by-homi-kharas-and-rebecca-winthrop-2018-09?barrier=accesspaylog [https://perma.cc/UA5E-5FX9].

[78] Milton Friedman, *The Role of Government in Education*, *in* ECONOMICS AND THE PUBLIC INTEREST 123, 124 (Robert A. Solo ed., 1955).

[79] Manisuli Ssenyonjo, *The influence of the International Covenant on Economic, Social and Cultural Rights in Africa*, 64(1) NETH. INT'L L. REV. 259, 270–1, 286–7 (2017) (noting the limited constitutional protection of ESC rights in Africa). For the different constitutional approaches to the protection of ESC rights in Africa, see THE PROTECTION OF ECONOMIC, SOCIAL AND CULTURAL RIGHTS IN AFRICA:

a. Justiciability of ESC Rights and the Right to Education Under the Nigerian Constitution.

Chapter IV of the Constitution of the Federal Republic of Nigeria 1999, which guarantees fundamental rights, does not include the right to education.[80] The rights guaranteed are mainly CP rights which are contained in §§33–43 of the constitution.

Some have asserted that the right to education, even though not mentioned under chapter IV of the Constitution, "found indirect rendition under section 39 of the same Constitution" which guarantees the freedom of expression and the press.[81] Put differently, the right to education follows from the understanding that "[e]ducation is the key to the realization of the right to freedom of expression and the press."[82]

Although a clever argument, it may not be persuasive or convincing enough as a free-standing argument to ground the existence of the right to education under Nigerian law.[83]

INTERNATIONAL, REGIONAL, AND NATIONAL PERSPECTIVES (Danwood M. Chirwa & Lilian Chenwi eds., 2016).

[80] References to the "constitution" are to the Constitution of the Federal Republic of Nigeria 1999 (Fourth Republic). *See* CONSTITUTION OF NIGERIA (1999). Prior to this, Nigeria had several constitutions: constitution 1960 (Independence); constitution 1963 (First Republic); constitution 1979 (Second Republic); and constitution 1993 (Third Republic). *See generally* CONSTITUTION OF NIGERIA (1993); CONSTITUTION OF NIGERIA (1979); CONSTITUTION OF NIGERIA (1963); CONSTITUTION OF NIGERIA (1960).

[81] Eteete M. Adam, *Advancing the Anti-Poverty Crusade Through the Enforcement of the Fundamental Right to Education Under Nigerian Law*, *in* EDUCATION, CREATIVITY, AND ECONOMIC EMPOWERMENT IN AFRICA 15, 20 (Toyin Falola & Jamaine Abidogun eds., 2014).

[82] *Id.*

[83] A distinction has to be made between inferring the existence of an ESC right, not expressly recognized, on the basis of the express guarantee of

First, the right to free speech is well established as a civil right under the international human rights regime;[84] and it is different, though not disconnected, from the right to education, an ESC right.[85] The protection of free speech in constitutional provisions does not diminish the importance of explicitly recognizing the right to education or making such a recognition a superfluous exercise. Second, although it is true that education enables the realisation of the right to freedom of expression it certainly does not follow that by implication there exists the right to education. But it is not only the right to free speech that education enables or makes more meaningful. As the UN CESCR notes in its General Comment, "[e]ducation is both a human right in itself and *an indispensable means of realizing other human rights*."[86] Nor is the right to education the only ESC right that enables the meaningful enjoyment of other rights. The indispensability of ESC rights— right to education in this instance—to the enjoyment and meaningful realization of CP rights is

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CP right; and enabling the enjoyment or realization of a CP right via the protection of an ESC right that is expressly guaranteed. I am here concerned with the former. There is authority for the latter in international, national and regional human rights law. *See generally* Martin Scheinin, *Indirect Protection of Economic, Social, and Cultural Rights in International Law, in* THE PROTECTION OF ECONOMIC, SOCIAL AND CULTURAL RIGHTS IN AFRICA: INTERNATIONAL, REGIONAL, AND NATIONAL PERSPECTIVES 72 (Danwood M. Chirwa & Lilian Chenwi eds., 2016). At the national level, see Enyinna S. Nwauche, *Indirect Constitutional Protection of Economic, Social and Cultural Rights in Nigeria*, *in* THE PROTECTION OF ECONOMIC, SOCIAL AND CULTURAL RIGHTS IN AFRICA: INTERNATIONAL, REGIONAL, AND NATIONAL PERSPECTIVES 501 (Danwood M. Chirwa & Lillian Chenwi eds., 2016).

[84] *See* G.A. Res. 217 (III) A, Universal Declaration of Human Rights, art. 19, U.N. Doc. A/810 (Dec. 10, 1948); G.A. Res. 2200A (XXI), International Covenant on Civil and Political Rights, art.19 (Dec. 16 ,1966).

[85] It is worth emphasizing that the difference reiterated between ESC and CP rights is not a judgment regarding the justiciability of the former. Nor is it a statement to diminish the interconnectedness of ESC and CP rights.

[86] UN CESCR, *supra* note 68 (emphasis added).

unchallenged.[87] This recognition, however, is not and cannot be a basis for asserting the existence of the right to education that has not been explicitly protected as a fundamental right. If it were, we might also insist that the constitutional protection of other rights is a clear indication of the existence of the right to education, even if not explicitly protected, given that education is an enabler of other human rights. For example, on this logic there is nothing that precludes an inference of the existence of the right to education on the basis of the explicit recognition of the right to vote since education enables a citizen to have informed choices on whom or what to vote for. The purpose of the recognition rather is to emphasize the interconnectedness of ESC and CP rights and thereby ensure that ESC rights are treated with equal importance. To be clear, the argument is not that the existence of the fundamental right to free speech under Nigerian law may not be used to support the existence of the right to education. But, as a free-standing argument, it does not gain traction. And neither is there any Nigerian judicial decision on this.[88]

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[87] *See infra* Section C(I)(b).

[88] The only case law I have come across that dealt with the interplay of the fundamental right to freedom of expression and education is Archbishop Anthony Olubunmi Okogie & Ors v. Attorney General of Lagos State [1981] 2 NCLR 337 (Nigeria). In this case, the Court of Appeal had to determine the constitutionality of a circular by the Lagos State Government purporting to abolish all private primary schools, the purpose of which was to facilitate adequate and equal educational opportunities. The Court of Appeal held in favor of the plaintiffs on the basis that preventing them from establishing private primary educational institutions impinged on their constitutionally protected right to freedom of expression as guaranteed under Section 36 of the Constitution of Nigeria 1979. The case, however, does not go beyond establishing that educational institutions are avenues for the exercise of the right to freedom of expression. *See also* Adebowale v. Jakande [1981] 1 NCLR 262 (Nigeria).

The only place education is dealt with in the Constitution is under Chapter II, Section 18, titled "Fundamental Objectives and Directive Principles of State Policy" (FODPSP).[89] Section 18 provides:

> 1. Government shall direct its policy towards ensuring that there are equal and adequate educational opportunities at all levels.
>
> 2. Government shall promote science and technology
>
> 3. Government shall strive to eradicate illiteracy; and to this end Government shall as and when practicable provide
>
> a. free, compulsory and universal primary education;
>
> b. free secondary education;
>
> c. free university education; and
>
> d. free adult literacy programme.[90]

Although Section 13 of Chapter II imposes a duty on all arms of government to "observe and apply the provisions of this Chapter of this Constitution,"[91] Section 6(6)(c) of the Constitution provides:

> The judicial powers vested in accordance with the foregoing provisions shall not except as otherwise provided by this Constitution, extend to any issue or question as to whether any act or omission by any authority or person or as to whether any law or any judicial decision is in conformity with the

[89] CONSTITUTION OF NIGERIA (1999), § 18.
[90] *Id.*
[91] *Id.* § 13.

> Fundamental Objectives and Directive Principles of State Policy set out in Chapter II of this Constitution.[92]

Accordingly, Section 18 is not justiciable and does not confer any legal entitlement.[93] Put differently, the effect of Section 6(6)(c) is that an aggrieved party who complains of a violation of Section 18, or Chapter II in general, will not obtain judgment before a court of law as Section 6(6)(c) removes the jurisdiction of the court to try any issue or matter under Chapter II of the Constitution. Putting Section 6(6)(c) aside, the language of Section 18—including words such as "shall strive" and "when practicable"— can hardly be seen as conferring any justiciable legal entitlement. These words are more declaratory than right-conferring.

Although the non-justiciability of the FODPSP of the Constitution is well established in judicial decisions[94] and academic commentary,[95] the settled law is that there are exceptions in which Chapter II or its provisions may be made justiciable. In *Attorney General of Ondo State v. Attorney*

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[92] *Id.* § 6(6)(c).

[93] Justiciability is the "quality or state of being appropriate or suitable for adjudication by a court." Justiciability, BLACK'S LAW DICTIONARY (11th ed. 2019).

[94] Archbishop Anthony Olubunmi Okogie & Ors v. Att'y Gen. of Lagos State [1981] 2 NCLR 337 (Nigeria); Ahmed v. Sokoto State House of Assembly [2002] 15 NWLR 539 (Nigeria).

[95] *See generally* Femi Falana, *Chapter II and Socio-Economic Rights*, THIS DAY (May 3, 2016, 1:52 AM), https://www.thisdaylive.com/index.php/2016/05/03/chapter-ii-and-socio-economic-rights/ [https://perma.cc/C2UU-SV9B]; Halima D. Kutigi, *Towards Justiciability of Economic, Social and Cultural Rights in Nigeria: A Role for Canadian-Nigerian Cooperation?*, 4 TRANSNAT'L HUM. RTS. REV. 126 (2017); Taiwo Olaiya, *Interrogating the Non Justiciability of Constitutional Directive Principles and Public Failure in Nigeria*, 8(3) J. Pol. L. 23 (2015); Ogugua V.C. Ikpeze, *Non-Justiciability of Chapter II of the Nigerian Constitution as an Impediment to Economic Rights and Development*, 5(18) DEVELOPING COUNTRY STUD. 48, 48 (2015); Nwauche, *supra* note 83.

General of the Federation, the Supreme Court (SC) was called upon by the Ondo State Government to adjudicate on the constitutionality of the Corrupt Practices and Other Related Offences Act, an enactment of the National Assembly (NASS) which sought to establish the Independent Corrupt Practices and Other Related Offences Commission.[96] The Ondo State Government argued that the enactment was unconstitutional because NASS did not have the legal mandate under the Constitution to make such enactment and that such power lay with state legislatures.[97] The NASS argued that Section 15(5) in conjunction with other provisions of the Constitution empowered it to make such enactment.[98] In response, Ondo State Government argued in part that Section 15(5) is non-justiciable. The SC held that the enactment was constitutional and in delivering the leading judgment, Uwaifo JSC stated that:

> As to the non-justiciability of the Fundamental Objectives and Directive Principles of State Policy in Chapter II of our Constitution, section (6)(6)(c) says so. While they remain mere declarations, they cannot be enforced by legal process but would be seen as a failure of duty and responsibility of State organs if they acted in clear disregard of them, the nature of the consequences of which having to depend on the aspect of the infringement and in some cases the political will of those in power to redress the situation. But the Directive Principles (or some of them) can be made justiciable by legislation.[99]

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[96] Att'y Gen. of Ondo State v. Att'y Gen. of the Fed'n [2002] 9 NWLR (Pt. 772) 222 (Nigeria).

[97] *Id.*

[98] Section 15(5), which is part of the FODPSP, provides that "[t]he State shall abolish all corrupt practices and abuse of power." CONSTITUTION OF NIGERIA (1999), § 15(5).

[99] Att'y Gen. of Ondo State v. Att'y Gen. of the Fed'n [2002] 9 NWLR (Pt. 772) 222, ¶ 4.12 (Nigeria). Ogwuegbu, JSC. also concurred with the statement that the FODPSP is made justiciable by an Act of the NASS.

Accordingly, the law as it stands is that although Chapter II is non-justiciable, it may be made justiciable in some cases if the NASS enacts legislation which it is empowered to for the enforcement of the provisions of Chapter II.[100]

Parts of section18(3) of the Constitution have been enacted into law with the passage of the Compulsory, Free, Universal Basic Education Act, 2004 (UBE Act 2004).[101] This law provides for free, compulsory primary and junior secondary education.[102] In *LEDAP GTE & Ltd. v. Federal Ministry of Education & Ors*, the issue was whether section 18(3)(a) of the Constitution granted an enforceable right by virtue of the UBE Act 2004.[103] Justice J.T. Tosho, sitting at the Abuja division of the Federal High Court, held that even though Chapter II of the Constitution is non-justiciable, the legislature having enacted the UBE Act 2004 meant that section 18(3)(a) granted an enforceable constitutional right.[104] Therefore, Nigerians have an enforceable constitutional right to free, compulsory primary and junior secondary education.

b. Other Mechanisms for Enforcing the Right to Education in Nigeria.

Apart from the foregoing, the right to education is guaranteed under several human rights treaties ratified by Nigeria. Of pertinence is Art 17(1) of the ACHPR which

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[100] Some have argued that making Chapter II of the Constitution justiciable in this way is a contradiction. *See* G.N. Okeke & Chika Okeke, *The Justiciability of the Non-Justiciable Constitutional Policy of Governance in Nigeria*, 7(6) IOSR J. HUMANITIES & SOC. SCI. 9, 11–12 (2013).

[101] Compulsory, Free Universal Basic Education Act (2004), (Nigeria).

[102] *Id.* § 2.

[103] LEDAP GTE & Ltd. v. Fed. Ministry of Educ. & Ors [2017] 3 CLRN 116, 119 (Nigeria).

[104] *Id.* at 129.

states that "[e]very individual shall have the right to education."[105] Nigeria, a signatory to the treaty, has domesticated the ACHPR by an Act of the NASS.[106] In *Abacha v. Fawehinmi* it was held by the SC that the domesticating Act of the ACHPR being "a statute with international flavour" is superior to domestic legislation although subordinate to the Constitution.[107] Given that ESC rights are non-justiciable under the Constitution, it is not difficult to imagine a conflict between the ACHPR Act and the Constitution. And since the Constitution is the supreme law of the land, any domestic court called upon to adjudicate on any issues involving the conflict will have to give effect to the Constitution. The case however is different where a party who alleges an infringement of an ESC right calls upon a regional or international human right court to adjudicate on the issue.

In *SERAP v Nigeria and Universal Basic Education Commission* the plaintiff a human rights NGO brought a case to the ECOWAS court of justice alleging *inter alia* a violation of the right to quality education as guaranteed by Art 17(1) of ACHPR.[108] The defendants argued that the ECOWAS court lacked the jurisdiction to hear the case because, amongst others, "the educational objective of the Federal Republic of Nigeria is provided for under Section 18(1), (2) and (3) of Chapter II of the 1999 Constitution and is non-justiciable or enforceable and cannot be determined by the Court."[109] In dismissing the argument and holding

[105] African Charter on Human and Peoples' Rights (Ratification and Enforcement) Act, Chapter A9, Laws of the Federation of Nigeria 2004 [hereinafter ACHPR], art. 17(1).
[106] *See id.* Nigeria applies a dualist approach to international law as international treaties are required to be domesticated before they have the force of law. *See* CONSTITUTION OF NIGERIA (1999), § 12(1).
[107] Abacha v. Fawehinmi [2000] 6 NWLR (Pt. 660) 228, 289 (Nigeria).
[108] SERAP v. Nigeria [2009]; ACHPR, art. 17(1), June 27, 1981, 21 I.L.M. 58.
[109] SERAP v. Nigeria [2009] ECW/CCJ/APP/08/08, ¶ 3.

that the right to education was justiciable before the ECOWAS court, the court stated that "[t]he right to education guaranteed under Article 17 of the African Charter is independent of the right of education captured under the directive principles of state policy of the 1999 Federal Constitution of Nigeria."[110] And since the issue was whether a violation of Article 17(1) of ACHPR occurred, it was irrelevant whether the Constitution made the right to education justiciable.[111]

Also of relevance are the ICESCR and the CRC. As noted, Article 13 of the ICESCR provides for the right to education.[112] Nigeria, although having acceded to the ICESCR, is yet to domesticate it.[113] Given that Nigeria adopts a dualist approach to international law,[114] the effect of the ICESCR at domestic courts would only be persuasive rather than binding.[115] On the other hand, Nigeria has

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[110] *Id.* ¶ 18.
[111] *Id.* ¶ 20.
[112] International Covenant on Economic, Social and Cultural Rights, *supra* note 51.
[113] *Ratification Status for Nigeria*, UN TREATY BODY DATABASE, https://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Treaty.aspx [https://perma.cc/745C-KP38]; Manisuli Ssenyonjo, *The Influence of the International Covenant on Economic, Social and Cultural Rights in Africa*, 64 NETH. INT'L L. REV. 259, 274–75 (2017).
[114] *See* CONSTITUTION OF NIGERIA (1999), § 12(1).
[115] *But see* Preamble 3(b) of the Fundamental Rights (Enforcement Procedure) Rules 2009 (Nigeria) (stating that "the Court shall respect municipal, regional and international bills of rights cited to it or brought to its attention or of which the Court is aware…"), http://www.refworld.org/pdfid/54f97e064.pdf [https://perma.cc/YQL8-JS33]. Some have rightly pointed out that the effect of Preamble 3(b) on Nigerian courts vis-à-vis the application of human rights treaties Nigeria has acceded to, though yet to domesticate, is not to confer binding legal status on them but rather to "encourage Nigerian courts to accord a greater role to international instruments in the enforcement of human rights." *See* Enyinna S. Nwauche, *The Nigerian Fundamental Rights (Enforcement) Procedure Rules 2009: A Fitting Response to Problems*

domesticated the CRC with the Child's Right Act, 2003 (CRA).[116] Section 15 of the CRA guarantees the right of a child to free, compulsory and universal primary education,[117] while s.277 defines a child to be a person under the age of eighteen years.[118] By virtue of section 12(1) of the Constitution, the CRC has the full effect of law in Nigeria, and in conjunction with the Fundamental Rights (Enforcement Procedure) Rules 2009 the courts are bound to apply it.[119] Furthermore, following *AG of Ondo State*, CRA has made section 18(3)(a) an enforceable right.[120]

3. A2E in Nigeria: Beyond the Law

Nigerians having an enforceable right to education says nothing about whether Nigerians actually enjoy A2E. The former is a question of law whereas the latter is a question of fact. Although essential to the guarantee of fundamental freedoms, rights do not mirror reality, nor do they necessarily translate into improved socio-economic conditions. As such, it is necessary to move beyond the discussion of rights to inquire about the real conditions vis-à-vis the state of A2E in Nigeria.

a. Content of the Right to Education

The CESCR has outlined the essential features of the right to education.[121] These features constitute the analytical framework for assessing whether there is a fulfilment of the

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in the Enforcement of Human Rights in Nigeria?, 10(2) AFR. HUM. RTS. L.J. 502, 513 (2010).

[116] Act No. 26 of 2003, Child's Rights Act (2003), § 261 (Nigeria).

[117] *Id.* § 15.

[118] *Id.* § 277.

[119] *See* Preamble 3(b) of the Fundamental Rights (Enforcement Procedure) Rules 2009 (Nigeria), http://www.refworld.org/pdfid/54f97e064.pdf [https://perma.cc/YQL8-JS33]

[120] *Supra* notes 94–100 and accompanying text.

[121] UN CESCR, *supra* note 68, ¶ 6.

right to education. In its general comment, the CESCR states that the right to education, irrespective of the condition obtainable in member States, shall have four essential attributes: availability, accessibility, acceptability, and adaptability.[122]

According to the CESCR, the criterion of availability requires functioning educational institutions in sufficient quantity.[123] In elaborating further on the requirement of functioning educational institutions, the CESCR states:

> What they require to function depends upon numerous factors, including the developmental context within which they operate; for example, all institutions and programmes are likely to require buildings or other protection from the elements, sanitation facilities for both sexes, safe drinking water, trained teachers receiving domestically competitive salaries, *teaching materials*, and so on; while some will also require facilities such as a library, computer facilities and information technology.[124]

On the other hand, the criterion of accessibility requires the removal of hurdles in accessing educational institutions and programmes. This requires the removal of constraints in three dimensions: non-discrimination, physical accessibility and economic accessibility.

With regard to acceptability, the issue is whether the form and substance of education is acceptable to students and parents.

Finally, the adaptability feature requires that "education has to be flexible so it can adapt to the needs of changing societies and communities and respond to the

[122] *Id.*
[123] *Id.*
[124] *Id.* (emphasis added).

needs of students within their diverse social and cultural settings."[125]

b. The Nigeria Education System: A Snapshot

The federal, state and local governments are responsible for the administration of education in Nigeria as it falls under the concurrent legislative list.[126] The Federal Ministry of Education (FME) is the body responsible for the formulation of national policy on education.[127] In practice, the FME is primarily responsible for tertiary education while state and local governments are responsible for primary and secondary schools.[128] Aside from state schools (public schools), there are many private schools in Nigeria at all levels of education. However, private schools are expensive and not affordable to many.

Nigeria has a 6-3-3-4 education system as provided for by the National Policy on Education (NPE).[129] This structure translates into six years of primary school, three years junior secondary school (JSS), three years of senior secondary school (SSS), and four years of tertiary education.[130] The first nine years (primary and JSS) form the free and compulsory basic education as provided for by the UBE programme and legalized by the UBE Act 2004, although an additional one year has been added to the

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[125] *Id.*

[126] *See* CONSTITUTION OF NIGERIA (1999), Part II (2nd Schedule), §§ 27, 29, 30.

[127] *About: Our Mandate*, FEDERAL MINISTRY OF EDUCATION, https://education.gov.ng/our-mandate/# [https://perma.cc/S55A-RK7B].

[128] *See* FEDERAL MINISTRY OF EDUCATION, EDUCATION FOR ALL 2015 NATIONAL REVIEW REPORT: NIGERIA 3 (2015) [hereinafter FME 2015 Report].

[129] *Id.*; FEDERAL REPUBLIC OF NIGERIA, NATIONAL POLICY ON EDUCATION (4th ed. 2004).

[130] FME 2015 Report, *supra* note 128, at 2.

education structure after a 2013 review to make room for the formal inclusion of pre-primary education.[131] The first ten years of education (pre-primary, primary, JSS), apart from being compulsory and free, is continuous and does not require any examination to progress to the next stage although continuous assessments are required.[132] At the end of primary school a student is awarded the Primary Leaving School certificate and progression to JSS is automatic.[133] On completion of JSS, the student is awarded a Basic Education Certificate (BEC), formerly known as Junior School Certificate, in a final examination administered by the state government if it is a state secondary school.[134] Otherwise it is administered by the National Examinations Council (NECO) if it is a Federal Unity College.[135] Basic education terminates at this level and successful completion of the BEC Examination is required to gain entrance to the SSS. A student who elects to proceed further to the SSS will spend 3 years at the SSS and on completion will be awarded a Senior School Certificate after completing an examination administered either by NECO or WAEC.[136] This certificate, with the minimum required passes, is required in addition to

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[131] *Id.*

[132] *Id.*

[133] *Id.*

[134] NUFFIC, THE EDUCATION SYSTEM OF NIGERIA DESCRIBED AND COMPARED WITH THE DUTCH SYSTEM 7 (2017).

[135] *Federal Unity Colleges*, FEDERAL MINISTRY OF EDUCATION, https://education.gov.ng/federal-unity-colleges/ [https://perma.cc/H54U-WK73] (showing a list of Federal Unity Colleges); *National Common Entrance Examination (NCEE)*, NATIONAL EXAMINATIONS COUNCIL, https://www.neco.gov.ng/our-exams/ncee/ [https://perma.cc/HUX7-Q5K9] (showing an exam is required to gain entrance to a Federal Unity College).

[136] Aside from proceeding to SSS, students can also opt for three years of secondary vocational education at a technical college and be awarded the National Technical Certificate or the National Business Certificate. *See* NUFFIC, *supra* note 134, at 8.

the Unified Tertiary Matriculation Examination administered (UTME) by JAMB to gain entry into university.[137] Apart from universities, Nigeria's tertiary institutions consist of polytechnics, monotechnics, and colleges of education.[138] Generally, a UTME is not required to gain entrance into these tertiary institutions. These institutions also provide alternative pathways to gain entrance to the university normally after a student has gained a National Diploma in the case of polytechnics.

There are forty-three federal universities,[139] forty-eight state universities,[140] and forty-nine private universities[141] in Nigeria.

c. Challenges of A2E in Nigeria: The Cost of Reading a Book.

The importance of education in national and individual development is well understood by the Nigerian government as clearly articulated in the NPE.[142] In fact, there are several intervention programs backed by law in Nigeria to deal with the issue of A2E at the basic and tertiary

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[137] *See* Joint Admissions and Matriculation Board Act (1989), § 5 (Nigeria).

[138] *List of Approved Federal Polytechnics in Nigeria*, FEDERAL MINISTRY OF EDUCATION, https://education.gov.ng/government-polytechnics/# [https://perma.cc/VB7H-NYMK].

[139] *Nigerian Universities: Federal Universities*, NATIONAL UNIVERSITIES COMMISSION, http://nuc.edu.ng/nigerian-univerisities/federal-univeristies/ [https://perma.cc/92RQ-V4DG].

[140] *Nigerian Universities: State Universities*, NATIONAL UNIVERSITIES COMMISSION, http://nuc.edu.ng/nigerian-univerisities/state-univerisity/ [https://perma.cc/8XB3-ZPFQ].

[141] *Nigerian Universities: Private Universities*, NATIONAL UNIVERSITIES COMMISSION, http://nuc.edu.ng/nigerian-univerisities/private-univeristies/ [https://perma.cc/C9UL-JCUH].

[142] FEDERAL REPUBLIC OF NIGERIA, *supra* note 129, at 4.

levels.[143] Aside from these efforts, Nigeria is committed to the SDG goals 2030 by virtue of its UN membership.[144] Despite these well-intentioned efforts, there is broad consensus that the Nigerian experience has been alarmingly appalling.[145] In other words, the right to education has not

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[143] Two programmes are prominent. The UBE programme, introduced by President Olusegun Obasanjo on 30 September 1999, and the Tertiary Education Trust Fund (TETFund). The central goal of the UBE programme is to provide free, compulsory, and universal basic education for children enrolling in primary and junior secondary school and is legally backed by the UBE Act 2004. For some of the challenges in implementing the UBE programme see Kayode Ajayi et al., *Universal Basic Education (UBE) Policy Implementation in Facilities Provision: Ogun State as a Case Study*, 2(2) INT'L J. ON NEW TRENDS EDUC. 34, 42–3 (2011). *See generally* ADUNOLA ADEPOJU & ANNE FABIYI, UNIVERSAL BASIC EDUCATION IN NIGERIA: CHALLENGES AND PROSPECTS, http://uaps2007.princeton.edu/papers/70830 [https://perma.cc/MPR8-4KRF]. Unlike UBE, TETFund applies to tertiary institutions and is backed by the TETFund (Establishment, Etc.) Act, 2011. For an explanation of the history of TETFund, see Georgina O. Ugwuanyi, *Taxation and Tertiary Education Enhancement in Nigeria: An Evaluation of the Education Tax Fund (ETF) Between 1999-2010*, 5(6) J. ECON. & SUSTAINABLE DEV. 131, 132–33 (2014). Furthermore, TETFund *does not* guarantee a statutory right to free higher education in Nigeria. All it does is to provide support to public tertiary institutions, and it does not ensure provision of free ALM like the UBE Programme. And it is saddled with inefficiency and corruption. Larry E. Udu and Joseph O. Nkwede, *Tertiary Education Trust Fund Interventions and Sustainable Development in Nigerian Universities: Evidence from Ebonyi State University, Abakiliki*, 7 J. SUSTAINABLE. DEV. 191, 203–4 (2014).

[144] *Member States*, UNITED NATIONS, https://www.un.org/en/member-states/#gotoN [https://perma.cc/T664-4XYT].

[145] For a sample of literature lamenting on the problems of A2E in Nigeria, see generally S.N. Aja et al., *Overview of the Progress and Challenges of Education for All in Nigeria*, 5(7) EDUC. RES. 257 (2014); Elizabeth O. Kingdom & Job Maekae, *The Role of Education in National Development: Nigerian Experience*, 9(28) EUR. SCI. J. 312 (2013); Uche S. Anaduaka & Chinyere F. Okafor, *The Universal Basic Education (UBE) Programme: Problems and Prospects*, 2(3) BASIC RES. J. EDUC. RSCH. & REV. 48 (2013).

translated into quality A2E for Nigerians. Coupled with Nigeria's exponential growth in population, the prospects of achieving SDG goal 4 by 2030 is very far-fetched. The effects of these are evident at the national and individual levels although data is hardly available.[146]

Nigeria's Human Development Index (HDI) rank currently is 158 out of 189 countries.[147] This is not surprising given that, as shown above, lack of education is correlated with many negative outcomes. According to UNESCO statistics, the literacy rate among the population aged fifteen years and older is 62.02% for both sexes in 2018.[148] This is a substantial improvement from previous decades based on available data. In 1991, it was 55.45% and 54.77% in 2003.[149] Despite this improvement, however, Nigeria is still lagging behind. For example, South Africa's literacy rate among the population aged fifteen years and older was 87.05% in 2017,[150] Ghana's rate was 79.04% in

[146] *See* FME 2015 Report (stating that "[o]ne of the very serious challenges in the way of documenting the progress achieved towards the EFA Goal(s) within the Nigerian context is the paucity, and in some cases, the complete absence of data required for such an exercise").

[147] *Nigeria: Human Development Indicators*, UNDP: HUMAN DEVELOPMENT REPORTS, http://hdr.undp.org/en/countries/profiles/NGA [https://perma.cc/4AEA-DNYP].

[148] UNESCO Institute for Statistics, *Nigeria: Education and Literacy*, SUSTAINABLE DEVELOPMENT GOALS, http://uis.unesco.org/en/country/ng?theme=education-and-literacy [https://perma.cc/5B4E-GCXR] (last visited Sept. 20, 2020).

[149] *Id.*

[150] UNESCO Institute for Statistics, *South Africa: Education and Literacy*, SUSTAINABLE DEVELOPMENT GOALS, http://uis.unesco.org/en/country/za [https://perma.cc/RS9H-8X5B] (last visited Sept. 20, 2020).

2018,[151] and Kenya's rate was 81.53% in 2018.[152] What is more troubling is when the available literacy statistics are juxtaposed with data on the mean years and expected years of schooling. According to the UNDP HDR on Nigeria, mean years of schooling for people aged twenty-five years and above was 6.0 for 2015, while the expected years of schooling was 10.0.[153] Putting this in context, mean years of schooling for Ghana and Kenya in 2015 were 6.9 and 6.3 respectively.[154] For developed countries like Ireland and Germany, it is 12.3 and 13.2 respectively.[155] Fortunately, there has been a continuous increase in both mean and expected years of schooling over the years in Nigeria.[156] Though, this increase has not translated into improved literacy rates, as the data shows. Although surprising, the explanation for this is mainly due to lack of access to teaching materials and inadequate infrastructure.[157] Furthermore, the Nigerian government has admitted that the country has the highest number of out-of-school children in the world.[158]

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[151] UNESCO Institute for Statistics, *Ghana: Education and Literacy*, SUSTAINABLE DEVELOPMENT GOALS, http://uis.unesco.org/en/country/gh [https://perma.cc/Y7VA-NWGB] (last visited Sept. 20, 2020).

[152] UNESCO Institute for Statistics, *Kenya: Education and Literacy,* SUSTAINABLE DEVELOPMENT GOALS*,* http://uis.unesco.org/en/country/ke [https://perma.cc/CDS9-LBSW] (last visited Sept. 20, 2020).

[153] UNDP, HUMAN DEVELOPMENT REPORT 2016: HUMAN DEVELOPMENT FOR EVERYONE 198 (2016).

[154] *Mean Years of Schooling (Years)*, UNDP: HUMAN DEVELOPMENT REPORTS, http://hdr.undp.org/en/indicators/103006 [https://perma.cc/6CBS-W8BF].

[155] *Id.*

[156] UNDP, HUMAN DEVELOPMENT REPORT 2019: INEQUALITIES IN HUMAN DEVELOPMENT IN THE 21ST CENTURY: NIGERIA 3 (2019).

[157] FME 2015 Report, *supra* note 128, at 66, 73.

[158] *Nigeria Has 'Largest Number of Children Out-of-School' in the World*, BBC NEWS AFRICA (July 25, 2017),

To be clear, the causes of the failure of the education system in Nigeria are multi-faceted and multi-layered: corruption, incompetent teachers, non-existing or dilapidated infrastructure, weak policy implementation, among others. Accordingly, the assertion is not that copyright law reform is the panacea to Nigeria's education woes. Many of the issues are governance related while others are better handled through re-thinking the policy landscape of copyright law. Perhaps, it will be useful to elaborate on some of the issues responsible for poor literacy rates in Nigeria and which if addressed would translate the right to education into effective opportunities for Nigerians. A proper understanding of these issues dispels the view that the appalling literacy rate in Nigeria is due to a lack of reading culture.

1. ALM and textbooks: students in Nigeria still depend on bulk access to printed materials for learning.[159] There is very little to no access to electronic materials which creates difficulties for reaping the digital dividend. Although information is non-rivalrous, the hardcopy material embodying the information is rivalrous. This rivalrous nature of hard copy materials creates problems of

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https://www.bbc.co.uk/news/world-africa-40715305 [https://perma.cc/M8FM-329W].

[159] *See* Rufai Danmusa Gambo & Sani Masanwa Aliyu, *Use of Open Educational Resources and Print Educational Materials by Federal College of Education Katsina, Nigeria: A Study* 37(6) J. LIBR. & INFO. TECH. 437, 438 (2017) (noting that "[p]rint materials remain the bank of Nigeria's literature through which her historical heritage, norms and values and the entire culture can be transmitted to her younger generations" and that "[m]ost of the scholarly works: books, journals, experts and reports from research institutes are in print forms"); Dr. A.U. Nwabueze & Lucky Oghenetega Urhiewhu, *Availability and Use of Digital Information Resources by Undergraduates of Universities in Delta and Edo States*, 5(2) INT'L J. DIGIT. LIBR. SERVICES, Apr. – June 2015, at 1 (finding that network problems and unavailability of a digital library prevent university students in the examined region from accessing Digital Information Resources).

access to knowledge for DCs like Nigeria where there is an insufficient supply of and limited access to printed materials. This is especially the case in Nigeria for several economic and legal reasons.

School libraries in Nigeria are notoriously under-resourced.[160] This is not surprising given Nigeria's poor funding of education and spending per student in both secondary and higher institutions as shown on tables 3A and 3B below. In fact, the so-called libraries in many public primary and secondary schools in Nigeria are completely empty, such that it is a misnomer to refer to them as libraries.[161] For students in these schools, the two options available for gaining ALM are either to acquire them from vendors or do without them. Sadly, out of economic necessity, a great number of households would opt for the latter. In reality, many families cannot even afford school uniforms for their dependants, let alone textbooks. Higher institutions on the other hand do have libraries, but they are badly equipped unless you are part of the privileged few whose parents can afford a private college.[162] For the

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[160] *See* Babangida Umar Babayi et al., *Poor Funding of Public Libraries in Nigeria: Adamawa State Scenario*, 7(3) J. SCI. TECH. & EDUC., Sept. 2019, at 7; Fredrick Olatunji Ajegbomogun & Mulikat O. Salam, *The State of School Libraries in Nigeria*, 75(3) PAC. NW. LIBR. ASS'N Q., Spring 2011, at 112; Rose B. Okiy, *Funding Nigerian Universities in the 21st Century: Will funding from alternative sources suffice?*, 18(2) THE BOTTOM LINE 71 (2005); I.E. Aguolu, *Nigerian University Libraries: What Future?* 28(3) INT'L INFO. & LIBR. REV. 261 (1996).

[161] Ajegbomogun & Salam, *supra* note 160, at 114.

[162] *See* Aguolu, *supra* note 160; Okiy, *supra* note 160; James Daniel, *Lack of Funds Hampers Library Development in Nigeria,* PREMIUM TIMES (Feb. 18, 2013), https://www.premiumtimesng.com/news/top-news/120838-lack-of-funds-hampers-library-development-in-nigeria-chief-librarian.html [https://perma.cc/6BDD-54NT]; Goodluck Ifijeh & Felicia Yusuf, *Covid-19 Pandemic and the Future of Nigeria's University System: The Quest for Libraries Relevance*, 46(6) J. ACAD. LIBRARIANSHIP 1, 5 (2020) (pointing out the various challenges facing

unfortunate students that cannot afford textbooks, there are various ways to gain ALM with different copyright implications. First is by photocopying the original texts. This option is only feasible if on the one hand the learning material is available and within reach; and on the other hand the student can bear the economic and legal costs of photocopying the copyrighted material. Second is through course packs. Course packs are a compilation of photocopied materials (usually extracts from copyrighted materials) made for a particular course of study. They are useful especially where the collected materials are not available in sufficient quantity or not affordable as is the case in Nigeria. They are also flexible since they allow the teacher to tailor the content of the course packs to the curriculum. However, they involve copyrighted materials, and this may require copyright clearances for their preparation. Third is through the outright purchase of learning materials. This is not a viable option for a great number of students in Nigeria due to weak purchasing power. For many students, the only way to own a copy is to purchase pirated copies at a significantly cheaper rate.

2. Access to electronic materials: the problems associated with access to printed materials discussed above would be reduced if there was broad access to ICT, particularly computers and the internet, as ICT provides the technological capacity to utilize the non-rivalrous character of information.[163] But access to electronic materials via the

university libraries in Nigeria, especially in establishing electronic databases).

[163] Information, *not the material embodiment*, is non-rivalrous because my use of it does not subtract from another person's use. Although information is characteristically non-rivalrous, technology impacts on the extent to which this public good characteristic of information is exploited by removing spatial and temporal limitations, which are excludability issues. On the implications of the non-rivalrous and non-excludable characteristics of informational works, the subject matters of copyright law, for copyright theory and policy, see Glynn S. Lunney, Jr.,

Internet is a luxury only reserved for the affluent household. This is not surprising. In a country where more than 40% of the population live in extreme poverty, it is a Sisyphean task to expect households to afford a computer with or without internet connection. For a majority of those who even have access to the internet, it is through mobile phones.[164] Even then, it is estimated that 111 million people are offline in Nigeria.[165] The impact of this poor access to ICT on A2E cannot be exaggerated. The internet provides quick and easily accessible way to find information. For those in developed countries, access to Wikipedia may be taken for granted, given that it is easily accessible at any time. But imagine being without access to Wikipedia or other websites. Yet this is the experience of many students in DCs. Furthermore, many works that are either unavailable in hard copy or out of print are now digitized. Given that ICT have greatly reduced the production costs of

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Re-examining Copyright's Incentives-Access Paradigm, 49 VAND. L. REV. 483, 492–99 (1996); Oren Bracha & Talha Syed, *Beyond Efficiency: Consequence Sensitive Theories of Copyright*, 29 BERKELEY TECH. L.J. 229, 237–41 (2014). For works examining the subject matters of copyright as public goods, see William M. Landes and Richard A. Posner, *An Economic Analysis of Copyright Law*, 18 J. LEGAL STUD. 325, 326–27. *But see* Christopher S. Yoo, *Copyright and Pubic Good Economics: A Misunderstood Relation*, 155 U. PA. L. REV. 635 (2007) (objecting to the analysis of copyrightable works as pure public goods). On public goods and their characteristics, see generally RICHARD CORNES & TODD SANDLER, THE THEORY OF EXTERNALITIES, PUBLIC GOODS AND CLUB GOODS 3–10 (1996); J.G. Head, *Public Goods and Public Policy*, 17 PUB. FIN. 197 (1962).

[164] This is an observed reality. In addition, see WORLD BANK GROUP, WORLD DEVELOPMENT REPORT 2016: DIGITAL DIVIDENDS 6 (2016) ("The lives of the majority of the world's people remain largely untouched by the digital revolution. Only around 15% can afford access to broadband internet. Mobile phones, reaching almost four-fifths of the world's people, provide the main form of internet access to developing countries.").

[165] *Id.* at 8.

informational works, many academic journals are now published online. On one hand, these problems of ICT access clearly mean that Nigerian students are not reaping the benefits of digital resources. On the other hand, this issue of poor access to ICT in Nigeria, an observable fact in many DCs, brings in to sharp focus whether the issues and concerns of the A2K movement accommodate the concerns of DCs.

Table 2A: Federal Government of Nigeria Budgetary Allocation to Education: 2009-2018

Year	Allocation to Education as % of Total Budget
2009	7.25
2010	4.83
2011	6.16
2012	8.20
2013	8.55
2014	9.94
2015	7.74
2016	6.10
2017	7.38
2018	7.03

Source: VANGUARD Nigeria.[166]

[166] Clifford Ndujihe, *Education Sector Gets Paltry N3.9 Trillion Out of N55.19 Trillion in 10 Years*, VANGUARD NIGERIA (Apr. 8, 2018, 5:52 AM), https://www.vanguardngr.com/2018/04/education-free-fall/ [https://perma.cc/9KWD-G8NW]; *cf.* BUDGIT, EDUCATION FINANCING: ANALYSIS AND RECOMMENDATIONS 8 (2018) (showing data that differs from Vanguards but comparable for some of the years).

Table 2B: Public Recurrent Spending per Year in Sub-Saharan African Countries by Education Level 2003.

Country	Primary Education (% of GDP per capita)	Higher Education (% of GDP per capita)
Ghana	17.6	372.0
Kenya	9.0	266.1
Malawi	11.0	1760.0
Nigeria	14.4	111.0
Senegal	13.9	257.0
Zimbabwe	16.2	201.3

Source: World Bank Study[167]

III. A2E IN INDIA AND BEYOND

The crisis of ALM and the strategies employed by students to overcome this crisis are not peculiar to Nigeria nor even to DCs though there are cogent reasons for emphasizing the access conditions of developing over developed countries: (1) the salience of education for DCs' developmental progress given their developmental level, (2) the weaker purchasing power of DCs' students, (3) limited access to ICT, and (4) developed countries are the main producers of knowledge goods.

It is therefore interesting to examine how some DCs grapple with this crisis. This and subsequent sections will focus on India for three reasons. India is a DC; it is a prominent voice in the copyright and development

[167] KIRSTEN MAJGAARD & ALAIN MINGAT, EDUCATION IN SUB-SAHARAN AFRICA: A COMPARATIVE ANALYSIS 97 (2012).

discourse;[168] and apart from similar socio-economic conditions with Nigeria, its constitutional guarantee of the right to education tracks that of Nigeria in interesting ways.

A. The Right to Education: A Foundational Commitment.

1. India

Although located in South Asia, India's political history and socio-economic conditions are similar to Nigeria's.[169] Like Nigeria, India gained independence from Britain, earning that independence on August 15, 1947.[170] With a population of 1.3 billion, India is the most populous democracy in the world.[171] It boasts a rich diversity of ethnicities, languages, and religions.[172] English is the most important language for national, political and commercial communication, although Hindi enjoys the status of India's primary official language, with English being the second official language.[173]

Similarly, the current development indicators and economic realities track those of Nigeria. Despite increased economic growth, India continues to be plagued by massive

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[168] *See* PRASHANT REDDY & SUMATHI CHANDRSHEKARAN, CREATE, COPY, DISRUPT: INDIA'S INTELLECTUAL PROPERTY DILEMMAS 115–53 (2017).
[169] *See The World Factbook: South Asia-India*, CENTRAL INTELLIGENCE AGENCY, https://www.cia.gov/library/publications/the-world-factbook/geos/in.html [https://perma.cc/DMG4-J6P8].
[170] *Id.*
[171] *The World Factbook: Population: Country Comparison Ranking*, CENTRAL INTELLIGENCE AGENCY, https://www.cia.gov/library/publications/the-world-factbook/fields/335.html [https://perma.cc/4LYW-MSZJ].
[172] CENTRAL INTELLIGENCE AGENCY, *supra* note 169.
[173] *Id.*

inequality, discrimination against women, and poverty.[174] With a GDP per capita (PPP) of 7,200 USD, per capita income still remains below world average.[175] India, however, is on track for SDG 2030 Goal 1 of no poverty as the percentage of people living in extreme poverty is only 4%.[176] But its HDI rank is low, ranking 129 out of 189 among world countries.[177]

On the education front, India has made substantial progress. The adult literacy rate, as a percentage of the population aged fifteen and above, is 69.3%.[178] But there are still significant problems, especially with access to higher education. While the percentage of secondary school-age population enrolled in secondary school is 69%, as of 2013 that of tertiary school is a meagre 24%.[179] The government expenditure on education as a percentage of GDP is neither significant nor has it increased much over the years. It was 3.4%, 3.8%, and 3.9% for each year from 2010-2012 respectively.[180] Furthermore, even though the adult literacy rate is 72.1%, there are wide gaps in the literacy level

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[174] Nisha Agrawal, *Inequality in India: What's the Real Story?*, WORLD ECONOMIC FORUM (Oct. 4, 2016), https://www.weforum.org/agenda/2016/10/inequality-in-india-oxfam-explainer/ [https://perma.cc/T53M-YLXV].

[175] *The World Factbook: India - GDP Per Capita (PPP)*, CENTRAL INTELLIGENCE AGENCY, https://www.cia.gov/library/publications/the-world-factbook/geos/in.html [https://perma.cc/8XDM-R7TA].

[176] *World Poverty Clock*, WORLD DATA LAB, http://worldpoverty.io/ [https://perma.cc/LP5R-BLLF].

[177] *2019 Human Development Index Ranking*, UNDP: HUMAN DEVELOPMENT REPORTS, http://hdr.undp.org/en/content/2019-human-development-index-ranking [https://perma.cc/8SU8-QMAK].

[178] *India: Human Development Indicators*, UNDP: HUMAN DEVELOPMENT REPORTS, http://hdr.undp.org/en/countries/profiles/IND [https://perma.cc/HJP2-655N].

[179] *Id.*

[180] *Id.*

between different regions of the country.[181] More importantly is the effect of poor economic conditions on A2E opportunities for children.[182]

2. The Right to Education in India: Connecting ESC and CP Rights.

India, a federal republic though with certain unitary features, is governed by its supreme law, the Constitution of India.[183] It was adopted on 26th November 1949 and came into force on 26th January 1950.[184]

The Constitution of India recognises the rights guaranteed in the ICCPR and ICESCR.[185] Indeed India is a signatory to both conventions having acceded to both on 10th April 1979.[186] Like Nigeria, the Indian Constitution distinguishes between CP rights contained in Part III as fundamental rights and ESC rights contained in Part IV as Directive Principles of State Policy (DPSP). Regarding Part IV, Art. 37 of the India Constitution states that "[t]he provisions contained in this Part shall not be enforceable by any court, but the principles therein laid down are nevertheless fundamental in the governance of the country and it shall be the duty of the State to apply these principles in making laws."[187] Clearly, the import of Art. 37 is to demarcate the regime of fundamental rights from DPSP vis-à-vis justiciability. The implication therefore is that the

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[181] Vachaspati Shukla & Udaya S. Mishra, *Literacy Achievement in India: Across the States and Over the Age Cohort*, 54(48) ECON & POL. WKLY. (Dec. 7, 2019).
[182] *See generally* Saroj Pandey, *Education as a Fundamental Right in India: Promises and Challenges*, 1 INT'L J. EDUC. L. & POL'Y 13 (2005).
[183] India Const.
[184] *Id.*
[185] *Id.* Parts III & IV.
[186] Like Nigeria, India has a dualist approach to international law. *See id.* art. 253.
[187] *Id.* art. 37.

rights contained in the DPSP are to be implemented only by the State and not enforceable by the judiciary.

Education, as an ESC right, is dealt under the DPSP in India's Constitution. Three provisions—Arts. 41, 45, and 46—deal with education, but two are particularly important for present purposes. Art. 41 states that "[t]he State shall, within the limits of its economic capacity and development, make effective provision for securing the right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement and in other cases of undeserved want."[188] And Art. 45, originally stated that "[t]he State shall endeavour to provide, within a period of ten years from the commencement of this Constitution, for free and compulsory education for all children until they complete the age of fourteen years."[189]

The issue of whether education, under the Indian Constitution, is a fundamental right is contingent on the relationship between Part III and IV as understood and interpreted by the Indian judiciary. Although the DPSP seems to be accorded a lesser status vis-à-vis Part III by virtue of Art. 37, the Indian SC has been innovative in construing the status of the DPSP in the constitutional scheme.

This relationship was first examined in *State of Madras v. Champakam Dorairajan* where it was held that fundamental rights were superior to the DPSP. Specifically, the SC of India held that "[t]he directive principles have to conform to and run subsidiary to the Chapter on Fundamental Rights."[190] The SC of India has since shunned this view, preferring a harmonious approach in which the relationship between Part III and IV is considered supplementary and complementary. In *Minerva Mills v.*

[188] *Id*. art. 41.
[189] *Id*. art. 45.
[190] State of Madras v. Srimathi Champakam, AIR 1951 SC 226 (India).

Union of India Chandrachud CJ delivering the leading judgment in the Indian SC stated:

> Granville Austin's observation brings out the true position that Parts III and IV are like two wheels of a chariot, one no less important than the other. You snap one and the other will lose its efficacy. They are like a twin formula for achieving the social revolution, which is the ideal which the visionary founders of the Constitution set before themselves. In other words, the Indian Constitution is founded on the bed-rock of the balance between Parts III and IV. To give absolute primacy to one over the other is to disturb the harmony of the Constitution. This harmony and balance between fundamental rights and directive principles is an essential feature of the basic structure of the Constitution.[191]

If neither Part III nor Part IV is superior, but they are of equal importance, then it follows that both Parts should be equally protected. In *Keshavanda v. State of Kerala* Mathew J. put it this way:

> Many of the articles, whether in Part III or Part IV, represent moral rights which they have recognised as inherent in every human being in his country. The task of protecting and realising these rights is imposed upon all the organs of the State, namely, legislative, executive and judicial. What then is the importance to be attached to the fact that the provisions of Part III are enforceable in a Court and the provisions in Part IV are not? Is it that the rights reflected in the provisions of Part III are somehow superior to the moral claims and aspirations reflected in the provisions of Part IV? I think not.[192]

[191] Minerva Mills Ltd. v. Union of India, (1980) SCR (1) 206, 53 (India).
[192] Keshavanda Bharati v. State of Kerala, (1973) 4 SCC 225, ¶ 1762 (India). This remark was quoted with approval by the SC of India in Unni Krishnan v. State of Andhra Pradesh, AIR 1993 SC 2178 (India).

By adopting this approach, the SC of India is able to connect Part III and IV as supplementary and complementary to each other thereby enabling it to give effect to the provisions under the DPSP.

The issue of whether there is a fundamental right to education enforceable by the Court was first answered affirmatively in *Mohini Jain v. State of Karnataka*.[193] In this case, which concerned the charging of "capitation fees" in consideration of admission, the SC held that every citizen has a right to education under the Constitution and that the State was under an obligation to establish educational institutions to enable the citizens to enjoy the said right. This obligation may be discharged either through State owned or State-recognized educational institutions.

In *Unni Krishnan v. State of Andhra Pradesh*, the Indian SC with a larger bench of five judges had the opportunity to examine the validity of the *Mohini Jain* decision.[194] Like *Mohini Jain*, *Unni Krishnan* challenged the ability of private medical and engineering colleges in Andhra Pradesh to charge capitation fees to students seeking admission. The primary issue for the Court was whether the social right to education is a fundamental right under the Indian constitution.[195] What is interesting in both *Mohini Jain* and *Unni Krishnan* is not just the outcome but the manner in which the Indian SC arrived at the decision. In *Mohini Jain*, the SC held that there is a fundamental right to education under the Indian Constitution and that this right "flows directly from right to life."[196] The SC in *Unni Krishnan* affirmed this part of *Mohini Jain's* judgment and held that the "right to education is implicit and flows from

[193] Mohini Jain v. State of Karnataka, 1992 SCR (3) 658, 660 (India).
[194] *See* Unni Krishnan v. State of Andhra Pradesh, 1993 SCR (1) 594, 594 (India).
[195] *Id.* at 597.
[196] Mohini Jain v. State of Karnataka, 1992 SCR (3) 658, 661 (India).

the right to life guaranteed by Article 21." In other words, the right to education is a component of the right to life. As such, the right to education is a fundamental right and should be enforced as a fundamental right. According to the SC, the fact that the right to life as guaranteed by Art. 21 of the Indian Constitution is negative in character—i.e. requires non-interference rather than any positive obligation by the State—has no relevance to whether the right to education is constitutive of the right to life.[197] The Court, however, departed from *Mohini Jain* in determining the content of the right to education. According to the Court, "[t]he right to education which is implicit in the right to life and personal liberty guaranteed by Article 21 must be construed in the light of the directive principles in Part IV of the Constitution."[198] After analyzing the various articles in Part IV—Arts. 41, 45, and 46— the Court held that the "[r]ight to education understood in the context of Articles 45 and 41 means, (a) every child/citizen of this country has a right to free education until he completes the age of fourteen years and (b) after a child/citizen completes 14 years, his right to education is circumscribed by the limits of the economic capacity of the State and its development."[199] Thus, by virtue of Article 21, the Indian Constitution guarantees the right to basic education which ends when a normal child completes the age of fourteen in India.

The SC was wary their reasoning in arriving at the fundamental right to education may open up the flood gates to other claims relying on Art. 21, so it stated:

> We must hasten to add that just because we have relied upon some of the directive principles to locate the parameters of the right to education implicit in

[197] Unni Krishnan v. State of Andhra Pradesh, AIR 1993 SC 2178, ¶ 44 (India).
[198] *Id.* ¶ 45.
[199] *Id.*

> Article 21, it does not follow automatically that each and every obligation referred to in Part IV gets automatically included within the purview of Article 21. We have held the right to education to be implicit in the right to life because of its inherent fundamental importance. As a matter of fact, we have referred to Articles 41, 45 and 46 merely to determine the parameters of the said right.[200]

Following this judgment, the Constitution (Eighty-sixth Amendment) Act, 2002, inserted Art. 21A into the Indian Constitution which explicitly guarantees the right to basic education to all children of the age of six to fourteen years.[201] The Right of Children to Free and Compulsory Education Act, 2009, is the enabling legislation that implements the fundamental right to education, and both the constitutional amendment and the Act came into force on April 1, 2010.[202]

B. Other Developing Countries with the Right to Education: South Africa & Brazil

The Indian judgment on the right to education is representative of the importance education has on individual development in as much as it connects the right to education with the right to life. Therefore, it is not surprising that many countries, DCs, and developed nations, have constitutional provisions protecting this important right.[203] Unlike Nigeria, the right to education is a fundamental right in the South

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[200] *Id.* ¶ 50.

[201] India Const., amended by The Constitution (Eighty-Six Amendment) Act, 2002.

[202] The Right of Children to Free and Compulsory Education Act, 2009, § 3 (India); *Right to Education*, MINISTRY OF EDUCATION, https://education.gov.in/rte [https://perma.cc/E4JY-LAW9].

[203] *See* THE LAW LIBRARY OF CONGRESS, CONSTITUTIONAL RIGHT TO AN EDUCATION IN SELECTED COUNTRIES (2016).

African (SA) and Brazilian constitutions and is therefore justiciable.

The SA Constitution in the Bill of Rights chapter explicitly guarantees the right to education.[204] Section 29(1) of the South African Constitution contained in the Bill of Rights chapter states that "Everyone has the right (a) to a basic education, including adult basic education; and (b) to further education, which the state, through reasonable measures, must make progressively available and accessible."[205] The SA Constitutional Court has not considered the content or meaning of "basic education". However, section 3(1) of the South African Schools Act, 1996, makes education compulsory for children from the ages of seven years until the age of fifteen years, or ninth grade, whichever comes first.[206]

The right to basic education in the Bill of Rights is absolute, thereby impressing the importance of education for national and individual development. As some commentators note, "[t]he way in which the courts adjudicate the right to a basic education differs from the way in which other socio-economic rights are adjudicated."[207] In *Governing Body of the Juma Musjid Primary School v Essay*, the Constitutional Court stated:

> [i]t is important… to understand the nature of the right to 'a basic education' under section 29(1)(a). Unlike some of the other socio-economic rights, this right is immediately realisable. There is no internal limitation requiring that the right be 'progressively realised'

[204] S. AFR. CONST., 1996, Ch.2: Bill of Rights, § 29.
[205] *Id.* § 29(1).
[206] South African Schools Act 84 of 1996 § 3(1).
[207] Chrizell Chürr, *Realisation of a Child's Right to a Basic Education in the South African School System: Some Lessons from Germany*, 18(7) POTCHEFSTROOM ELEC. L.J. 2405, 2415 (2015).

> within 'available resources' subject to 'reasonable legislative measures'.[208]

Given the indispensability of ALM to education, SA courts have held the right to basic education can only be meaningfully operationalized if there is ALM. In *Section 27 and Others v. Minister of Education and Another,* the North Gauteng High Court held:

> the provision of learner support material in the form of text books, as may be prescribed is an essential component of the right to basic education and its provision is inextricably linked to the fulfilment of the right. In fact, it is difficult to conceive, even with the best of intentions, how the right to basic education can be given effect to in the absence of text books. . .[209]

In yet another decision, the Eastern Cape Local Division of the SA High Court in *Madzodzo and Others v. Minister of Basic Education and Others* stated that the state's obligation to provide basic education under the Constitution "requires the provision of a range of educational resources:- schools, teachers, teaching materials and appropriate facilities for leaners."[210]

The Constitution of the Federative Republic of Brazil, promulgated on October 5, 1988, provides for the right to education.[211] There are nine titles in the Brazilian Constitution which are sub-divided into chapters and

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[208] *Governing Body of the Juma Musjid Primary Sch. & Others v. Essay N.O. and Others*, 2011 (13) SA (CC) at 19–20 para. 37 (S. Afr.).
[209] *Section 27 and others v. Minister of Educ. and another*, 2012 (2) SA (GNP) at 13–14 para. 25 (S. Afr.).
[210] *Madzodzo and Others v. Minister of Basic Educ.* 2014 ZAECMHC 5 at para. 20 (S. Afr.).
[211] Constituição Federal [C.F] [CONSTITUTION] art. 205 (Braz.), *translated in* CONSTITUTE PROJECT, https://www.constituteproject.org/constitution/Brazil_2017.pdf?lang=en [https://perma.cc/4SKM-7BEY].

articles.[212] Title 2 is captioned "Fundamental Rights and Guarantees."[213] Under this title, chapter 2 comprises Arts 6-11 and provides for social rights. Art. 6 states that "[e]ducation, health, food, work, housing, leisure, security, social security, protection of motherhood and childhood, and assistance to the destitute are social rights, as set forth by this Constitution."[214] Art. 205 states that "[e]ducation, which is the right of all and duty of the State and of the family, shall be promoted and fostered with the cooperation of society, with a view to the full development of the person, his preparation for the exercise of citizenship and his qualification for work."[215] Art. 208 elaborates on the nature of this right by providing that the duty of the State towards education shall be fulfilled by ensuring, amongst others, free, mandatory basic education for every individual from the age of four through the age of seventeen, and access to higher levels of education according to individual capacity.[216] According to Art. 208(1), access to compulsory and free education is a subjective public right i.e. a person may petition the court to enforce his/her claim against the state.[217] In other words, it is justiciable. So the constitutionally guaranteed right is the right to basic education, as in other countries examined above. Although access to higher levels of education and research is guaranteed, it is not a subjective public right. An important principle in the fulfilment of the state's obligation to provide education as stated in Art. 206(II) is "freedom to learn, teach, research and express thought, art and knowledge."[218]

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[212] *See generally* Constituição Federal [C.F] [Constitution] (Braz.), *translated in* CONSTITUTE PROJECT, https://www.constituteproject.org/constitution/Brazil_2017.pdf?lang=en [https://perma.cc/HD2T-WT8C].
[213] *Id.* Title II.
[214] *Id.* art. 6.
[215] *Id.* art. 205.
[216] *Id.* art. 208.
[217] *Id.* art. 208(1).
[218] *Id.* art. 206(II).

IV. COPYRIGHT AND A2E

On one hand, the right to education as guaranteed in various DCs' Constitutions provides an opportunity to launch into a much broader and complex issue concerning the legal, institutional, and stakeholder dynamics conditioning ALM. On the other hand, the challenges of integrating the right to education, as recognized in various constitutions, with copyright in order to enhance access.

The terms and conditions of ALM in higher institutions are determined by a complex trajectory of law, institution and the state. Reminiscent of the legendary "Battle of the Book" case, different parties with different interests are camped against each other, each armed with different banners and labels in a seemingly never-ending 'knowledge war'.[219] At the center of this conflict are copyright law and policy with different parties informed by different interests, each vying for the right to re-draw the balance of this important law shaping the cultural ecosystem. In this protracted battle for knowledge production and use, concerns of ALM are juxtaposed against the goal of rewarding creators. The narrative is often that the realization of one concern impedes the other, but nothing is so further away from the truth. In this battle for knowledge-production and use, students and publishers are the prominent parties- the former labelling the latter "capitalists" and the latter casting the former as "pirates." This altercation is even more exacerbated in DCs where the legal market for books does not meet the needs of students.

One major task facing higher institutions is in how they facilitate and negotiate access for students. It is not difficult to imagine that many students in DCs resort to

[219] *See* RAY CORRIGAN, COLMCILLE AND THE BATTLE OF THE BOOK: TECHNOLOGY, LAW AND ACCESS TO KNOWLEDGE IN 6TH CENTURY IRELAND (2007) (discussing the "Battle of the Book" case).

infringement as a means of access. Consequently, publishers and rights organizations ramp up measures to enforce their copyrights. In Nigeria, the Reproduction Rights Society of Nigeria (REPRONIG) is the sole collecting society for the rights of authors and rightsholders in the literary field.[220] Given that most copyright infringements happen in university campuses, particularly in copy shops located inside the campus, the stance of these universities becomes critical.[221] In other words, would they prefer turning a blind eye to infringements, or would they rather aid rightsholders in curtailing these infringements? DCs' universities faced with this reality have a difficult decision to make. Universities have a duty to provide quality education to their students, but such a mandate is impossible to fulfil without proper ALM. This task becomes even tougher as enrollment figures continue to increase.

In Nigeria, overcrowded public higher institutions place further pressure on the available but already-limited resources. However, universities are also obliged to ensure that materials are both legally accessed and used. How each institution manages this task is crucial to the sustainability of the cultural ecosystem. One way to unpack this situation is to see the universities as playing a mediating role between students and publishers. The better approach is to understand the role of universities as facilitatory in ensuring that the public interests and objectives of equitable ALM and fair remuneration for authors are met. No matter the strategies adopted by the universities to ensure the fulfilment

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[220] *Mandate*, REPRODUCTION RIGHTS SOCIETY OF NIGERIA, http://repronig.ng/mandate/ [https://perma.cc/2Q2D-MMHT].

[221] REPRONIG, PHOTOCOPYING IN NIGERIA'S TERTIARY INSTITUTIONS (2004) (This report is on file with author and provided upon request by John Asein, the Director General of the Nigerian Copyright Commission.). However, it is important to note that the report may not be completely objective as the survey was carried out by an authors' rights organization.

of this objective, the country's prevailing socio-economic conditions should be a key consideration.

This complex interaction amongst universities, libraries, students, publishers, copy shops and the State in determining the conditions of access has played out in many DCs. Brazil and India are notable examples.

A. "To Copy a Book is a Right"

The conflict between publishers and students vis-à-vis the legality of copying carried out by the latter in university copy shops has played out heavily in Brazil.

In 2005, twenty civil actions and 150 raids by Brazilian police were carried out at Brazilian higher institutions at the request of Associação Brasileira de Direitos Reprográficos (ABDR), the Brazilian reprographic rights association representing publishers.[222] In March 2005, seventy-four books and 141 teachers' folders were seized.[223] ABDR claimed that rampant photocopying of academic books in universities by students, cost publishers R$ 400 million (~ 180 million USD in 2005).[224] One of the affected universities, Pontificial Catholic University of Sao Paulo (PUC-SP) tried to reach an agreement with ABDR.[225] PUC-SP offered to create an intranet system that would control copying while enabling the compensation of

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[222] Marcelo Gutierres & Simone Harnik, *Editoras Dão Descontos para Coibir Xerox*, FOLHA DE SÃO PAULO (Oct. 27, 2005, 11:00 AM), https://www1.folha.uol.com.br/folha/educacao/ult305u17969.shtml [https://perma.cc/2RUV-RJVE].

[223] Fabio Takahashi, *Alunos e Editoras Duelam por Xerox de Obra*, FOLHA DE SÃO PAULO (May 30, 2005), https://www1.folha.uol.com.br/fsp/cotidian/ff3005200520.htm [https://perma.cc/4GGM-7MLM].

[224] *Id.*

[225] *Universidade Propõe Sistema Para Evitar Xerox*, FOLHA DE SÃO PAULO (May 1, 2005), https://www1.folha.uol.com.br/fsp/cotidian/ff0105200528.htm [https://perma.cc/B34G-ZXCX].

publishers through reproduction costs.[226] ABDR rejected this proposal and instead offered a 40% discount, and the possibility of freight paid by publishers, on the price of all college books purchased for college libraries on the condition that universities prevent copying by students.[227] Universities rejected this offer as practically unfeasible arguing copies are necessary to fulfil the learning needs of students.[228] Even with a 40% discount, they argued, it is not possible for libraries to stock all the books and copies required by the growing number of students.[229] It is an economic "death sentence" to require students to purchase all the books required for an academic degree because according to a survey by Fundação Getulio Vargas (FGV), first semester students would have to spend R$ 2000 (~ 920 USD in 2005) to acquire all the books required by teachers.[230]

This conflict around the copying of educational books amongst publishers, students and universities revolves around Brazilian copyright law.[231] Art 46(II) of the Brazilian copyright law states that "the reproduction in one copy of short extracts from a work for the private use of the copier, provided that it is done by him and without gainful

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[226] *Id.*

[227] Gutierres & Harnik, *supra*. note 222; *Editoras Oferecem Descontos a Universidades Para Coibir Xerox,* UOL NEWS (Nov. 11, 2005), https://noticias.uol.com.br/uolnews/brasil/reportagens/2005/11/11/ult2616u194.jhtm [https://perma.cc/K9Y7-VGHP].

[228] Gutierres & Harnik, *supra* note 222.

[229] *Id.*

[230] Fabio Takahashi, *Universitários Lançam Frente Pró-Xerox*, FOLHA DE SÃO PAULO (Feb. 22, 2006), https://www1.folha.uol.com.br/fsp/cotidian/ff2202200618.htm [https://perma.cc/7GWU-H4KG].

[231] Lei No. 9.610 de 19 de Fevereiro de 1998, Altera, atualiza e consolida a legislação sobre direitos autorais e dá outras providências (Braz.), *translated by* the International Bureau of WIPO, https://www.wipo.int/edocs/lexdocs/laws/en/br/br002en.pdf [https://perma.cc/5RL5-4BSB].

intent" shall not constitute a violation of copyright.[232] Unfortunately, this provision is not clear on the extent of permissible legal copying that will not constitute a violation but for the stipulation of "short extracts." Is a "short extract" 5%, 10% or 20% of a book? Both parties latched onto this legal loophole to provide support for their activities. For students, short extracts could be a chapter of a book , thus justifying their copying activities. ABDR and publishers, on the other hand, considered this to be an unwarranted liberal interpretation of Art 46(II), and they accordingly intensified their crack down.[233] To ABDR, even the act of photocopying two pages of a book could amount to unlawful copying.[234] It is therefore not a stretch to say that the position of ABDR is that any reproduction requires permission, the implication being that universities must pay for every access. As the president of ABDR put it,

> "the university community, now protected by a large number of teachers and school owners, thinks that the villain of history is the author and the publisher. I say: the villain of history is the one who offers, who proposes to offer a package called education and it does not do it completely. That is, those who offer education in the market have to offer buildings, facilities, laboratories, internet, other supports for information and knowledge and books and libraries."[235]

Following the raids and the lack of clarity in Art 46(II) of Brazilian copyright law, several Brazilian universities passed internal resolutions establishing the

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[232] *Id.* art. 46(II).
[233] *Afinal, Copiar Trechos de Livros é Certo ou Errado?*, PORTAL UNIVERSIA (Sept. 12, 2005, 6:31 PM), https://www.jornaljurid.com.br/noticias/afinal-copiar-trechos-de-livros-e-certo-ou-errado [https://perma.cc/RS6M-PZ3B].
[234] *Id.*
[235] *Id.*

permissible extent of legal copying.[236] The involved universities were PUC-SP, University of São Paulo (USP), FGV and later in 2010 Federal University of Rio de Janeiro and according to Mizukami and Reia:

> The resolutions are very similar but diverge somewhat in the range of rights defined and justifications offered. All authorize the reproduction of chapters, articles, and other substantial portions of works for personal use—as well as copies of full works that have been out of print for at least a decade. All authorize the "professor's folder" as means of distributing materials via the copy shops. All require the library to tag work that can be fully copied. Most authorized the copying of foreign works not available in the domestic market.[237]

The intensification of ABDR efforts to prevent photocopying in universities led to the birth of an organised movement "Copiar Livro É Direito" (To Copy a Book is a Right) by students from USP, PUC-SP, FGV of São Paulo and Rio, Mackenzie, Ibmec Rio de Janeiro, and São Judas University.[238] Anchoring their arguments on human rights law and the Brazilian constitution, the movement challenged the threats of ABDR and publishers that sought to undermine A2E.[239] They correctly pointed out that human rights and constitutional law provide for "the access of all citizens to culture, information and knowledge, independent of prior consultation with right holders (especially book publisher associations)."[240] For these students, they were simply

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[236] Pedro Mizukami & Jhessica Reia, *Brazil: The Copy Shop and the Cloud*, *in* SHADOW LIBRARIES: ACCESS TO KNOWLEDGE IN GLOBAL HIGHER EDUCATION 223, 228 (Joe Karaganis ed., 2018).
[237] *Id.*
[238] Takahashi, *supra* note 230.
[239] *Copiar Livro é Direito*, UNIFIMES: CENTRO UNIVERSITARIO DE MINEIROS, http://unifimes.edu.br/2007/01/10/copiar-livro-direito/ [https://perma.cc/52YV-2QDL].
[240] *Id.*

"fighting for what is already legal, that is, the right to access to information."[241]

This conflict amongst publishers, students and universities over the conditions of ALM in Brazil is sharply representative of the complex interactions between law and institutions in determining the conditions of ALM and *a fortiori* A2E. At the centre of these interactions and conflict is copyright law. Although State funding can impact A2E, it is also palpably clear, as the Brazilian case shows that copyright law substantially shapes A2E. Whether it is conducive to or restrictive of access depends on the nature of the L&Es contained therein. This in turn depends on how copyright is understood: whether as a distinct and separate sphere of law or an overlapping sphere that must connect with other areas of law. DCs need to adopt the latter view and thereby integrate copyright with the constitutional right to education. As Branco states:

> In a country like Brazil where 6 million children live in absolute poverty we cannot ignore the benefits of technology, nor regard copyright as an absolute rule to be followed to the letter. Copyright is part of a far wider context, involving constitutional and international rules that need to be respected. As the Brazilian Constitution requires the observance of the social function of all forms of property… it is of vital importance that the LDA is read in the light of the Constitution and not the other way around.[242]

Interestingly, on July 12, 2018, Brazil enacted Law No. 13,696 which institutes the National Policy of Reading

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[241] Takahashi, *supra* note 230.

[242] Sergio Branco, *Brazilian Copyright and How It Restricts the Efficiency of the Human Right to Education*, 4 INT'L. J. ON HUM. RTS. 115, 132 (2007).

and Writing (NPRW).[243] Art. 2 of this law is important. It states:

> The following are guidelines of the National Policy of Reading and Writing:
>
> I - Universalisation of the right to access to books, reading, writing, literature and libraries;
>
> II - The recognition of reading and writing as a right in order to enable everyone, including through policies to stimulate reading, the conditions to fully exercise citizenship, to live a dignified life and to contribute to the construction of a more just society;

Art 2(V), on the other hand, affirms the "recognition of the creative, productive, distributive and mediating chains of books, reading, writing, literature and libraries as fundamental and stipulating components of the creative economy" thereby pointing out the important roles of authors and publishers.[244] According to Art. 3(I), one of the objectives of the NPRW is to "democratise access to the book and the various supports for reading through public libraries, among other places to encourage reading, in order to expand the physical and digital collection and accessibility conditions."[245]

The Brazilian NPRW is a development strategy. It is an interesting and concise articulation of the benefits of reading and writing. The strategy recognizes reading as a right and necessary to live a dignified life. As a development strategy, the NPRW is part of a package of other development policies and laws aiming to transform the lives of individuals. Its successful implementation requires that

[243] Lei No. 13.696 de 12 de Julho de 2018, Institui a Política National de Leitura e Escrita (Braz.).
[244] *Id.* art. 2(V).
[245] *Id.* art. 3(I).

these other development areas be harmoniously interpreted with the NPRW.

Copyright law and policy is part of this set of development tools. They each are a key part in realizing the noble goals of the Brazilian NPRW. State funding and library acquisition can only go so far due to finite resources. Even if libraries were able to stock enough books for each student, the L&Es of copyright law, regarding the making of copies, would still be necessary for A2E.

B. Delhi University Photocopy Case: A Clash of Knowledge Seekers and Knowledge Dealers.

A conflict similar to the one examined above recently played out in India .

In August 2012, five prominent publishers— Oxford University Press; Cambridge University Press (United Kingdom); Cambridge University Press India Pvt. Ltd.; Taylor & Francis Group (United Kingdom); and Taylor & Francis Books India Pvt. Ltd.— brought a copyright infringement suit before the Delhi High Court (DHC) against Rameshwari Photocopy Service (RAPS) and Delhi University (DU).[246] The publishers sought relief in the form of a permanent injunction for the photocopying and distribution of their publications in the form of course packs to students.[247] Specifically, the plaintiff publishers alleged that the first defendant, RAPS, infringed their copyright by reproducing chapters of the publishers' works, compiling the chapters as course packs, and distributing the course packs

[246] The Chancellor, Masters & Scholars of the University v. Rameshwari Photocopy Services, CS(OS) 2439/2012 (India).
[247] *Id.*

for sale to students.[248] Furthermore, the publishers argued that DU institutionalized copyright infringement by permitting the photocopying and the sale of their chapters as course packs.[249] The publishers alleged that these course packs competed with their publications, so they thereby sought a permanent injunction against the defendants, restraining them from making the course packs.[250] Relatedly, these publishers maintained that failure to protect their copyrights would sound a death knell for the publishing business.

The facts of the case are that RAPS obtained a license from DU to operate a photocopying facility at the Delhi School of Economics (DSE).[251] Although initially denied by DU, teachers at DSE had authorized the creation of course packs and assigned this task to RAPS.[252] RAPS photocopied pages and chapters from the plaintiff-publishers' publications, compiled them, and supplied them to students pursuant to the license agreement at 50 paisa per page.[253] The excerpted chapters were part of the syllabus prescribed by DU.

The infringement suit first came up before the DHC on August 14, 2012.[254] The court appointed a Commissioner to visit the premises of RAPS without prior notice and to make an inventory of all the infringing and pirated copies plaintiffs' publication found and to seize and seal the

[248] *Id.* ¶ 8, https://spicyip.com/wp-content/uploads/2016/10/Plaint.pdf [https://perma.cc/7VRK-TXYE].
[249] *Id.* ¶ 11.
[250] *Id.* ¶ 21.
[251] The Chancellor, Masters & Scholars of the University v. Rameshwari Photocopy Services, RFA(OS) No. 81/2016, ¶ 1 (India).
[252] *Id.*
[253] *Id.*
[254] The Chancellor, Masters & Scholars of the University v. Rameshwari Photocopy Services, CS(OS) 2439/2012 (India), http://delhihighcourt.nic.in/dhcqrydisp_o.asp?pn=159532&yr=2012 [https://perma.cc/P5DA-33ZL].

same.[255] On October 17, 2012, Justice Kailash Gambhir sitting at the DHC granted an interim injunction against RAPS restraining them from making or selling course packs.[256]

Following these events, a mobilisation of students, academics and civil society converged to challenge the publishers' suit.[257] Students organized protest rallies.[258] In 2013, the Association of Students for Equitable Access to Knowledge (ASEAK), an association organized by students of DU, filed an application to be impleaded as a necessary party.[259] On March 1, 2013, ASEAK was impleaded as defendant No. 3.[260] Then, on April 12, 2013, the Society for Promoting Educational Access and Knowledge (SPEAK), a society of academics from reputed academic institutions in India, filed an impleadment application and was so impleaded as defendant No. 4.[261] Furthermore, a change.org online petition was started by academics with over 1300 supporters.[262]

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[255] *Id.*

[256] *Id.*

[257] Radhika Oberoi, *DU Photocopy Case: What Happened and Why It's Important*, THE WIRE (Oct. 26, 2016), https://thewire.in/education/du-photocopy-case [https://perma.cc/XQ52-4KB2].

[258] *Id.*

[259] The Chancellor, Masters & Scholars of the University v. Rameshwari Photocopy Services, CS(OS) 2439/2012 (of the Association of Students for Equitable Access to Knowledge, for impleadment in the present suit) (India), http://delhihighcourt.nic.in/dhcqrydisp_o.asp?pn=45772&yr=2013 [https://perma.cc/KYD3-D3QX].

[260] *Id.*

[261] The Chancellor, Master & Scholars of the University v. Rameshwari Photocopy Services, CS(OS) 2439/2012 (SPEAK Impleadment suit) (India), https://spicyip.com/wp-content/uploads/2016/10/IA-5960-of-2013-O1R10-filed-by-SPEAK.pdf [https://perma.cc/SNH7-P6Z6].

[262] *Appeal to Publishers to Withdraw Suit Filed Against Delhi University*, CHANGE.ORG, https://www.change.org/p/academics-appeal-

On September 16, 2016 Justice Rajiv Sahai Endlaw, sitting as a single judge before the DHC, delivered the judgment of the court.[263] According to Justice Endlaw, the issue before the court was one of law that required an adjudication on "whether the making of course packs as the defendant No. 2 university is making amounts to infringement of copyright."[264] The factual issue as argued by both defendants and plaintiffs – whether the percentage of photocopied copyright content constituting the course packs fell substantially outside of fair use protection – was considered relevant to the adjudication of the suit.[265] The DHC held that the actions of the defendants did not amount to copyright infringement by virtue of s.52(1)(i) of the Indian Copyright Act, which provides that the reproduction of any work by a teacher or a pupil in the course of instruction does not constitute copyright infringement.[266] In a big win for students and civil society, the court denied the injunction sought by the plaintiffs.[267] The plaintiffs appealed this decision before the Division Bench (composed of two judges) of DHC and on December 9, 2016, Justice Pradeep Nandrajog delivered the judgment of the court.[268] Prior to the judgment, intervention applications by the Association of Publishers in India, the Federation of Indian Publishers, and the Indian Reprographic Rights Organisation (IRRO)

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to-publishers-to-withdraw-suit-filed-against-delhi-university [https://perma.cc/DP7M-NHNT].

[263] The Chancellor, Master & Scholars of the University v. Rameshwari Photocopy Services, CS(OS) 2439/2012 (India), http://164.100.69.66/jupload/dhc/RSE/judgement/16-09-2016/RSE16092016S24392012.pdf [https://perma.cc/FH97-KQ7K].

[264] *Id.* ¶ 22.

[265] *Id.*

[266] The Copyright Act, 1957, § 52(1)(i)(i) (India).

[267] The Chancellor, Master & Scholars of the University v. Rameshwari Photocopy Services, CS(OS) 2439/2012, ¶ 101 (India).

[268] The Chancellor, Master & Scholars of the University v. Rameshwari Photocopy Services, RFA(OS) No. 81/2016 (India).

were filed supporting the appellants before the DHC and on November 8, 2016, the application was allowed.[269]

In a blow to the appellants and interveners, the Division Bench of the DHC denied the grant of interim injunction against the respondents, holding that the impugned action of the respondents—the making and distribution of course packs to students—did not constitute copyright infringement, provided the inclusion of the copyrighted work in the course pack was justified for the purpose of educational instruction.[270] It did not matter the quantity photocopied as long as the course pack was justified for the purpose of educational instruction.[271] In reaching this conclusion, the court's opinion, penned by Justice Nandrajog, affirmed the determination of the Single Judge that the adjudication of the suit was contingent on the interpretation of s.52(1)(i) and further elaborated that the issue for determination is "whether the right of reproduction of any work by a teacher or a pupil in the course of instruction is absolute and not hedged with the condition of it being a fair use."[272] The bone of contention was whether a general principle of fair use or the specific four fair use factors, as applied in the US, should circumscribe the limits of s.52(1)(i).[273] Appellants argued that a fair use principle as applied in the US and other jurisdictions was applicable to the interpretation of s.52(1)(i), but the court disagreed, stating that "the general principle of fair use would be

[269] The Chancellor, Masters & Scholars of the University v. Rameshwari Photocopy Services, RFA(OS) No. 81/2016 (Indian Reprographic Rights Organisation Application) (India), https://spicyip.com/wp-content/uploads/2016/11/Intervention-Appliction-IRRO.pdf [https://perma.cc/4X4W-SSDV].
[270] The Chancellor, Masters & Scholars of the University v. Rameshwari Photocopy Services, RFA(OS) No. 81/2016, ¶ 56 (India).
[271] *Id.* ¶ 33.
[272] *Id.* ¶ 17.
[273] *Id.*

required to be read into the clause and not the four principles on which fair use is determined in jurisdictions abroad and especially in the United States of America."[274] This general principle of fair use read into s.52(1)(i) of the Indian Copyright Act would be "determined on the touchstone of 'extent justified by the purpose.'"[275] Put differently, "the utilization of copyrighted work would be a fair use to the extent justified for purpose of education. It would have no concern with the extent of the material used, both qualitative and quantitative."[276]

As a matter law, the court therefore denied the grant of interim injunction on the grounds stated above but remanded the suit to the Single Judge to determine the factual issue of whether the inclusion of copyrighted works in the course pack was justified for the purpose of instructional use by the teacher to the class.[277]

On March 10, 2017, the publishers issued a joint statement to withdraw as plaintiffs and not to appeal the judgment of the DHC Division Bench to the SC of India.[278]

V. COMMENTARY: PAVING THE WAY FOR A2E

Whichever way one unpacks or characterise the Brazilian and Indian cases, it is impossible to deny that A2K and A2E concerns are central to each case. They show how copyright law is central to these concerns. In both cases, the contestation revolved around the permissible extent of copying allowed under each country's copyright law. For

[274] *Id.* ¶ 31.
[275] *Id.* ¶ 33.
[276] *Id.*
[277] *Id.* ¶ 80.
[278] The Chancellor, Masters & Scholars of the University v. Rameshwari Photocopy Services, CS(OS) 2439/2012 (Suit Withdrawal), http://delhihighcourt.nic.in/dhcqrydisp_o.asp?pn=50568&yr=2017 [https://perma.cc/T9JL-9H4C].

Brazil, it was Art 46(II) of the Brazilian Copyright law; and in India, s.52 of the Indian Copyright Act.

Although there are significant parallels between these two cases, the India case in particular represents a watershed moment in the struggle for the governance of knowledge use in higher institutions, because it pits globally recognised publishers against DC students and also brings the case up for determination before the court. The outcome of the India case is partly the result of a clear effort to integrate the right to education with copyright law. Although there were echoes of A2E concerns in the Copy Book is Right movement in Brazil, the India case differed in the sense that the court served as a platform to articulate these concerns coherently and integrate them with copyright law.

Before Justice Endlaw at the Single Bench, counsels for the defendants incorporated the issue of education in their arguments and specifically the right to education under the Indian Constitution.[279] Broadly, they drew attention to the socio-economic inequalities in Indian society and its impact on A2E.[280] Particularly, they showed that the purchasing power of Indian students is weak given the existing socio-economic conditions and, consequently, the difficulty of placing unrealistic expectations on students to purchase copies of textbooks that are beyond their means.[281] Counsel for defendant No.1 "drew attention to Articles 39(f) and 41 of the Constitution of India constituting giving of opportunities and facilities to children to develop in a healthy manner, protected from exploitation and right to education as Directive Principles of State Policy…"[282]

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[279] The Chancellor, Masters & Scholars of the University v. Rameshwari Photocopy Services, CS(OS) 2439/2012, ¶16–18 (India).
[280] *Id.* ¶ 15.
[281] *Id.*
[282] *Id.* ¶ 16.

Counsel for defendant No. 2 relatedly argued that "the question, though relating to copyright law, has to be judged in the light of the right to access to knowledge", that "the right to education finds mention in the Constitution not only as a Fundamental Right but also as a Directive Principle of State Policy" and that "A2E is a cherished constitutional value and includes within it access for students to book library and right to research and to use all materials available."[283] These arguments—clear attempts to integrate copyright law with the right to education—clearly informed the court's judgment. Justice Nandrajog, writing the decision of the DHC Division Bench, articulated:

> The importance of education lies in the fact that education alone is the foundation on which a progressive and prosperous society can be built... So fundamental is education to a society – it warrants the promotion of equitable access to knowledge to all segments of the society, irrespective of their caste, creed and financial position. *Of course, the more indigent the learner, the greater the responsibility to ensure equitable access.*[284]

One aspect of the court's judgment—which dovetails with the responsibility to ensure A2E—is its understanding of the relationship between s.52 and s.51. The latter section under Indian Copyright Act confers exclusive rights on copyright owners and the former section is what is normally referred to under a copyright regime as "exceptions" because it permits the doing of an act that but for the section would constitute a copyright infringement.[285] The plaintiffs argued

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[283] *Id.* ¶ 18.

[284] The Chancellor, Masters & Scholars of the University v. Rameshwari Photocopy Services, RFA(OS) No. 81/2016, ¶ 40 (India) (emphasis added).

[285] On the difference between "exceptions" and "limitations" in copyright law, see JANE C. GINSBURG, *Copyright*, *in* OXFORD HANDBOOK OF INTELLECTUAL (Rochelle C. Dreyfuss and Justine Pila

that s.52 is an exception to the rights conferred by s.51 and should be interpreted narrowly. The court, per Judge Endlaw, disagreed stating, "I thus agree with the contention of the senior counsel for the defendant no.2 University that the rights of persons mentioned in Section 52 are to be interpreted following the same rules as the rights of a copyright owner and are not to be read narrowly or strictly or so as not to reduce the ambit of Section 51..."[286]

The Division Bench agreed with the Single judge. S.52 should be understood as rights and interpreted accordingly, and not just as exceptions to the exclusive rights of copyright owners.[287] The implication of this is clear: exclusive rights of copyright owners and rights of users are equally important, and as such neither should be given any preference. The practice of treating rights of users as concessions or simply exceptions does not fit in with the objective of copyright which Justice Endlaw noted "seeks to maintain a balance between the interest of the owner of copyright in protecting his works on the one hand and interest of the public to have access to the works, on the other."[288]

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eds., 2018). *See also* Sam Ricketson, *The Boundaries of Copyright: Its Proper Limitations and Exceptions - International Conventions and Treaties*, INTELL. PROP. Q. 56, 59 (1999).

[286] The Chancellor, Masters & Scholars of the University, CS(OS) 2439/2012, ¶ 41 (India).

[287] The Chancellor, Masters & Scholars of the University v. Rameshwari Photocopy Services, RFA(OS) No. 81/2016, ¶ 25 (India).

[288] *Id.* The view that L&Es are simply limits to the rights of authors is being shunned for a users' rights approach to L&Es which finds justification on human rights and even utilitarian grounds. *See* CCH Canadian Ltd v. Law Society of Upper Canada [2004] 1 SCR 339 (Can.); *see generally* Michael Geist, *The Canadian Copyright Story: How Canada Improbably Became the World Leader on Users' Rights in Copyright Law*, *in* COPYRIGHT LAW IN AN AGE OF LIMITATIONS AND EXCEPTIONS (Ruth L. Okediji ed., 2017); Saleh Al-Sharieh, *Securing the*

As mentioned above, there are similarities between the Indian and Brazilian case. Notably are the publishers' hackneyed tactics of exaggerating economic losses due to supposed copyright infringement. In Brazil, the ABDR had estimated a 400 million USD economic loss due to the rampant photocopying by students. The same argument was utilized by the publishers in India.[289] They asserted that the course packs constituted lost sales and therefore huge economic losses to the publishing industry.[290] The Division Bench rejected this argument even suggesting that improved education could in the long run expand the market for copyright works:

> In the context of the argument of an adverse impact or the likelihood of the same on the market of the copyrighted work in question, taking the example of a literacy programme, assuming the whole of the copyrighted material is used to spread literacy, one cannot think of any adverse impact on the market of the copyrighted work for the simple reason the recipient of the literacy programme is not a potential customer. Similar would be the situation of a student/pupil, who would not be a potential customer to buy thirty or forty reference books relevant to the subject at hand. For purposes of reference she would visit the library. It could well be argued that by producing more citizens with greater literacy skills and earning potential, in the long run, improved education expands the market for copyrighted materials.[291]

Future of Copyright Users' Rights in Canada, 35 WINDSOR Y.B. ACCESS JUST. 11 (2018).

[289] Takahashi, *supra* note 223.

[290] The Chancellor, Masters & Scholars of the University v. Rameshwari Photocopy Services, CS(OS) 2439/2012, ¶ 14 (India).

[291] The Chancellor, Masters & Scholars of the University v. Rameshwari Photocopy Services, RFA(OS) No. 81/2016, ¶ 36 (India).

The plaintiff publishers stated before the Single and Division Benches of the court that the objective was not to compel students into buying copies of their copyrighted works but rather to direct DU to obtain licenses from the IRRO in order to reproduce extracts of their copyrighted works.[292] In Brazil however, the ABDR insisted that students purchase the textbooks at a 40% discount.[293] The publishers in the Indian case strategically opted require the negotiation of licenses with the IRRO—instead of insisting on the purchase of textbooks even at a discounted price—to paint a picture of an empathetic publisher who understands the economic realities of Indian society. It is also likely that the publishers opted for this approach because it would fit well with the neo-classical L&E theory of copyright. This theory privileges the market as an efficient mechanism for determining the production and consumption of creative works, and it also puts forth the understanding of copyright as a property right.[294] Under this theory, the use of a copyrighted work without the permission of the copyright owner should only be considered fair use if there is market failure.[295] This market failure could manifest in the form of

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[292] The Chancellor, Masters & Scholars of the University v. Rameshwari Photocopy Services, CS(OS) 2439/2012, ¶ 20 (India); The Chancellor, Masters & Scholars of the University v. Rameshwari Photocopy Services, RFA(OS) No. 81/2016, ¶ 3 (India).

[293] Gutierres & Harnik, *supra* note 222.

[294] *See generally* Stan Liebowitz, *The Case for Copyright*, 24(4) GEO. MASON L. REV. 907 (2017); Jeremy de Beer, *Making Copyright Market Work for Creators, Consumers and the Public Interest*, *in* WHAT IF WE COULD REIMAGINE COPYRIGHT? (Rebeca Giblin & Kimberlee Weatherall eds., 2017).

[295] Wendy J. Gordon, *Fair Use as Market Failure: A Structural and Economic Analysis of the Betamax Case and its Predecessors*, 82 COLUM. L. REV. 1600, 1614–22 (1982); Sam Ricketson, *supra* note 285, at 60 (stating that "free use provisions should only arise where the benefit of allowing the use in question outweighs the losses to the right owner and where transaction costs would otherwise prevent a negotiated

transaction costs in negotiating licenses or where collecting societies such as IRRO do not exist. In the absence of market failure, licenses for the use of copyrighted works should be negotiated, even if the impugned act constitutes a fair use. Given that a collecting society, e.g. IRRO, did exist, the plaintiff publishers were likely hoping that the court would opt for a licensing regime. This is evident from their arguments before the Single judge, submitting "(y) that the defendants on the one hand are infringing copyright of the plaintiffs and on the other hand also depriving the plaintiffs of the IRRO licence fee; (z) that once an efficient mechanism is in place to deal with the situation as has arisen, the same should be adopted."[296] Justice Endlaw nipped these arguments in the bud. According to the learned judge, the question of directing DU to approach IRRO for a reproduction license "would arise only upon finding that what the defendant No.2 University is doing is not covered by Section 52 of the Act and which would make it an infringement of the copyright and to avoid which it can go before IRRO."[297]

VI. CONCLUSION: CHALLENGES ON INTEGRATING COPYRIGHT WITH THE CONSTITUTIONAL RIGHT TO EDUCATION?

Many DCs provide for A2E either as a fundamental right or part of DPSP in their Constitutions. This importance accorded to education in national constitutions is a firm recognition of its indispensable value for national and human development. It attests to the fact that education is correlated

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license.") To be fair to Ricketson, he admits that economic considerations should not be the sole concern in determining exceptions to copyright but considers it to be a "starting point of analysis."

[296] The Chancellor, Masters & Scholars of the University v. Rameshwari Photocopy Services, CS(OS) 2439/2012, ¶ 14 (India).

[297] *Id.* ¶ 23.

with many positive outcomes. The constitutionalization of the right to education also reinforces, and in turn is reinforced by international human rights and global development efforts by promoting the agenda for universal education. This awareness for education, as expressed, is particularly pressing for DCs as they face numerous challenges concerning access to quality education.

One of these numerous challenges is ALM. There are two dimensions to this problem. One is resource-based and the second is legal. The first dimension has to do with the resource limitations of libraries and the weak purchasing power of university students in DCs when acquiring learning materials. The Nigerian situation, which is not too different from many DCs, shows that libraries are significantly under-resourced, and the fee-based available titles in these libraries are not sufficient for the research and learning needs of students. These students cannot afford to purchase textbooks.

Second is the legal dimension of this issue. These concerns center on the conditions of the access to and the use of existing learning materials. Both the DU case in India and the Brazilian case capture and map out these institutional and legal determinants of ALM in higher institutions. As we have seen, at the center of these cases is copyright law. The exclusive rights guaranteed by this regime, the proprietary and market justifications predominantly underpinning the regime, and the litany of misleading arguments and tropes by publishers and copyright-holders legitimizing the intensification of enforcement all ensure that existing L&Es, which are already narrow, are interpreted even more narrowly to suit private interests. Increasingly, copyright law continues to pander to these private interests and undermine development goals, including A2E.

But there is good news.

The importance of the Brazilian and the Indian photocopy cases discussed above is less about the outcome

of the cases, and more about the strategy employed by knowledge seekers to counter the claims of knowledge dealers. The parties affected by copyright restrictions on photocopying in these cases understood that their petition for a liberal interpretation and understanding of users rights will hardly be answered if copyright is not understood in a wider context. Accordingly, the debates and issues at stake were pushed beyond the boundaries of copyright law. By removing the contested issues solely from the turf of copyright law and framing it as A2K and A2E, copyright law is forced to interact and integrate with other areas of law. The implication is that the issues at stake are removed from the narrow confines of copyright law and thereby interrogated in their broader context. Integrating the constitutional right to education with copyright law accomplishes this task and more importantly aligns copyright law with its public interest objectives. But there are challenges in integrating copyright law with the constitutional right to education which I will outline briefly.

The first set of challenges is concerns the nature and content of the right to education expressed in the Constitutions of many DCs. As discussed above, there is a noticeable pattern in these Constitutions concerning the relegation of the right to education to the DPSP which is not justiciable mainly because they require resources and are classified as ESC rights. The constitutional right to education needs to be justiciable to be meaningfully integrated with copyright law. This non-justiciability effect poses problems for a claimant who calls upon the court to determine if a law affects her enjoyment of the constitutional right to education. If a court has no jurisdiction to determine whether the right to education has been infringed, then it will be prevented in adjudicating issues affecting this right. This challenge does not exist for the countries examined (India, South Africa, and Brazil), and seemingly so for Nigeria, as the right to education now enjoys the status of a fundamental

right. Unfortunately, ESC rights are somehow perceived as inferior to CP rights and thereby non-justiciable.[298] As the Indian SC jurisprudence shows, however, both rights are supplementary and complementary, and should be equally protected. In fact, lack of education is life-threatening.

Another challenge concerns the scope of the right to education. In all the countries examined above, the constitutionally guaranteed right is the right to basic education. The State is under obligation to provide access to quality education at this level and an aggrieved party may compel the State before the courts to carry out its obligation. Beyond the basic level, the courts will defer to the State. But, as discussed above concerning Brazil, India, and Nigeria, access to text books is of greater concern in higher institutions than at the basic level, and there is no reason to suggest it is any different for other DCs. If the constitutionally guaranteed right to education extends no further than the basic level, and the concerns which implicate copyright are more prevalent at higher institutions, the challenge is whether this limitation prevents the effects the integration would have at the higher level of education. This is unlikely to be so. The purpose of the integration is to enable copyright to respond to the developmental goals of A2E, rather than for the state to commit resources in the provisioning of higher education. In fact, if the constitutional right to education is limited to the basic level as a result of limited resources, then the integration should have maximum impact at the higher institution level because it does not require the commitment of resources for copyright to respond to concerns of A2E. Indeed, this supposed limitation did not prevent counsels for the

[298] Ssenyonjo, *supra* note 79; THE PROTECTION OF ECONOMIC, SOCIAL AND CULTURAL RIGHTS IN AFRICA: INTERNATIONAL, REGIONAL, AND NATIONAL PERSPECTIVES, *supra* note 79.

respondents in the India photocopying case from utilizing the constitutional right to education, even though as was discussed with India, the right to basic education is guaranteed. Nor did it change the court's view on the importance of education and the need to ensure equitable access.

The final issue is *whether* the constitutional right to education can be integrated with copyright law. This concerns the nature of the obligation conferred by the constitutional right to education and how it may interact—or the nature of the relationship—with rights and obligations conferred by copyright law. Both areas of law are different. Copyright is a private law with obligations and rights created between individuals, whereas constitutional law is public law which deals with the relations between private individuals and the State. The constitutional right to education imposes an obligation on States with private individuals as right-bearers. The question then is whether it is possible to integrate the two, as the constitutional right to education and copyright law impose obligations on states and individuals, respectively. The issue might be stated differently in the form of an argument: the constitutional right to education imposes an obligation upon States which may be fulfilled by increased state funding and the provision of textbooks. Copyright law has no role in this constitutional assignment as mandating it's assistance in this assignment would equate to the State passing the buck or shying away from its responsibility. This would be an encroachment on the property rights of private individuals to achieve the societal objective of basic education.

There are several problems with this understanding. First, there are other ways the State can ensure its constitutional obligation on the right to education is fulfilled other than funding. States may enact or amend existing laws to align with or facilitate the constitutional right to education. For example, the recently enacted Brazilian law

No. 13,696, instituting the NPRW, facilitates the constitutional right to education by promoting access to reading materials. Copyright law can be amended to facilitate these goals. Second, obligating the State to fulfill the enjoyment of the constitutional right to education does not prevent it from enjoining private citizens in carrying out acts or exercising rights that may impinge on the enjoyment of the right to education. Put differently, if the State is under obligation to ensure the enjoyment of the constitutional right to education, which involves ALM, it may carry out this obligation by preventing the exercise or conferral of rights on private citizens, through its organs, that hinder ALM and thereby A2E. Copyright is one such law and there is no reason why it cannot be integrated with the constitutional right to education. Third, this understanding of copyright law's limited role is premised on the public/private distinction. The demarcation between public law and private law follows from the public/private divide in liberal thought. In classical legal thought, the public/private distinction serves as labels to demarcate spheres of activities that may legitimately be subject to government regulation or intervention from those that are presumptively outside the bounds of such intervention.[299] Market and family are the two main examples of the latter, the private sphere. This demarcation of the private sphere from the public arose out of the idea that governments' encroachment on the rights of the individual should be restrained.[300] On the basis of this

[299] *See* Robert H. Mnookin, *The Public/Private Dichotomy: Political Disagreement and Academic Repudiation*, 130(6) U. PA. L. REV. 1429, 1429–30 (1982); Hila Shamir, *The Public/Private Distinction Now: The Challenges of Privatization and of the Regulatory State*, 15 THEOR. INQ. L. 1, 4–7 (2014) (summarizing the public/private distinction). For the history of the public/private distinction, see generally Morton J. Horwitz, *The History of the Public/Private Distinction*, 130 U. PA. L. REV. 1423 (1982).

[300] Horwitz, *supra* note 299, at 1423.

distinction, "a clear separation between constitutional, criminal and regulatory law—public law—and the law of private transactions—torts, contracts, property, and commercial law" was created.[301] Horwitz states that this separation between public law and private law, this public/private distinction, was brought about by "[t]he emergence of the market as a central legitimating institution."[302] Private law is seen as merely facilitating the voluntary transactions of individuals to achieve the efficiency goals of the market. The role of the state is to facilitate and not to regulate private transactions.

The implication of the public/private distinction on the integration of the constitutional right to education with copyright law is clear: copyright law is a genus of private law which confers exclusive rights in the form of property rights to rightsholders to facilitate voluntary transactions in the market place for creative works. The role of the state is to facilitate these transactions through the guarantee and strengthening of these property rights.

The public/private distinction has come under increasing attack.[303] Many have pointed that it is incoherent and useless as an analytical tool, and that "[t]he distinction is dead, but it rules us from the grave,"[304] While some have even stated that "[t]here is no public/private distinction."[305] The general conclusion is that the public/private distinction

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[301] *Id.* at 1424.

[302] *Id.*

[303] Symposium, *The Public/Private Distinction*, 130 U. PA. L. REV. 1289 (1982); Symposium, *The Boundaries of Public Law*, 11 INT'L J. CONST. L. 125 (2013); Symposium, *Public/Private Beyond Distinctions?*, 15 THEOR. INQ. L. 1 (2013); Paul M. Schoenhard, *A Three-Dimensional Approach to the Public-Private Distinction*, UTAH L. REV. 635, 637–43 (2008).

[304] Duncan Kennedy, *The Stages of the Decline of the Public/Private Distinction*, 130 U. PA. L. REV. 1349, 1353 (1982).

[305] Karl E. Klare, *The Public/Private Distinction in Labor Law*, 130 U. PA. L. REV. 1358, 1361 (1982) (emphasis in original).

has lost its ability to be distinguished.[306] Even if we insist that the public/private distinction exists, the key question still remains: is copyright a private law? This is by no means definite even though I have suggested above, for the sake of argument, that it is private law. Patterson and Judge Birch, as he then was, have argued that copyright law is public law.[307] According to them, the impact rather than source of a law should determine whether it is public or private.[308]

Accordingly, they argue that "copyright law, both in the form of statutory law and private pronouncements, should be treated as public law because of its impacts on the lives of all citizens."[309] To label it as private law is to deny that it has distributive consequences and, most importantly, that it impacts on the lives of countless indigent people to gain A2E.

[306] Schoenhard, *supra* note 303, at 636.
[307] L. Ray Patterson & Judge Stanley F. Birch Jr., *Copyright and Free Speech Rights*, 4 J. INTELL. PROP. L. 1, 6 (1996).
[308] *Id.* at 19.
[309] *Id.*; *see also* Keith Aoki, *(Intellectual) Property and Sovereignty: Notes Toward a Cultural Geography of Authorship*, 48 STAN L. REV. 1293, 1311–33 (1996) (suggesting that copyright law is public law based on his assessment of the relationship between "property" and "sovereignty" in American IP law).

TAKING A SLICE OF THE PIE: AN EMPIRICAL AND THEORETICAL INQUIRY ON ALLEGEDLY CHALLENGEABLE INVENTORSHIPS

CLAIRE WAN-CHIUNG CHENG*
JEFFREY WU**

ABSTRACT

This article argues for a more widespread existence of inventorship misrepresentation by comparing the US, Taiwanese, and Chinese patents owned by US, Taiwanese, and Chinese healthcare companies respectively. The companies were selected from NASDAQ, the Taiwan Stock Exchange Corporation, and the Shanghai and Shenzhen Stock Exchange while the patents were all retrieved from their respective official databases. Our empirical analyses show that, in comparison to the US patents owned by the US healthcare companies, a significantly higher likelihood of "allegedly challengeable" inventorship exists in the Taiwanese and Chinese patents owned by the Taiwanese and Chinese healthcare companies. This conclusion is based on statistical results, including the findings of representative Taiwanese and Chinese companies having more than half of

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their 100-plus patents invented by solely management-level employees (instead of their R&D personnel), while such a phenomenon does not exist in their US counterparts.

We argue that the existences of these inventorship misrepresentations are not only unethical, but also damaging to society through the creation of severe external diseconomies. This article starts by studying the enormous social costs incurred from destructed job signaling systems —first introduced by Nobel laureate, Michael Spence— for which we further argue with patent asset-specific applications. With the empirically-proven inventorship misrepresentation, we also question the justification of introducing patent inventorship in criminal sentence commutation decisions in China. Finally, we argue that without prompt correction, these commonly seen inventorship misrepresentations, which should never exist, will undermine the very purpose of patent law by weakening inventors' incentives to innovate or to disclose their inventions.

We then offer comprehensive accounts on inventorship misrepresentation from both personal and institution-wide perspectives. First, we argue that private parties may become over-incentivized to "take a slice" of any benefits associated with being an inventor. We also find that the differences in legal landscapes and cultural dimensions are also important contributing factors to why some companies misrepresent their inventors. Finally, based on the insights of behavioral law and economics studies, we propose the imposition of legal costs and the mandatory disclosure of inventive contribution information as the two solutions to deter these undesirable conducts.

I. INTRODUCTION

You are a researcher at a biotech company. After years of hard work, you finally had your eureka moment and found the answer to a long-unsolved problem in the field. You understand the value of this invention, so you would like to have it patented. You are also aware that you are obliged to assign the patent to your company because of an agreement you signed on the first day of work. Still, you are okay with that because listing your name as the inventor on this patent would give your credentials a tremendous boost. Plus, the company awards a generous bonus to the inventor if the patent is granted and further monetized. You can also expect a raise from such a great achievement. So, you report your brilliant idea to your supervisor.

Just when you think everything is going as planned, you noticed that you are not the sole inventor listed on the patent application. To your surprise, your supervisor is also

listed as an inventor despite the fact that you single-handedly came up with all the ideas in the patent. Your supervisor was never there to help conceive your invention. Being a nice person and all, you don't want to risk sabotaging your career, so you are hesitant about calling out your supervisor. Nevertheless, you are still irritated at your supervisor for taking credit that she should never have been entitled to.

Having friends in the bioindustry, we have heard similar anecdotes more than a few times.[1] The familiar storyline is supervisors being listed as joint inventors with their subordinates even though the supervisors did not contribute to the conception of any of the patent claims. An even worse variation is the subordinates that did contribute to the invention being left out. Either way, this conduct is a misrepresentation of inventorship.[2]

There are three types of inventorship misrepresentations: misjoinders (listing someone who is *not* a real inventor, as in our original story), nonjoinders (failing to list someone who *is* the real inventor), or combinations of both, which, in this article, we call *compound inventorship misrepresentations*. All three types of misrepresentation, if done purposefully, are unethical and can have serious legal consequences.

For example, in *Drone Technologies*,[3] the defendants argued that the listed inventor of the patents-in-suit was not the real inventor because the listed inventor from the Taiwanese corporation only had the simple idea of "control[ling] [an] aircraft using the movements of a remote controller, and did not have a solution for accomplishing that idea or even understand any of the technology described in the patents-in-suit."[4] The defendants claimed that the real

[1] For obvious reasons, we will not disclose from whom or from where we acquired such information.
[2] 1 CHISUM ON PATENTS § 2.01 (2020).
[3] Drone Techs., Inc. v. Parrot S.A., 838 F.3d 1283 (Fed. Cir. 2016).
[4] *Id.* at 1291.

inventor should instead be the husband of the listed inventor.[5] On remand, the court allowed the defendants to have the opportunity to pursue an invalidity claim based on this accusation[6] and even explicitly stated that "a successful challenge to inventorship may invalidate the patents-in-suit."[7]

Because of the dire consequences inventorship misrepresentation can lead to, a number of articles have covered this issue before.[8] However, we take a step further and argue for the possibility of this phenomenon existing on a larger scale.[9] We also cover the costs and causes of inventorship misrepresentation from society's perspective as opposed to only on the legal consequences thereof.[10]

Since much of our anecdotal evidence comes from Taiwanese healthcare companies, our empirical study starts there. In Part II., we analyze and compare the patents owned by the selected Taiwanese healthcare companies with those owned by the US and Chinese healthcare companies. Our results show that compared to US healthcare companies, Taiwanese and Chinese healthcare companies are more

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[5] *Id*.
[6] *Id.* at 1288.
[7] *Id*.
[8] *See, e.g.,* Patrick G. Gattari, *Determining Inventorship for US Patent Applications*, 17 INTELL. PROP. & TECH. L. J. 16, 18-19 (2005) (discussing possible reasons why inventorship misrepresentation exists); Antigone Kriss, *Misrepresentation of Inventorship and the Inequitable Conduct Defense: PerSeptive Biosystems, Inc. v. Pharmacia Biotech, Inc*., 12 FED. CIR. B.J. 285 (2002); Chih-Jie Yang 楊智傑, *Determining Inventorship and the Consequences of Inventorship Misrepresentation in US Patents—Case Study and a Comparison with Taiwanese Law* ***美國發明人認定及錯列發明人之後果*** *(Meiguo Famingren Rending Chi Tsolei Famingren Chih Hoguo)*, 38 TAIWAN PAT. ATT'YS J. 27, 48 (2019) (comparing the legal landscape of Taiwan with that of the US in terms of inventorship misrepresentation and the impacts thereof).
[9] *Infra* Part II.
[10] *Infra* Part III.; *infra* Part IV.

likely to misrepresent their inventors.[11] In Part III., we cover the costs of inventorship misrepresentation. We argue that inventorship misrepresentation is not merely about hard feelings or work ethic. It also results in external diseconomies, including the reduced value of patent credentials, both in job markets and in society, as well as reduced incentives for inventors, both to innovate and to disclose their inventions. In Part IV., we turn to the causes of inventorship misrepresentation. We argue that besides the benefits associated with being listed as an inventor, legal landscapes and cultural dimensions are also contributing factors to why some companies misrepresent their inventors. In Part V., we provide the imposition of legal costs by tying patent enforceability to the correctness of inventorship and the increasing of inventive information transparency by mandating inventive contribution disclosure as the two solutions. Part VI. concludes.

II. EMPIRICAL STUDY ON "ALLEGEDLY CHALLENGEABLE" INVENTORSHIP

In this part, we explore possibilities of inventorship misrepresentation existing on a larger scale through a three-market empirical study. In the study, we compare Taiwanese patents owned by Taiwanese healthcare companies, US patents owned by US healthcare companies, and Chinese patents owned by Chinese healthcare companies. The Taiwanese, US, and Chinese companies were selected from the listings on the Taiwan Stock Exchange Corporation, NASDAQ, and the Shanghai and

[11] Since our study is based on public information, we do not dive directly into individual patents. The empirical evidence we provide in this article is derived from a generalized perspective, as explained below. *See generally infra* Part II.A.

Shenzhen Stock Exchange respectively.[12] The patents of these companies were selected from the official databases of each country.[13]

We argue that the Taiwanese patents owned by the Taiwanese healthcare companies and the Chinese patents owned by the Chinese healthcare companies are more likely to have "allegedly challengeable" inventorships compared to the US patents owned by their US counterparts. How the indicators are derived are explained in more detail in Section C, but the general idea is that these "allegedly challengeable" inventorships are the results of listing non-inventive contributing supervisors or failing to list real inventors.

However, it should be noted that we do not ambitiously claim the absolute existence of inventorship misrepresentations as it is difficult to do so without inside information.[14] As such, the word, "allegedly challengeable," is used throughout this article to describe *possible* inventorship misrepresentations in these patents, as opposed to the word, "misrepresented." Moreover, since direct evidence is hard to obtain,[15] we derived several novel indicators to indirectly prove the existence of "allegedly challengeable" patent inventorships. We explain how the indicators were derived and how they are applied to reach our conclusions in detail in Section C.[16]

Also, we only conducted patent searches in the countries that the companies are based in. This is because we assume that, for the three markets we targeted, a company's primary market should be in the country the

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[12] *See infra* Part II.A. 1.
[13] *See infra* Part II.A. 2.
[14] Without inside-information, inventorship misrepresentations are hard to discover and are most likely found during due diligence where such information is accessible. *See* Donald A. Degnan & Libby A. Huskey, INVENTORSHIP: WHAT HAPPENS WHEN YOU DON'T GET IT RIGHT? 8 (Holland & Hart LLP 2006).
[15] *See id*.
[16] *See infra* Part II.C.

company is based and is thus one of the major jurisdictions—if not the most influential—where the company should have filed the most patent applications.[17] We contend that this method would yield the most comprehensive results as opposed to, for example, only retrieving US patents owned by Taiwanese companies.

In Section A, we describe our research methodology, including how we selected the healthcare companies and how we retrieved the patents and inventor-related information. In Section B, we present the results. Finally, in Section C, we explain the derivation of our indicators, analyze the results, and argue for the higher likelihood of allegedly challengeable patent inventorships in the Taiwanese and Chinese healthcare companies.

A. Methodology

1. Retrieval of Taiwanese, US, and Chinese healthcare companies

a. Taiwanese healthcare companies

We retrieved the Taiwanese healthcare companies from equities listed under the category, "Biotechnology and Medical Care," in the Taiwan Stock Exchange Corporation (TWSE) on Oct. 26, 2019.[18] A total of thirty-five companies were retrieved.

[17] It is possible that some companies in other countries do not follow this assumption, but by comparing across the Taiwanese, US, and Chinese patents owned by the different companies through preliminary patent searches, we found that almost all companies we looked at own the most patents in their home country. Thus, this assumption is arguably sustained in our empirical study.

[18] List of ISIN Code for Listed Equities 本國上市證券國際證券辨識號碼一覽表 (Benguo Shangshi Chenchuan Guoji Chenchuan Bianshih Hauma Yeelan Biau), https://isin.twse.com.tw/ [https://perma.cc/H8LW-FJ2E] (last visited Oct. 26, 2019).

b. US healthcare companies

We retrieved US healthcare companies listed under the category, "healthcare," from NASDAQ's list screener.[19] For comparison purposes, we only selected US healthcare companies that have similar market capitalizations with those of the selected Taiwanese healthcare companies. Since most of the selected Taiwanese healthcare companies have market capitalizations smaller than 300 million USD, which is roughly equivalent to the market capitalization range of NASDAQ's "micro-companies,"[20] we selected the US companies based on this filter as well. A total of thirty-five US Micro Healthcare Companies were selected.

c. Chinese healthcare companies

We selected the Chinese healthcare companies from Shanghai and Shenzhen Stock Exchange under the categories, "Biomedicine, Health and Social Work," and "Public Health," on Dec. 7, 2019.[21] A total of twenty-eight companies were retrieved. Since the market capitalizations of the retrieved Chinese companies were not markedly different from those of the selected Taiwanese companies, none of the twenty-eight Chinese companies were filtered out.

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[19] Symbol Screener, NASDAQ, https://www.nasdaq.com/market-activity/stocks/screener [https://perma.cc/W25X-QEN7] (last visited Dec. 2, 2019).

[20] *Id.*

[21] SHANGHAI STOCK EXCHANGE, http://www.sse.com.cn [https://perma.cc/J5N4-QL63] (last visited Mar. 2, 2020); SHENZHEN STOCK EXCHANGE, http://www.szse.cn [https://perma.cc/T3VF-BM9D] (last visited Mar. 2, 2020).

2. Retrieval of Taiwanese, US, and Chinese patents

Here we explain how the patents were retrieved. Notably, we filtered out companies that owned fewer than ten patents[22] as we believe that these companies have too few patents to make them statistically representative for our discussions.

a. Taiwanese patents

We conducted Taiwanese patent searches in February, 2020 using the Global Patent Search System (GPSS) developed by the Taiwan Intellectual Property Office (TIPO).[23] The names of the selected Taiwanese companies were used as search queries in the "assignee/applicant" field.[24]

It should be noted that the scope of the study on Taiwanese healthcare companies is limited to the analysis of granted Taiwanese patents and thus does not include Taiwanese patent applications or other patent-related documents outside of Taiwan.

b. US patents

We conducted the US patent searches in November and December, 2019 using the U.S. Official Patent Full Text

[22] The cut-off value is set at ten because according to our data, companies having fewer than ten patents only have a significantly small number of inventors and would be unsuitable to undergo our analyses in Section C.

[23] Global Patent Search System, TIPO, https://gpss.tipo.gov.tw [https://perma.cc/7H53-B8E2] (last visited Feb. 18, 2020).

[24] Note that based on the search queries we used, we were only able to obtain patents that are assigned to the companies selected. Our results do not include possible misjoinders or nonjoinders that are not properly assigned to the selected companies. Nevertheless, the proper assignment of patents is not within the focus of our study. We thus do not to dive deeper into how to retrieve these types of patents in this article.

and Image Database.[25] The names of the selected US companies were used as search queries in the "assignee" field.

Likewise, the scope of the study on US healthcare companies is limited to granted US patents and does not include US patent applications or other patent-related documents outside of the US.

c. Chinese patents

Patent searches were conducted in February, 2020 using the patent retrieval system of the Chinese National Intellectual Property Administration (CNIPA).[26] The names of the selected Chinese companies were used as search queries in the "assignee/applicant" field.

Similarly, the study on Chinese healthcare companies does not include Chinese patent applications or other patent-related documents outside of China.

3. Retrieval of inventor information

Since, according to our anecdotal evidence, misrepresented inventors tend to be supervisors,[27] we also retrieved information about whether the inventors are the company's "management-level employees." We define "management-level" as management positions listed in the companies' annual reports or public announcements. We assume that since companies list these positions on one of their most important corporate annual reports, the people in these positions should, generally speaking, be more likely to oversee many of the research projects conducted by

[25] Patent Full-Text Databases, USPTO, http://patft.uspto.gov [https://perma.cc/6KHQ-K7VU] (last visited Apr. 7, 2020) [hereinafter USPTO patent database].
[26] Patent Search and Analysis, CNIPA, http://pss-system.cnipa.gov.cn/ [https://perma.cc/VK3S-3JF3] (last visited May 2, 2020).
[27] *See supra* Part I.

employees and be able to influence important decisions, such as patenting strategies, in the company. The importance of this information will manifest when we discuss how this information works with other data to serve as the indicators for the existence of allegedly challengeable inventorships.[28]

4. Pseudonymization of companies and inventors

For the protection of the selected companies and inventors in our study, we assign code names to the selected companies and refrain from listing the companies' real names in this article.[29] We also do not disclose the names of the inventors for the same reason.[30] However, for the purposes of this study, we do have to mention the job titles of the inventors.

The assigned code names of the selected Taiwanese healthcare companies follow the pattern: TW1, TW2, TW3. . . . Similarly, the code names of the selected US and Chinese healthcare companies also follow similar patterns: US1, US2, US3. . . and CN1, CN2, CN3. . . .

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[28] *See infra* Part II.C.

[29] We, however, are able to re-identify the companies' names and their information upon request. For protection purposes, we do not name them directly in this article. This method is commonly referred as "pseudonymization" and should not be confused with "anonymization," where re-identification is not possible. Jan-Eric Litton, *We Must Urgently Clarify Data-Sharing Rules*, 541 NATURE 437, 437 (2017) ("With pseudonymization, data can be attributed to individuals using 'additional information' (such as a key or encryption code), whereas with anonymized data such information is not available.").

[30] Note that we use female pronouns throughout the article even though some of the inventors are male.

B. Results

1. Taiwanese healthcare companies

First, we look at the Taiwanese healthcare companies:

Of the thirty-five retrieved Taiwanese healthcare companies selected from TWSE, nineteen companies were excluded from further analysis due to their low numbers (ten or fewer) of Taiwanese patents. As mentioned, the remaining sixteen companies were each assigned code names, from TW1 to TW16.

According to the information collected, fourteen out of the sixteen selected Taiwanese healthcare companies have fewer than 100 patents, and ten of them have fewer than fifty patents. All of the companies have at least some percentage of patents invented by their management-level employees, ranging from 14.93% to 100%. More than half, or eleven out of sixteen, of the companies, have percentages of *management-level-invented* patents higher than 50%.

The company having the highest percentage of patents resulting from inventions contributed by its management-level employees (100%) is TW2, where all of its fifty-eight patents are (at least jointly) invented by its management-level employees. Another company worth noting is TW8, which has 161 patents, or 72.56%, of its 222 patents (jointly) invented by its management-level employees.

On average, more than half (or 1.63 out of 3) of a Taiwanese company's top three inventors are in a management-level position. As for the sixteen top inventors of each Taiwanese company (the inventor that invented the most patents), fourteen have management-level positions. Moreover, a top inventor invents, on average, 55.14% of the patents owned by her company.

2. US healthcare companies

Now, we turn to the selected US healthcare companies:

Of the thirty-five retrieved US healthcare companies selected from NASDAQ, eighteen companies were excluded from further analysis due to their low numbers (ten or fewer) of US patents. Likewise, the remaining seventeen companies were assigned code names, from US1 to US17.

According to our data, fourteen of the seventeen selected US healthcare companies have fewer than 100 patents. The other three companies, US7, US13, and US17, have patent counts of more than 150. More than half, or nine out of the seventeen companies, do *not* have any patents invented by management-level employees. Those who do, have percentages over 75%. Notably, US10, US11, and US12 have all of their patents invented by management-level employees, but none of these companies have patent counts over fifteen.

Only seven of the seventeen companies have management-level employees in their top three inventors, and only four companies have management-level employees as their top inventors. However, on average, a top inventor invents 64.86% of the patents owned by her company because many companies have top inventors that invent almost all of the companies' inventions.

3. Chinese healthcare companies

Lastly, we cover the Chinese healthcare companies:

Of the twenty-eight retrieved companies, sixteen companies were excluded due to having fewer than ten Chinese patents.

Based on our results, eight out of the twelve selected Chinese healthcare companies have patent counts fewer than 100, in which six of them have fewer than fifty patents. Except for CN11, all of the selected Chinese companies have

at least some percentage of patents invented by management-level employees, ranging from 30.15% to 100%.

Additionally, more than ten out of the twelve companies have percentages of *management-level-invented* patents higher than 50%, and eight of them have percentages of such higher than 80%. The companies CN1, CN3, and CN12, have all of their patents invented by management-level employees, but none of them have more than fifty patents. However, three companies worth noting are: CN10, which owns 102 patents, 88.24% of which are invented by management-level employees; CN5 which owns 110 patents, 60% of which are invented by management-level employees; and CN2 which owns 138 patents, 55.07% of which are owned by management-level employees.

On average, more than half (or 1.75 out of 3) of a Chinese company's top three inventors are in a management-level position. As for the twelve top inventors of each company, nine out of them have management-level positions. On average, a top inventor invents 63.8% of the patents owned by her company.

C. Analysis

Here, we analyze the results and provide reasons why our self-derived indicators point out that the inventorships of patents owned by Taiwanese and Chinese healthcare companies are possibly more vulnerable to challenge compared to those owned by the US healthcare companies. However, as mentioned previously, our conclusions are based on circumstantial evidence. So, we concede that alternative explanations may exist, but we carefully address these doubts in this section as well.

We divide the self-derived indicators into two categories: those that allegedly point out misjoinders and those that allegedly point out nonjoinders. In Subsection 1,

we discuss the former, and in Subsection 2, we cover the latter.

1. Arguing for possibilities of misjoinders

a. Comparing "patent counts and percentages of management-level-invented patents"

The first indicator we propose to identify companies that are more likely to have patents with misjoinders is the "comparison of the total patent counts and the percentages of *management-level-invented patents* (patents invented by management-level employees)." To better visualize this comparison, we present a "Company Percentage of *Management-Level-Invented Patents* vs. Company Total Patent Count Scatter Plot" in Figure 1.[31] On this scatter plot, the y-axis is the percentage of *management-level-invented patents*, while the x-axis is the total number of patents owned. We argue that the further up and to the right a company's data point is, the more likely it is that the company's patent inventorships are vulnerable to challenge.

The reasoning behind this inference is that we assume the number of patents owned by a company inversely correlates to the percentage of patents invented by management-level employees of that company. We base this assumption on the fact that patent counts strongly correlate to company size[32] and that larger companies have

[31] *See infra* Figure 1.

[32] Alok K. Chakrabarti & Michael R. Halperin, *Technical Performance and Firm Size: Analysis of Patents and Publications of U.S. Firms*, 2 SMALL BUS. ECON. 183, 186 (1990). This assumption is also the reason why we choose to compare companies with similar market capitalizations as opposed to, for example, comparing top companies in each country. *See supra* Part II. A. 1. If we compared the top companies in each country, the large differences in company sizes will interfere with the differences in patent counts between the companies, thus skewing our results and analyses.

more capacity to implement employee specialization.[33] The management-level employees of companies with greater patent counts should, at least in theory, spend more of their efforts on managing the company and less on inventing. Therefore, if a company's patent count is large but its *management-level-invented* patent percentage is also high—hence further to the top-right of the plot—the company's patents should be more susceptible to the misjoinder-type of inventorship challenges.

Notice that we also drew a 5-, 25-, 50-, and 100-management-patent-curve. Any company located on the left of the 5-management-patent-curve has fewer than five *management-level-invented* patents; any company located on the right of the 5-management-patent-curve has more than five of such patents. Any company exactly on the 5-management-patent-curve has precisely five of such patents. The same goes for the 25-patent, 50-patent, and 100-management-patent-curves. Moreover, companies situated closer to the top-right corner of the graph are emphasized and labeled with their code names.

The only company located on the right of the 100-management-patent-curve is TW8. The companies located between the 50-management-patent-curve and the 100-management-patent-curve are TW1, TW2, CN2, CN5, CN7, and CN10.

If we also take the emphasized vertical and horizontal gridlines into consideration, the three Chinese companies, CN2, CN5, and CN10, and the Taiwanese company, TW8, are the only four companies situated on the right of the 50-management-patent-curve, the 100-patent-count vertical gridline, and the 50% horizontal gridline. These companies are the ones that not only have *more than 100 patents,* but also have more than half of these patents

[33] JEFFREY H. DYER ET AL., STRATEGIC MANAGEMENT: CONCEPTS AND CASES 64 (2017).

invented by management-level employees. It is also worth noting that no US healthcare companies are situated on the right of the 100-management-patent- or the 50-management-patent-curves. There are also *no* US healthcare companies located both on the right of the 100-patent-count gridline and above the 50% horizontal gridline.

The curves and gridlines point out that there exist Taiwanese and Chinese healthcare companies having both large number of patents and high percentages of *management-level-invented* patents. But this phenomenon is not seen from the US healthcare companies. All US companies have either a small number of patents with a high percentage of *management-level-invented* patents or a large number of patents with a low percentage of *management-level-invented* patents. This distribution is arguably more reasonable, as explained previously, because companies owning more patents tend to be larger[34] and should more likely exercise employee specialization.[35] Thus, it would be unexpected to see management-level employees spending so much time and effort on creating invention when they should, in theory, spend more time and effort on managing the company.

[34] Chakrabarti & Halperin, *supra* note 32, at 186.
[35] DYER ET AL., *supra* note 33, at 64.

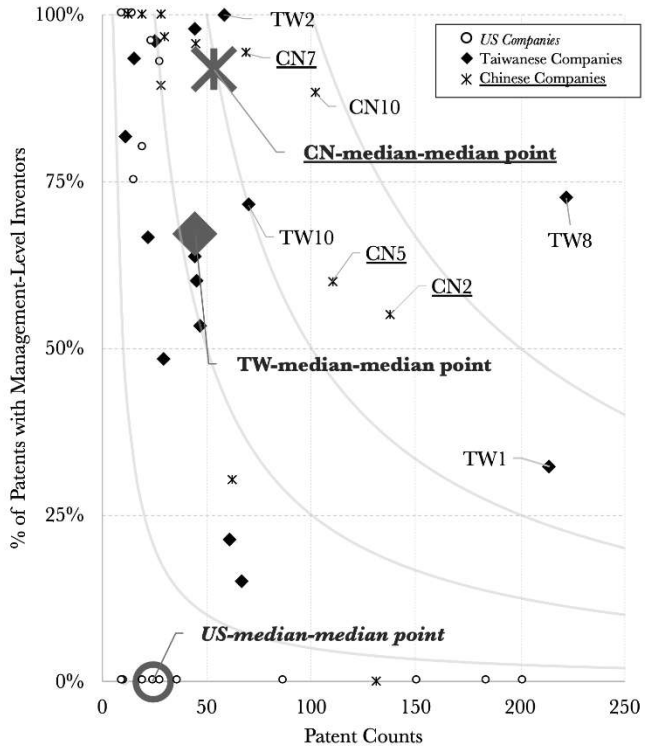

Figure 1: Company Percentage of *Management-Level-Invented Patents* vs. Company Total Patent Count Scatter Plot.[36]

The phenomenon found in these Taiwanese and Chinese healthcare companies is against the assumption based on Chakrabarti & Halperin's[37] and Dyer's[38] research that an inverse correlation exists between total patent counts and percentages of *management-level-invented* patents. Because of this, there arguably exists Taiwanese and Chinese healthcare companies that have patents with the misjoinder-type of allegedly challengeable inventorships.

[36] Our own construction based on data retrieved in empirical study.
[37] Chakrabarti & Halperin, *supra* note 32, at 186.
[38] DYER ET AL., *supra* note 33, at 64.

Moreover, our argument is further fortified by the fact that we are comparing companies with similar market capitalizations. The anticipated rebuttal of company size being responsible for the differences seen in our results can be discarded. Another variable has been controlled by comparing companies falling into the same categorized industry, *i.e.* healthcare.

The higher possibility of Taiwanese and Chinese healthcare companies owning patents with the misjoinder-type of allegedly challengeable inventorship can also be demonstrated by comparing the median-median points.[39] The median-median points of the Taiwanese and Chinese healthcare companies are not only on the right of the 25-management-patent-curve but also closer to the top-right corner of the plot compared to that of the US healthcare companies. The median-median points on this plot also reflect that half of the selected Taiwanese companies have percentages of patents invented by management-level employees higher than 60%, half of the selected Chinese companies have percentages of such patents higher than 90%, but half of the selected US companies have *none* of these types of patents.

b. Comparing "top inventor patent counts"

Looking at the percentages and the numbers of the patents invented by management-level employees neglects a crucial point: it does not take the number of management-level employees into account. It may well be because some

[39] The mathematical term "median-median point" is an ordered pair (x_m, y_m) that represents the physical middle of a group of datapoints, in which x_m is the median of the x values, while y_m is the median of the y values. *MAT 312: Probability and Statistics for Middle School Teachers*, ILL. ST. U. MATH DEP'T (1999), https://math.illinoisstate.edu/day/courses/old/312/session11.html [https://perma.cc/TNE2-MQ9P].

companies have more "management-level employees" such that these companies end up with a higher number of patents invented by such employees. Suppose two companies, A and B, both have five employees. Company A has two management-level employees, while Company B has three management-level employees. If the employees at both companies each all invent one patent, Company A would have 40% of its patents invented by management-level employees, whereas Company B would have 60% of its patents invented by management-level employees. In this hypothetical scenario, both companies have not misrepresented the inventors of their patents, so their patents should, in theory, have equal strength against inventorship challenges. But if we implement the previous analytical method, Company B's patents would be misjudged as being more vulnerable to inventorship challenge despite having the same count as Company A's.

Hence, to circumvent this blind spot, the second indicator we propose is the comparison of *top inventor patent counts* (the number of patents invented by the inventor who invented the most patents owned by her company). If we assume that an inventor has a limited amount of time to spend on inventing, then there should be a limit for the number of inventions an inventor can invent in a particular time frame. Therefore, companies that have employees that "invent," on average, significantly more patents than the employees of other companies should have more patents that are more susceptible to the misjoinder-type of inventorship challenges. If these "top-inventing" employees also happen to be management-level employees, who, in theory, should be spending more effort on company decisions than research and development, then the likelihood of their companies having the misjoinder-type of allegedly challengeable patent inventorships should be even higher.

This indicator may seem to penalize top inventors who are efficient in inventing. Nevertheless, as emphasized

before, we do not claim the misrepresentation of inventorship in any specific patent. The key to our argument lies in the likelihood of allegedly challengeable inventorship. This can occur when the number of patents exceeds a reasonable number, the more patents a top inventor invents, the more likely allegedly challengeable inventorships exist. We use Figure 2 below to apply this concept to advance our argument.

Figure 2 is a scatter plot detailing the *top inventor patent counts* of the selected companies. We divide the companies' data points into 5-year-segments. The first segment includes companies that have patent application dates of their top-inventor-invented patents spanning fewer than 5 years.[40] This categorization is to avoid penalizing companies that have top inventors that have been working in the company for more extended periods. We will thus only compare companies within, but not across each segment. We also classify the data points according to country and according to whether a management-level employee invents the patents. The markers in gray are companies whose top inventors are not in management-level positions.

Shifting to the assessment, notice that in almost all of the segments, the companies that have the larger *top inventor patent counts* are Taiwanese and Chinese companies. These companies are TW13, TW8, TW2, CN10, CN5, and CN2. Within segments, there is a significant difference between the *top inventor patent counts* of these companies and the US companies having the largest *top inventor patent counts*. For example, in five years, the top inventor of CN10 "invented" twenty-seven more patents compared to that of US16. Also note that these Taiwanese and Chinese

[40] This is determined by the inequality: (Year of Patent Application of Oldest Top-Inventor-Invented Patent) − (Year of Patent Application of Latest Top-Inventor-Invented Patent) ≤ 5 years.

companies all have top inventors in management-level positions.

The only segment where a US company made it into the top two is the fourth segment, but that segment only has four companies. Here the company's top inventor is not even in a management-level position.

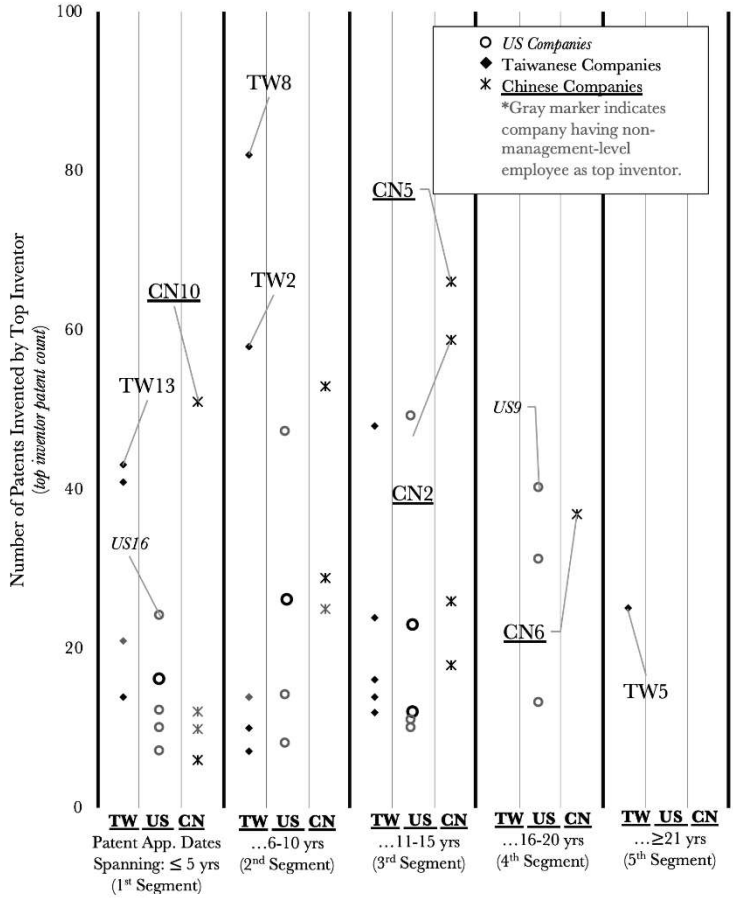

Figure 2: Number of Patents Invented by Company Top Inventor Presented in 5 Year Segments[41]

[41] Our own construction based on data retrieved in empirical study.

The fact that there are marked *top inventor patent count* differences between some Taiwanese and Chinese companies and US healthcare companies suggests that the patents owned by some Taiwanese and Chinese healthcare companies are more susceptible to the misjoinder-type of inventorship challenges compared to their US counterparts. Moreover, the top inventors of these Taiwanese and Chinese healthcare companies being management-level employees further bolsters our argument. Since being in a management position would have more discretion in deciding the company's patent-related affairs, the employee should thus be more likely to have the power, if the person wanted to, to list herself as an inventor in patents that she did not invent. Also note that TW8, TW2, CN5, and CN2 are also the companies situated to the right of the 50-management-patent-curve and closer to the top-right corner of Figure 1. The existence of this overlapping data serves as robust additional support for our argument that patents owned by Taiwanese and Chinese companies are more likely to be more vulnerable to inventorship challenges compared to those owned by their US counterparts.

c. Comparing "the top inventor's different joint inventor counts"

This subsection provides a third indicator to analyze the misjoinder-type of allegedly challengeable inventorship: "the comparison of *the top inventor's different joint inventor count* (the number of different joint inventors in the patents invented by the top inventors)." We argue that the higher this number is, the more likely the misjoinder-type of allegedly challengeable inventorship exists. Here we assume that an inventor, even a top inventor, has only a limited amount of time to spend on cooperating with other

inventors.[42] Many inventors tend to specialize in a particular field[43] and should thus be more likely to work with a particular group of researchers than to work with researchers across different teams. Thus, in theory, it is rather unlikely for an inventor to work with a vast number of people in an inventive capacity. Hence, if the top inventor is part of a widely varying group of joint inventors across patents, then inventorship is more likely to be challengeable. If the top inventor also happens to be a management-level employee, the odds of the misjoinder-type of allegedly challengeable inventorship being present may increase even further.[44]

We also must not forget the time element in this evaluation. We would not want to penalize top inventors who have worked longer at the company and thus have cooperated with many different people. Thus, to avoid complications, the data points are also categorized into 5-year segments. Likewise, we will not compare companies across different time segments.

Another worry is team size. Readers may argue that this assessment may also penalize top inventors who belong to larger research teams. This concern is valid, but we argue that it is only significant when comparing smaller sizes of research teams—or more specifically, when comparing research teams within a reasonable size.

Determining the reasonable limit for team size requires extensive study and is not the main point of this article. But to ease the concern of penalizing larger research teams, we will not compare companies if both companies' *top inventors' different joint inventor counts* are lower than seven. The number seven is chosen is because according to

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[42] After all, there are only 24 hours in a day.

[43] *See* Christopher Lettl et al., *Why Are Some Independent Inventors 'Heroes' and Others 'Hobbyists'? The Moderating Role of Technological Diversity and Specialization*, 38 RSCH. POL'Y 243, 243 (2009) (stating that inventors employ technological specialization).

[44] *See supra* Part II.C. 1.b.

Cook et al.'s study, the mean size for biologic research groups is seven.[45] Better yet, none of the segments only contain companies with *top inventors' different joint inventor counts* lower than seven.

Figure 3 is a scatter plot organized similarly to Figure 2, except now the y-axis is the number of different joint inventors in patents listing the top inventor, or "*top inventor's different joint inventor count*."

The companies having larger *top inventors' different joint inventor counts* in each segment are mostly Taiwanese and Chinese healthcare companies. The top companies in each segment are *all* companies that have management-level employees as their top inventors.

If the given inventorship information is correct, then for the past ten years, the top inventor of TW2, on average, works with at least five new inventors every year. This rate is high compared to its peers, where the top inventor of CN4 works with, on average, 3.6 new inventors every year. Also, the top inventor of TW2 not only co-invented with all of the company's inventors but also has a management-level position. By comparing the companies' *top inventors' different joint inventor counts*, we infer, again,[46] that patents owned by Taiwanese and Chinese companies are more likely to be vulnerable to the misjoinder-type of inventorship challenges compared to those owned by their US counterparts. The overlap of certain highlighted companies, such as TW2 and CN5, across different analytic methods, reinforces our argument.

[45] *See* Isabella Cook et al., *Research groups: How big should they be?*, 3 PEERJ 989, 992 (2015).
[46] Part II.C. 1.

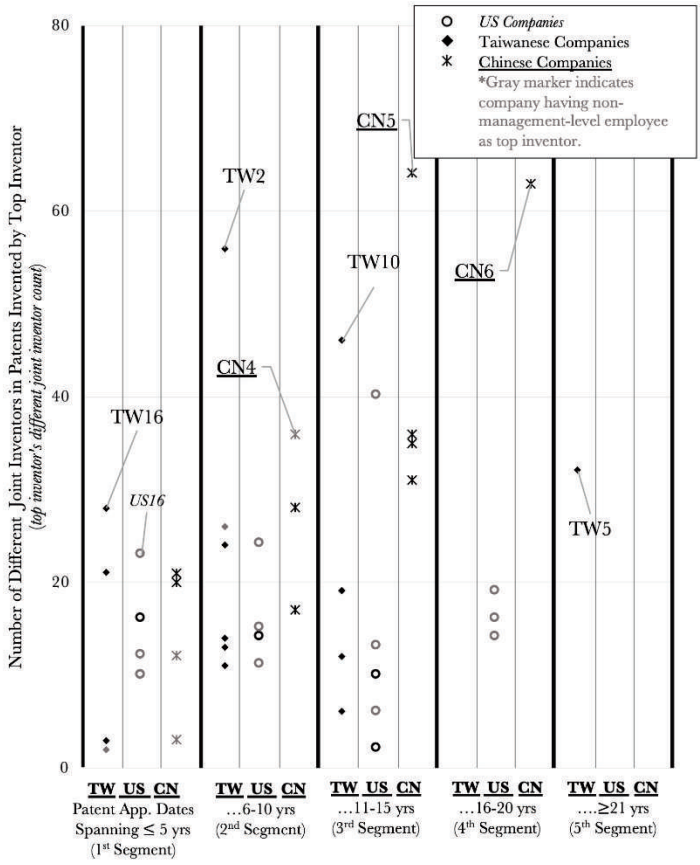

Figure 3: Number of Different Inventors in Patents Invented by Company Top Inventor Presented in 5 Year Segments.[47]

However, we must emphasize that the companies having lower *top inventors' different joint inventor counts* may also have allegedly challengeable inventorship, but this possibility does not weaken our argument. Relevance is key. As emphasized earlier, we aim to demonstrate the relative possibilities of allegedly challengeable inventorship

[47] Our own construction based on data retrieved in empirical study.

between different companies, not to claim the absolute existence of inventorship misrepresentation in any company.

2. Arguing for possibilities of nonjoinders

The indicators in the previous section cannot point out nonjoinders or *compound inventorship misrepresentations* because the assumption was that allegedly challengeable inventorships only result from listing *more* inventors than a company should have listed. If nonjoinders or *compound inventorship misrepresentations* exist, the missing numbers of the real inventors would cancel out or subsume the added numbers of the misrepresented management-level inventors, leaving possible nonjoinder-type allegedly challengeable inventorships undetected.

It is relatively hard to identify nonjoinders as we cannot know whether a true inventor is missing without inside information. But by examining companies with *low total inventor counts* (total number of inventors in the patents owned by a company) we may gain some clues. Here, we point out one company that has a higher possibility of owning such patents.

a. Examining companies with "low total inventor counts"

Here, we argue that TW13 is the company most likely to be vulnerable to a nonjoinder-type inventorship challenge.

According to our empirical study, TW13 has a total of forty-four patents; the number of different inventors is only four. The top inventor, which is a C-level manager, is the single inventor of forty-two patents. All of the forty-two patents were applied for between 2011 and 2015. Although we do not want to doubt a person's ability to innovate or apply for patents, TW13 is reported to have around 1,240

employees. The fact that there is only one inventor in over 1,000 employees and that the one inventor also happens to be in a rather high management position should at least raise some eyebrows.

Another company also comes into view if we look at low inventor counts: US10. This US company has twelve patents, and the number of different inventors is two. The top inventor of the company invented all twelve patents in which eleven of them were allegedly invented all by herself. However, unlike TW13, US10 has fewer employees: 114, to be exact.[48] Thus, coupled with the much lower count of patents/employees, US10 is arguably less suspicious to be the nonjoinder-type of inventorship misrepresentation.

III. COSTS OF INVENTORSHIP MISREPRESENTATION

Now having demonstrated that allegedly challengeable inventorship exists on a more common scale, the next logical question that pops to mind should be: so what? So what if inventorship misrepresentation does exist? The first thought that comes to mind may be the damage caused to the inventor's ego. However, inventorship misrepresentations are not only about hard feelings, they also create external diseconomies.

In this part, we discuss the costs of inventorship misrepresentation with a focus on society's perspective. Since the establishment of statutory laws of a particular topic is ultimately traced back to the topic's impact on society,[49] we wish to delve deeper into the impacts of inventorship misrepresentation in this part, instead of only doctrinally

[48] Note that the number of employees for the US10 corporation was retrieved from MARKET SCREENER, https://www.marketscreener.com [https://perma.cc/9D3E-JQAB] (last visited Apr. 19, 2020).

[49] Laurence H. Silberman, *Chevron—The Intersection of Law & Policy*, 58 GEO. WASH. L. REV. 821, 822 (1990) (stating that "[l]aw might be described as the accumulated crystallization of prior policy choices.").

discussing the legal consequences of inventorship misrepresentation. We, however, touch on these legal issues in the next part, when we argue that the different legal consequences between the countries partially contribute to the differences in our results.[50]

In Section A, we discuss the detrimental effects inventorship misrepresentation has on the value of patent credentials. In Section B, we turn to argue that inventorship misrepresentation may even act against the very goal patent law strives to attain.

A. Reduced Patent Credential Values

1. Credentials in job markets

a. The job market patent credential system and its critical assumption

Patents can serve as personal credentials.[51] For instance, look at how people are suggested to add patents to their curriculum vitae[52] or résumés.[53] Indeed, patents have powerful social recognition.[54] They indicate the existence of an invention that is certified by an entity possessing substantial legitimacy.[55] Being listed as an inventor on a

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[50] *See infra* Part IV.A.

[51] *See generally* Jason Rantanen & Sarah E. Jack, *Patents as Credentials*, 76 WASH. & LEE L. REV. 311, 317 (2019).

[52] *See*, *e.g.*, Elsevier Global Communications, *Writing an effective academic CV*, ELSEVIER (Jan. 4, 2013) https://www.elsevier.com/connect/writing-an-effective-academic-cv [https://perma.cc/3GQN-FUJH] (last updated Jun. 6, 2019).

[53] *See*, *e.g.*, *Step-by-Step Resume Guide & Templates*, CARNEGIE MELLON UNIV., https://www.cmu.edu/career/documents/sample-resumes-cover-letters/resume-guide_college-of-engineering-graduate.pdf) [https://perma.cc/WND4-PHVJ] (last visited Apr. 20, 2020.

[54] Rantanen & Jack, *supra* note 51 at 318.

[55] *Id.* at 318-319; William Hubbard, *Inventing Norms*, 44 CONN. L. REV. 369, 399 (2011) (stating that due to patents being examined, it serves as

patent serves as a credential that the person is a government-certified inventor.[56] This credential can, of course, attract attention from employers and signal that the person is associated with specific positive characteristics.[57] This function of patent inventorship is similar to how authorships of open-source codes[58] can help advance one's career.[59]

However, this credential system only works if credential signals are valid. That is, the inventors claimed in the patents are the actual inventors—the ones that genuinely contributed to the conceptualization of the invention. Of course, the laws and rules, including those of the US,[60]

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an indication that the inventor is a creator of a new invention that meets the requirements of patentability).

[56] Note that the credentials are mainly directed to the inventor and not the patentee. Patentees may be assigned the associated patent rights, but are not certified for their ingenuity. *Contra* Rantanen & Jack, *supra* note 51 (failing to discuss the effects of patent credentials working for patentees).

[57] *Id*. at 319. *See also* Michael Spence, *Job Market Signaling*, 87 Q. J. ECON. 355, 355-58 (1973) (explaining that hiring is an investment with uncertainty and that employers would need to rely on readily available signals to determine whether the candidate's productive capabilities are desirable).

[58] *Cf.* PATRICIA WALLACE, THE INTERNET IN THE WORKPLACE: HOW NEW TECHNOLOGY IS TRANSFORMING WORK (2004) (explaining that one of the reasons people volunteer to become a part of the open source movement is because of "the desire to establish and maintain a good reputation among highly talented peers"); Josh Wulf, *How to Advance Your Career by Contributing to Open Source Projects*, OPENSOURCE.COM (May 22, 2019), https://opensource.com/article/19/5/how-get-job-doing-open-source [https://perma.cc/2GGC-8W66] (arguing that companies see the contribution of open-source codes as credentials and one can advance one's career by contributing to open sources projects).

[59] *See generally* ERIC S. RAYMOND, THE CATHEDRAL AND THE BAZAAR: MUSINGS ON LINUX AND OPEN SOURCE BY AN ACCIDENTAL REVOLUTIONARY (2001) (explaining the roots of open-source and why people are motivated to contribute to open-source projects).

[60] 35 U.S.C. § 101 ("Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new

Taiwan,[61] and China,[62] all require that the inventors listed in patents be the real inventors. This is also the reason why patents can serve as credentials in the first place. However, as shown in our empirical study, this may not always be the case.[63]

When this presumption fails, the patent credential system becomes flawed or may even fall apart. Picture a scenario where the misjoinder-type of inventorship misrepresentations are present in some patents. In this

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and useful improvement thereof, may obtain a patent therefor…"); Burroughs Wellcome Co. v. Barr Labs., Inc., 40 F.3d 1223, 1227-28 (Fed. Cir. 1994) (stating that conception is most important in inventorship and is thus how inventorship is determined); 35 U.S.C. § 115(a) "[p]atent [a]pplication shall include (or be amended to include) the name of the inventor for any invention claimed in application."); *see also* 35 U.S.C. § 102(f) before the enactment of Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011) (codified in scattered sections of 35 U.S.C.) (hereinafter, "AIA") ("[a] person shall be entitled to a patent unless -…(f) he did not himself invent the subject matter sought to be patented…").

[61] Patent Act art. 7, para. 4 (2019) (Taiwan) ("[T]he inventor, utility model creator or designer concerned shall be entitled to a right to have his/her name shown as such."); Chen v. Taiwan Sunpan Biotech Dev. Co., 2013 SIFAYUAN FAXUE JIANSUO XITONG 9 (Intell. Prop. Ct. Jan. 25, 2013) (stating that the inventor must be a person who has made a substantial contribution to the technical features claimed in the patent application); PROCEDURE EXAMINATION AND PATENT RIGHT MANAGEMENT 1-3-3 (2013) (stating that the applicant should clearly indicate the inventor's name in the application).

[62] Patent Law of the People's Republic of China (2008) art. 17 ("[t]he inventor or creator has the right to be named as such in the patent document."); Rules for the Implementation of the Patent Law of the People's Republic of China (2010) Rule 13 (""Inventor" or "creator" referred to in the Patent Law means any person who makes creative contributions to the substantive features of an invention-creation. Any person who, during the course of accomplishing the invention-creation, is responsible only for organisational work, or who offers facilities for making use of material and technical means, or who takes part in other auxiliary functions, shall not be considered as inventor or creator.").

[63] Part II.C.

scenario, some named inventors are real inventors while other named inventors are not; all of these named inventors enjoy the credential boosts these patents provide.[64] At first, this is not fatal, as employers and society will still treat named inventors as signals for positive characteristics. But as more and more people realize that they can benefit from being named as inventors without really contributing as real ones, more people will follow. This trend will continue until employers gradually realize that not every named inventor is a real inventor. By then, the patent's function of credentials will be cast out.

b. The destruction of the job market patent credential system

The patent credential system's hypothetical destruction by misrepresented inventors can also be explained by applying Michael Spence's theory of job signaling (Figure 4).[65]

When an employer is looking to hire an individual, she usually is not certain about the individual's productive capability. Therefore, in order to increase the odds of hiring a candidate with the desired productive capability, she can look for observable characteristics that indicate such capability. According to Spence, these observable characteristics are termed "indices" and "signals," in which "indices" are traits an individual generally cannot change

[64] People, including judges, do not presumptively question your identity as an inventor and thus treat you as one, at least until you are proven not to be one. Acromed Corp. v. Sofamor Danek Grp., Inc., 253 F.3d 1371, 1379 (Fed. Cir. 2001) (stating that there is a "presumption that [a patent's] named inventors are the true and only inventors") (citing Hess v. Advanced Cardiovascular Sys., Inc., 106 F.3d 976, 980 (Fed. Cir. 1997)).

[65] *Cf.* Spence, *supra* note 57, at 359-61 (wherein being listed as inventors in patents serve as the "job signal" in Michael Spence's theory of job signaling).

(such as race) while "signals" are those that can be altered by the individual by spending some time, money or other efforts (such as education).[66] Since being listed on a patent serves as a credential and is something that can be altered, we categorize it as a type of "signal."

Under Spence's theory, informational feedback exists in the job market. In this feedback loop, employers adjust their expectations of a certain signal, or here, the patent credential's predictive strength after evaluating the productive capability of an employee giving out that signal.[67] The feedback loop reaches equilibrium when the signal's indicating strength matches the employer's expectations.[68]

[66] Spence, *supra* note 57, at 357.
[67] *Id.* at 359-61.
[68] *Id.*

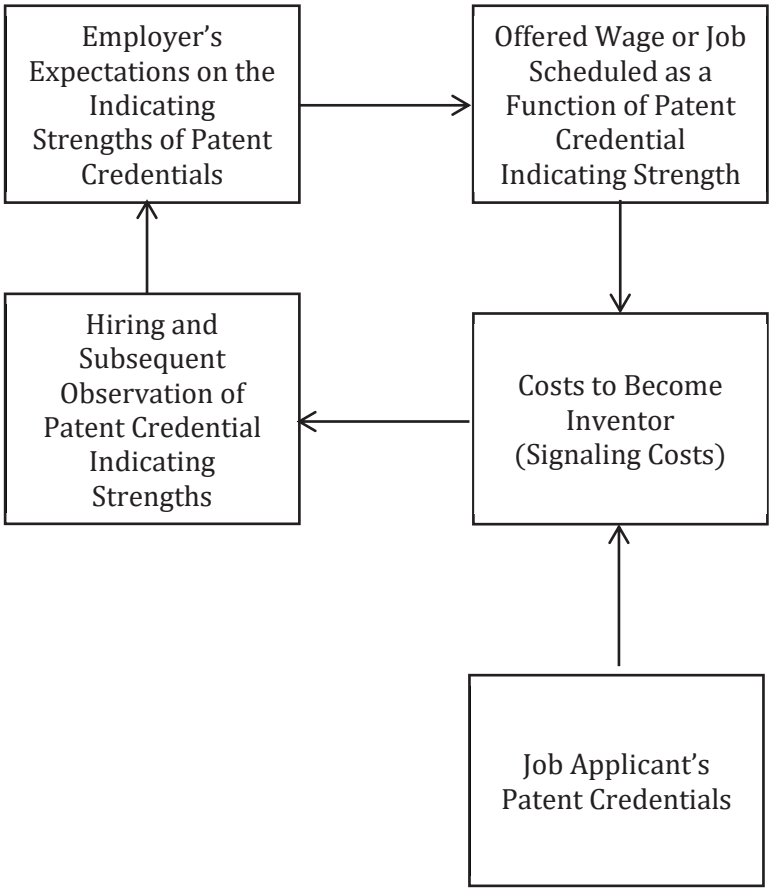

Figure 4: Patent Credential Value Feedback in the Job Market (An Application of Spence's Informational Feedback in the Job Market)[69]

A critical assumption for job signaling to function properly is the existence of signaling costs, or the costs that need to be spent to obtain the signal.[70] These costs may include time, money, or effort, that needs to be spent to

[69] Our own version of Spence, *supra* note 57, at 359 fig.1.
[70] *See id*. at 358.

obtain the desired signal. Here, in the context of patent credentials, signaling costs may include the time and effort spent in conceptualizing the invention, and the money invested in reducing the idea into practice.

If no signaling costs exist, people will increasingly flock towards obtaining the same signal until the signal is so commonly seen that it cannot be used to distinguish one job applicant from another.[71] By then, employers will discard the signal entirely, rendering the signal obsolete.[72]

This is exactly what will happen if the costs or hurdles of becoming an inventor are too low. Currently, one of the main reasons why society thinks highly of inventors is the high costs that need to be spent in order to be listed as one.[73] Yet, if people can be listed as inventors without investing with the corresponding personal costs, the signaling strength of patents may no longer match what

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[71] *Id.*

[72] An example of this is employers in Taiwan gradually discarding the undergraduate diploma signal as the costs of obtaining a university in Taiwan are relatively low and do not indicate productive capability in some industries. *See* 黃敦晴 [Huang Dwen-Ching], *當企業雇主不再要求大學學歷，現在要教孩子什麼？[When employers no longer require university diplomas, what are we teaching our children?]*, 親子天下 [EDUC. PARENTING FAM. LIFESTYLE] (May, 27, 2019), https://flipedu.parenting.com.tw/article/5405 [https://perma.cc/5SZ2-CL4A] (stating the existence of diploma inflation and the fact that some employers are discarding the requirements of university diplomas); *see also* 戰寶華 [Chan, Bao-Hua], *學歷通膨成因與因應之道 [Causes and Solutions to Diploma Inflation]*, 3 臺灣教育評論月刊 [TAIWAN EDUC. REV. MONTHLY] 7, 9 (2014) (stating that having a university diploma in some fields does not indicate having the expected productive capability).

[73] For a discussion of the monetary costs of obtaining a patent, including legal fees, see *How Much Does a Patent Cost: Everything You Need to Know*, UPCOUNSEL, https://www.upcounsel.com/how-much-does-a-patent-cost [https://perma.cc/QA2K-YHC7] (last updated: Jun 18, 2020) (stating the costs to obtain a patent). Note that this does not consider the time spent coming up with the invention and the education and knowledge required to make the invention.

employers expect. The credential value of patents will then gradually reduce until, eventually, the patent's function of serving as credentials becomes useless.

c. Society paying the costs at every stage

Society starts paying the costs long before patent credentials become entirely obsolete. As long as inventorship misrepresentation is present, society pays. When only a few misrepresented inventors exist, employers misjudge their job candidates. As a result of this, companies may not perform as expected, and customers may not be able to receive the higher quality of services or products that they could have otherwise received.

When the number of misrepresented inventors increases to the extent where employers notice, the employers will start doing additional background checks on their candidates. At this stage, the credentials provided by patents are meaningless. Employers will worry that if they completely trust patent credentials, they might overestimate the abilities of their candidates. But at this stage, employers still will recognize that patent credentials are not wholly without merits and if they discard patent credentials entirely, they will penalize the real inventors. So, the only way to make sure is to research into whether the candidate is the real inventor of the invention. Although many companies provide background check services,[74] validating whether the candidate is the real inventor may require more effort than merely asking the candidates' supervisors.[75]

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[74] *See* Carrie Marshall & Brian Turner, *Best background check services in 2020: Personal and Business*, TECHRADAR (Feb. 13, 2020), http://www.techradar.com/best/background-check-services-sites-online [https://perma.cc/ZF36-6EYC].

[75] Imagine calling a candidate's former supervisor and asking, "Can you describe XYZ's ah-ha moment when she conceptualized the invention

Finally, when the numbers of misrepresented inventors become so ubiquitous that employers no longer trust the value of named patent inventors, the patent credential system may collapse or at least lose some of its core value.[76] When this happens, society will have lost an indicator that could have served as an accurate signal. By then, employers may need to use alternate signals to test for the characteristics initially associated with a named patent inventor.

2. Credentials in criminal sentence commutations (China)

The damage caused by inventorship misrepresentation is not only limited to job markets. It can also affect the justification of criminal sentence commutations.

Under China's criminal law, the making of "inventions or major technological renovations" can serve as a "meritorious service" that reduces criminal sentences.[77]

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claimed in her patent?" The former supervisor is likely to awkwardly reply that she was not there at her moment of conception.

[76] Compare this to the phenomenon in Taiwan: employers are having difficulty distinguishing between job candidates with the undergraduate diploma signal. *See*李建興 [Lee Chieh Hsing], *驚！企業用人選才：先看證照再看學歷— 證照在手的4大好處 [Shockingly, Employers Value Certificates First and Diplomas Second: the Four Advantages of Having Certificates]*, 今週刊 [BUS. TODAY] (Aug 10, 2012), https://www.businesstoday.com.tw/article/category/80409/post/201208100022 [https://perma.cc/SEA5-WLNV] (stating that with the decreasing costs of obtaining an undergraduate degree, the usefulness of a diploma in terms of job hunting is gradually being replaced by non-degree certificates.).

[77] Criminal Law of the People's Republic of China art. 78 ("The [criminal] sentence shall be reduced if any of the following meritorious services are performed…(3) making inventions or major technological renovations. . . .").

Other issues aside,[78] the justification of commutation decisions based on this clause is questionable if inventorship misrepresentation exists.

Indeed, people have been found to fake themselves as inventors in order to reduce their criminal sentences.[79] This problem has been so widespread that an article even claims the existence of an "industrial chain" that provides paid services for such conduct.[80]

Thus, the presence of inventorship misrepresentation not only causes such chaos,[81] it also works against the criminal law's purpose.[82] When people fake themselves as inventors to reduce their criminal sentences, not only are there no additional inventions created, criminals also serve

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[78] *See* 赵蓉 & 吴思思 [Rong Zhao & Sisi Wu], ***我国立功减刑制度中发明创造与技术革新的认定研究*** *[A Study on the Identification of Inventions or Major Technological Renovations in the Criminal Sentence Reduction System]*, 12 **知**识产权 [INTELL. PROP.] 55, 55-59 (2014) (China).

[79] *See generally* **姜瀛** [Ying Jiang], ***服刑人员发明创造减刑之"实践乱象"及其法律对策*** *[Invention "Chaos" of the Persons Serving Sentences Driven by Commutation and Its Legal Countermeasures]*, 4 **行政与法** [ADMIN. & L.] 110, 110-116 (2016) (stating that "an incentive system is clearly stipulated [under Criminal Law of the People's Republic of China art. 78 (1997) art. 78] that through invention or major technological innovation, persons serving sentences can apply for commutation." But "in judicial practice, interest driven by the commutation through invention and innovation has led to an industry chain of commutation through purchasing patents.").

[80] *Id*. at 112.

[81] *Id*.

[82] Criminal Law of the People's Republic of China art. 1 (1997) ("This law is formulated in accordance with the Constitution and in light of the concrete experience of China launching a struggle against crime and the realities in the country, with a view to punishing crime and protecting the people.").

fewer years than they should have—all costs society has to bear.

As discussed in this Section, the damages inventorship misrepresentations create are not limited to the misrepresented supervisor and the resentful subordinate. The impacts of inventorship misrepresentation can reach the scale of entire societies, causing severe external diseconomies. This is a reason why we argue that patent inventorships must be scrutinized to ensure its correctness.

B. Reduced Inventor Incentives

1. Incentive to innovate

Although patents offer the right to exclude others,[83] this incentive may not motivate all inventors. Many of them are employees and the patents rights are either not vested with them,[84] or are assigned to their employers under obligation.[85]

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[83] 35 U.S.C. § 154(a)(1) (2013); Patent Act art. 58 (2019) (Taiwan); Patent Law of the People's Republic of China art. 11 (2008).

[84] Patent Act art. 7 (2019) (Taiwan); Patent Law of the People's Republic of China art. 6 (2008) (stating under Taiwanese and Chinese Patent Acts, the statutes stipulate that where an invention is made during the course of employment, the patent rights shall be vested in the employer unless there is an agreement stating otherwise.).

[85] 8 CHISUM ON PATENTS § 22.03 (2020) (explaining that under the United States Patent Act, ownership of an invention naturally belongs to the inventor and can only be transferred to another, including an employer, through a written assignment.); Uttam G. Dubal et al., *Employment Agreements for Employee-Inventors Should Be Drafted to Assign Patent Rights at the Time the Agreement is Signed Rather than Requiring Later Acts*, FINNEGAN (May 14, 2012) https://www.finnegan.com/ [https://perma.cc/W2S8-HEC4] (stating that it is common practice for employers to require employees to sign an agreement that usually "contain[s] clauses that assign all of the inventor's patent rights to the employer and require the employee to assist the employer in securing patent rights.").

Fortunately, other incentives for inventors exist.[86] They may include potential promotions[87] or financial bonuses[88] provided by the inventor's employers and, of course, as discussed previously, the credentials being listed as an inventor provides.[89]

But when a person's contribution is not reasonably valued or credited, the person's motivation to continue contributing will be weakened. This not only includes the scenario where a contributing employee is unnamed ('non-joinders') but also where she is listed as a co-inventor with other non-contributing persons ('misjoinder'). Thus, when invention misrepresentation happens, the incentives for employees to invest time in creating inventions will be reduced.

2. Incentive to disclose invention

Even if employees do invest in the time to create inventions, they would have a weaker motivation to report their discoveries to their supervisors despite many of them are obligated to do so.[90] Consequently, inventorship

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[86] *See generally* Rantanen & Jack, *supra* note 51 (discussing patents as credentials).

[87] *See* DEP'T COM., ADVISORY COMM'N ON INDUS. INNOVATION: FINAL REPORT 186 (1979) (stating that employers claim that employees have an incentive in potential promotion); *but see id*. (arguing that promotion is not always automatic for the creative individual).

[88] *See* Chou v. Univ. of Chi., 254 F.3d 1347, 1353 (Fed. Cir. 2001) ("Under University policy, inventors receive 25% of the gross royalties and up-front payments from licensing of the patents, as well as 25% of the stock of new companies that are based on their inventions."); *see generally* Charles E. McTiernan, *Employee-Inventor Compensation Plans*, 46 J. Pat. Off. Soc'y 475 (1964).

[89] *See* Rantanen & Jack, *supra* note 51; *see also supra* Part III.A.

[90] *See*, *e.g.*, LG Display Co., Ltd. v. Tanaka Sakae, 2015 SIFAYUAN FAXUE JIANSUO XITONG (Taipei Dist. Ct. Mar. 11, 2015) (arising from the defendant refusing to disclose his invention to his company for patent

misrepresentation can indirectly increase the employer's costs on catching these "should-have-assigned" patents invented by employees. However, companies are not the only ones paying the costs when inventors do not disclose their inventions.

Patents are a means to an end. The ultimate purpose is to promote scientific progress and industrial development through a quid pro quo between society and the inventor.[91] In exchange for the full disclosure of the invention, the inventor is granted a limited period of time in which she can exclude others from making, using, selling, offering to sell, or importing the patented invention.[92] From the perspective

application purposes, even though he had the obligation to do so and instead applying for the patent by himself).

[91] Graham v. John Deere Co., 383 U.S. 1, 9-10 (1966) ("The patent monopoly was not designed to secure to the inventor his natural right in his discoveries. Rather, it was a reward, an inducement, to bring forth new knowledge. . .. Apparently Congress agreed with Jefferson and the board that the courts should develop additional conditions for patentability."); THOMAS JEFFERSON, VI WRITINGS OF THOMAS JEFFERSON 180-181 (Washington ed.); *see also* U.S. CONST. art. I, § 8, cl. 8 ("The Congress shall have Power To…promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries…"); Patent Act art. 1 (2019) (Taiwan) ("This Patent Act is formulated to encourage, protect and utilize the creations of invention, utility model and design in order to promote industrial development."); Patent Law of the People's Republic of China art. 1 (2008) ("This Law is enacted …to promote the development of science and technology….").

[92] Disclosure of the invention is required for patent applications, and such requirement is codified not only in 35 U.S.C. § 112, but also in both Taiwanese and Chinese Patent Law. 35 U.S.C. § 112 (2011); Patent Act art. 26, para. 1(2019) (Taiwan) ("The description shall fully disclose the invention in a manner clear and sufficient for it to be understood and carried out by a person ordinarily skilled in the art."); Patent Law of the People's Republic of China art. 26 (2008) ("The description shall set forth the invention or utility model in a manner sufficiently clear and complete so as to enable a person skilled in the relevant field of technology to carry it out"). In return, the laws grant the patentee a

of society, disclosure is what matters most. When an inventor voluntarily discloses her invention to the public domain without applying for a patent, the purpose of patents is satisfied. Under this scenario, there would be no need to induce such disclosure by rewarding the inventor a patent monopoly. This consideration is also why novelty is one of the requirements to obtain a patent.[93]

When researchers have weaker or very little incentives to disclose their inventions through the application of patents, social and economic resources that could be spent on advancing technology will instead be wasted on reinventing technology that is already made but undisclosed to the public.[94] Moreover, potential inventors may not be able to build off of supposedly disclosed inventions.[95] The eventual consequence is the slowed progression of science and technology–a contradiction to the very purpose of patent law.

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specific period of time in which the patentee can exclude others from exploiting the patented invention. 35 U.S.C. § 154(a)(1)-(2); Patent Act art. 58, para. 1 (2019) (Taiwan) ("…the patentee of an invention patent has an exclusive right to prevent others from exploiting the invention without the patentee's consent."); Patent Act art. 52 (2019) (Taiwan) ("The term of an invention patent shall expire after a period of twenty (20) years from the filing date of the application."); Patent Law of the People's Republic of China art. 11 ("After the grant of the patent right… no entity or individual may, without the authorization of the patentee, make, use or sell the patented product, or use the patented process and use or sell the product directly obtained by the patented process, for production or business purposes."); Patent Law of the People's Republic of China art. 45 ("The duration of patent right for inventions shall be 20 years…").

[93] 35 U.S.C. § 102(a).

[94] *See* Donald McNab, *Avoiding Reinventing the Wheel*, LEXOLOGY (Oct. 21, 2014), https://www.lexology.com/library/detail.aspx?g=f778b5b1-a9a9-4127-9c71-3e7940ed539c [https://perma.cc/H5MR-VZU5] (stating that the publication of patents "allows others to learn about the invention, potentially stimulating further technological development" and "avoid[s] reinventing technology in the public domain.").

[95] *Id.*

We have repeatedly shown that the misrepresentation of inventors creates external costs. But we seriously doubt that people regularly think about these external diseconomies as people tend to only care about themselves.[96] It is this exact reason why we hope to raise the awareness of listing inventors properly.

IV. CAUSES OF INVENTORSHIP MISREPRESENTATION

Identifying the causes of inventorship misrepresentation itself is rather straightforward: it is beneficial to be listed as an inventor. As mentioned previously, it can accumulate credentials[97] and provide royalty payments,[98] bonuses,[99] or opportunities to advance careers,[100] including academic ones.[101] These benefits explain why people who have non-inventive contributions

[96] *See* Jeremy A. Frimer et al., *Moral Actor, Selfish Agent*, 106 J. PERSONALITY & SOC. PSYCHOL. 790, 790 (2014) (stating that "[p]eople are motivated to behave selfishly while appearing moral.").
[97] *See generally* Rantanen & Jack, *supra* note 51.
[98] *See Chou*, 254 F.3d at 1353 ("Under University policy, inventors receive 25% of the gross royalties and up-front payments from licensing of the patents, as well as 25% of the stock of new companies that are based on their inventions."); *see also* Saul Lach & Mark Schankerman, *Incentives and Invention in Universities*, 39 RAND J. ECON. 403, 404 (2008) (stating that universities provide royalty sharing arrangements as incentives for inventions).
[99] *See generally* McTiernan, *supra* note 88.
[100] Knut Blind et al., *Motives to Patent: Empirical Evidence from Germany*, 35 RES. POL'Y 655, 670 (2006) (stating that employers may use patents as a method to evaluate employee performance).
[101] Charlotta Dahlborg et al., *To Invent and Let Others Innovate: A Framework of Academic Patent Transfer Modes*, 42 J. TECH. TRANSFER 538, 541 (2017) ("studies show that university scientists may be motivated to patent and pursue commercialisation if they perceive that it can enhance their reputation and progress their research.").

still hope to be listed as,[102] or–due to their contributions to the company– still "honored" as,[103] inventors. This desire to be recognized results in inventorship misrepresentations. Worse yet, people who know that they do not have inventive contributions may even forge their contributions due to these benefits, thus exacerbating the spread of inventorship misrepresentation.[104]

Furthermore, employees may not necessarily disagree with their employers in terms of listing non-inventive contributors as inventors.[105] Employers can use the listing of inventors as a corporate tool to promote teamwork.[106] It is precisely due to this exchange in interests between employers and employees that even further increases the incidences of inventorship misrepresentations—since the only people who know

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[102] Gattari, *supra* note 8, at 18 ("Employees also are often eager to be named as inventors to build their credentials or to qualify for bonus or royalty payments.").

[103] This may include cases where employers list employees that have significant yet non-inventive contributions as inventors. *See*, *e.g.*, *Fuma Int'l LLC v. R.J. Reynolds Vapor Co*., No. 1: 19-CV-260, 2019 WL 3066404, at *4 (M.D.N.C. July 12, 2019) (in which the founder of Fuman allegedly "knew of his duty of candor to the Patent Office but chose to misrepresent [his employees] as inventors on '604 patent family application documents to [']incentivize, recognize, and reward members and employees . . . of his company Fuma for their non-inventive contributions.[']" The founder also "specifically instructed his attorney not to remove the other named inventors from the '813 application before a February 2013 filing because [']misnaming these other inventors suited [his] and Fuma's interests.[']" Another scenario can also happen when employees name their supervisors "just to score some brownie points." HENRI J. A. CHARMASSON & JOHN BUCHACA, PATENTS, COPYRIGHTS AND TRADEMARKS FOR DUMMIES 335 (2009).

[104] *E.g.*, Jiang, *supra* note 79, at 113.

[105] Gattari, *supra* note 8, at 18.

[106] *Id*. at 17-18.

whether one is an inventor may have little interest in calling each other out.[107]

Ignorance may also be part of the reason for inventorship misrepresentations. People often misunderstand what it means to be an "inventor."[108] Listing co-inventors is not totally the same as listing co-authors.[109] Not everyone associated with the creation of the invention is entitled as an inventor—only those that have contributed to the inventive step may qualify.[110]

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[107] Even though the listing of inventors can work as a tool to promote teamwork, it can also backfire if people think or find out that the team members listed as inventors do not deserve such titles. This possibility can be explained with Adam's equity theory in which it is assumed that a person compares the ratio of input and output of another person with that of oneself. J. Stacy Adams, *Inequity in Social Exchange*, 2 ADVANCES IN EXPERIMENTAL SOC. PSYCH. 267, 273 (1965). If the ratios are different, there is inequity, and the person feels discomfort and will be motivated to restore equity. *Id*. Thus, under this theory, a person will feel discomfort if she sees that both she and her co-worker receive the same output—both being listed as inventors—despite putting in different inputs—she put in the effort to conceptualized the invention while her co-worker did not. Ultimately, employees would be unsatisfied with their jobs and result in damages to the company. *See* Christina G. Chi & Dogan Gursoy, *Employee Satisfaction, Customer Satisfaction, and Financial Performance: An Empirical Examination*, 28 INT'L J. HOSP. MGMT. 245, 252 (2009) (concluding that their study shows an indirect relationship between employee satisfaction and the company's financial performance mediated by customer satisfaction).

[108] Gattari, *supra* note 8, at 18 ("Many people fail to realize, however, that the determination of inventorship is substantially different [from] the determination of authorship for a publication. Inventorship is a legal, not a collegial or team-building, matter.").

[109] *Id*.

[110] *Burroughs Wellcome Co.*, 40 F.3d at 1227-28 (stating that conception is most important in inventorship and is thus how inventorship is determined); Chen v. Taiwan Sunpan Biotech Dev. Co., 2013 SIFAYUAN FAXUE JIANSUO XITONG (Intell. Prop. Ct. Jan. 25, 2013); Rules for the Implementation of the Patent Law of the People's Republic of China Rule 13 (2010) ("Any person who, during the course of accomplishing the invention-creation, is responsible only for organisational work, or

Our concerns do not end here. The aforementioned reasons do not fully explain why the patents owned by the US, Taiwanese, and Chinese companies have different vulnerabilities to inventorship challenges.[111] Other factors must be in play and we propose that they are the differences in legal landscapes, which we elaborate in Section A, and the differences in cultural dimensions, which we discuss in Section B.

A. Differences in Legal Landscapes

In this Section, we focus on the essential differences between the laws and rules governing inventorship in the US, Taiwan, and China. We argue that these differences explain the conclusions of our empirical study.

who offers facilities for making use of material and technical means, or who takes part in other auxiliary functions, *shall not* be considered as inventor or creator." (emphasis added)); *see also* Gattari, *supra* note 8, at 16-17 (stating who is qualified as an inventor and who is not).

[111] *See supra* Part II.C.

1. Person naturally vested with patent rights

The US,[112] Taiwanese,[113] and Chinese law[114] all emphasize having conceptualization as one of the requirements of inventorship. Additionally, they all stipulate that every inventor must be listed in the patent.[115] However, an essential difference among the laws and rules is with whom the patent rights are naturally vested.

Under Taiwanese law, for example, unless an agreement exists stating otherwise, both the patent rights and the right to apply for a patent are vested with the employer if the invention is made by an employee during her performance of duties.[116] As such, employers may lack incentives to figure out who the real inventors are if they only want to apply for patents in Taiwan or China. They

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[112] Hybritech, Inc. v. Monoclonal Antibodies, Inc., 802 F.2d 1367, 1376 (Fed. Cir. 1986); *see* 35 U.S.C. § 201(g) (stating the definition of "made" when used in relation to any invention means that "the conception or first actual reduction to practice of such invention.").

[113] Tsai v. Nat'l Taiwan University, 2018 SIFAYUAN FAXUE JIANSUO XITONG (Intell. Prop. Ct. Mar. 20, 2018) (Taiwan) (stating that an inventor is the person who has actually researched the invention and has made a substantial contribution to the technical features of the claimed invention. The so-called 'substantial contribution' refers to the spiritual creation carried out in order to complete an invention. A person making 'substantial contribution' has to conceptualize the problem to be solved or the effect achieved by the invention, and then propose specific and technical means that can achieve the conception…in principle, research and development personnel are usually such people. This, of course, does not include people who only propose ideas or verify experiments.); *see also* Chen v. Taiwan Sunpan Biotech Dev. Co., 2013 SIFAYUAN FAXUE JIANSUO XITONG (Intell. Prop. Ct. Jan. 25, 2013) (Taiwan).

[114] Rules for the Implementation of the Patent Law of the People's Republic of China Rule 13 (2010).

[115] 35 U.S.C. § 115(a); Patent Act art. 7, para. 4 (2019) (Taiwan); Patent Law of the People's Republic of China art. 17 (2008).

[116] Patent Act art. 7, para. 1 (2019) (Taiwan).

may think that, regardless of which employee is the true inventor, the rights are already theirs.

However, under US law the patent rights, including the right to apply for a patent, are naturally vested with the inventor.[117] These rights can only be transferred to another, including an employer, through a written assignment.[118]

Although this difference may seem trivial, it can lead to very different results. Studies have found that countries implementing opting-out organ donation policies have a higher organ donation rate compared to countries implementing opt-in policies[119] even when variables such as

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[117] 35 U.S.C. § 101; 35 U.S.C. § 111(a)(1) ("An application for patent shall be made, or authorized to be made, by the inventor…"); Joseph D. Matal, *A Guide to the Legislative History of the America Invents Act: Part I of II*, 21 FED. CIR. B.J. 435, 451-52 (2012) ("Some may think that, because § 102(f) has been repealed, there is no longer any legal requirement that a patent for an invention be obtained by the inventor. Not so. Both the Constitution and § 101 still specify that a patent may only be obtained by the person who engages in the act of inventing. Indeed, even commentary on the 1952 Patent Act noted, with respect to § 102(f), that '[t]his paragraph is perhaps unnecessary since under § 101 it is "Whoever invents …" who may obtain a patent and later sections provide that the inventor must apply for the patent and execute an oath of inventorship.'"); 8 CHISUM ON PATENTS § 22.03 (2020); *see also* Yang Chih-Jie (楊智傑), Meiguo Famingren Rending Chi Tsolei Famingren Chih Hoguo (美國發明人認定及錯列發明人之後果) [Determining Inventorship and the Consequences of Inventorship Misrepresentation in US Patents—Case Study and a Comparison with Taiwanese Law], 38 TAIWAN PAT. ATT'YS J. 27, 48 (2019) (stating that Taiwanese patent law is different from US patent law: US patent law stipulates that only the inventor can apply for a patent, but the patent right can be assigned at the time of application. In contrast, the right to apply for a patent under Taiwanese patent law can be transferred before filing the patent application, and therefore does not require the inventor to be the applicant).

[118] 35 U.S.C. § 261.

[119] *E.g.*, Michael Gnant et al., *The Impact of the Presumed Consent Law and a Decentralized Organ Procurement System on Organ Donation: Quadruplication in the Number of Organ Donors*, 23 TRANSPLANTATION PROC. 2685, 2685-86 (1991); Leo Roels & Johan De

transplant infrastructure, economic and educational status, and religion are controlled.[120] Researchers argue that part of the reason why such a marked difference exists is because of the costs involved in these additional "trivial" steps.[121] Analogously, we believe the trivial or almost-ignorable administrative costs[122] under the US patent system (i.e., that employers have to ensure the rights are rightfully transferred from the *real* inventor) also remind most participants to verify the true inventorship and avoid unintentional misrepresentation.

Moreover, the stakes are high if the process goes wrong in the US. If employers do not make sure that the listed inventors are the real inventors (so they do have the patent rights to transfer) and that these listed inventors have properly transferred their rights, all the efforts could be in vain.[123]

Meester, *The Relative Impact of Presumed-Consent Legislation on Thoracic Organ Donation in the Eurotransplant Area*, 6 J. TRANSPLANT COORDINATION 174, 174-77 (1996) ; Lee Shepherd et al., *An International Comparison of Deceased and Living organ Donation/Transplant Rates in Opt-In and Opt-Out Systems: A Panel Study*, 12 BMC MED. art. no. 131 (2014).

[120] Ronald W. Gimbel et. al, *Presumed Consent and other Predictors of Cadaveric Organ Donation in Europe*, 13 PROGRESS IN TRANSPLANTATION 17, 17-23 (2003).

[121] Eric J. Johnson & Daniel Goldstein, *Do Defaults Save Lives?*, 302 SCIENCE 1338, 1339 (2003).

[122] It may take some time to draft the patent assignment agreement at first, but once the agreement is standardized, asking an employee to sign an agreement upon employment should be rather simple and quick.

[123] *See* Advanced Video Techs. LLC, v. HTC Corp., 879 F.3d 1314, 1317-18 (Fed. Cir. 2018) (dismissing the case because one of the co-inventor's patent rights was not properly transferred because she only signed an agreement upon her employment stating that she *will sign* an agreement that will transfer her patent rights to her employer if she created an invention). *Cf.* Bd. of Trs. of the Leland Stanford Junior Univ. v. Roche Molecular Sys. Inc., 563 U.S. 776, 780-87 (2011) (arising out of a dispute largely due to Stanford not securing a tight patent assignment agreement with its researchers).

Consequently, with the high stakes involved, employers will exercise more caution in determining who the real inventors are when applying for US patents, thus resulting in a lower possibility of inventorship misrepresentation.

2. Duty to disclose material information

Another crucial difference between the laws of these countries is the duty to disclose material information. Under the US Code of Federal Regulations, each individual associated with the patent has "the duty to disclose to the [US Patent and Trademark] Office all information known to that individual to be material to patentability,"[124] including inventorship.[125] However, neither the Taiwanese,[126] nor the

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[124] 37 C.F.R. § 1.56.

[125] MANUAL OF PATENT EXAMINING PROCEDURE § 2001.04 (9th ed. 10th rev., 2014) [hereinafter "MPEP"]. *See also* under the Pre-AIA law, Kriss, *supra* note 8, at n.18 ("a person cannot receive a patent on something he did not invent under § 102(f) in Title 35 of the United States Code, so information relating to inventorship may result in a § 102 bar. 35 U.S.C. § 102(f) (2000). Because inventorship implicates § 102, it is certainly material to patentability."). Similar reasoning applies after the enactment of the AIA; under the AIA, an examiner will bar patent application under 35 U.S.C. § 101. Since the correct inventorship is indispensable to a proper patent, inventorship information is material. 2 ETHAN HORWITZ ET AL., HORWITZ ON PATENT LITIGATION § 10.13[3][f] (2020).

[126] *See* Yang Chih-Jie (楊智傑), Meiguo Shenching Chuanlee Shufu Chenshih Yeewu Taiwan Chuanlee Wutze Shuchou Daochih Chuanlee Shencha Pingchih Deelo (美國申請專利須負誠實義務台灣專利法無此需求導致專利審查品質低落) [U.S. Requires Patent Applicants to Disclose Material Information While Taiwan Does Not, Resulting in Poor Examination Quality of Taiwanese Patents] N. AM. INTELL. PROP. CORP. (Jan. 21, 2014), http://www.naipo.com/Portals/1/web_tw/Knowledge_Center/Infringement_Case/publish-78.htm [https://perma.cc/JM25-7MH2] (stating that Taiwanese Patent Law does not require patent applicants to disclose material information). *See*

Chinese Patent Act,[127] including their related rules, stipulate a duty to disclose material information to their respective patent office. The lack of these disclosure rules can lead to employers only applying for Taiwanese or Chinese patents not taking the proper listing of inventors seriously as they may not know this constitutes "material information." This inattentive approach results in a higher possibility of inventorship misrepresentation in their patents, as reflected in our empirical study.

3. Civil Procedures

Another contributing factor to the higher rates of inventorship misrepresentation is the difference in evidentiary procedure and, in particular, the discovery procedure. The discovery procedure under US law makes companies more wary of who they list as their patents' inventors, because during discovery, internal information, including emails, communications, private documents, and company databases can all come under scrutiny.[128] When companies are aware that the defendants can have access to this information during future litigation, they will do the best they can to make their patents unchallengeable, leaving them an incentive to not misrepresent their patents' inventorships.[129]

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generally Patent Act (2019) (Taiwan); Enforcement Rules of the Patent Act (2020) (Taiwan).

[127] *See generally* Rules for the Implementation of the Patent Law of the People's Republic of China (2010).

[128] FED. R. CIV. P. 26(a)(1)(A)(ii) (stating that the disclosing party shall provide to the other parties "a copy—or a description by category and location—of all documents, electronically stored information, and tangible things that the disclosing party has in its possession, custody, or control and may use to support its claims or defenses…").

[129] Under US law, misrepresenting inventorship with deceptive intent is an inequitable conduct and can render a patent unenforceable. 2 HORWITZ, *supra* note 125, § 10.13 (2020). This defense is often used in patent litigation. *See id*.

But under Taiwanese law, for example, the evidential procedure is markedly different and arguably less scrutinizing than that of the US.[130] In particular, there is no discovery procedure under Taiwanese law.[131] The only way to obtain evidence from an adverse party is through the motion for pre-action perpetuation of evidence, a motion courts do not grant easily.[132] This difference can also result in companies that only apply for Taiwanese patents to not be cautious about their acts, consequently leading to incidences of inventorship misrepresentations.

4. Legal consequences

Perhaps the most critical difference between the laws and rules of these countries is the legal consequence of purposefully misrepresenting inventorship.

Under US law, misrepresenting inventorship information with deceptive intent is treated as inequitable

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[130] *See*, Jiang Mengzhen (**江孟貞**) & Lin Weiliang (**林威良**), Chianlun Buei Chude Chuanlee Chinchuan Chanping Zhe Chinhai Chuchen Wentee (**淺論不易取得專利侵權**產品之侵害舉證問題) [A Discussion on the Difficulty of Obtaining Patent Infringing Products], Chuanguo Lushih (**全國律師**) [TAIWAN BAR ASS'N], no. 10, 2017, at 23-26 (proposing that because of the difficulties in Taiwanese civil procedure, one should, if possible, utilize the discovery procedure in the US to obtain evidence).

[131] **陳宜誠** [Chen Yi-Chen], ***我國智慧財****產訴訟法制亟需改革 [The Nation's Intellectual Property Litigation System Is in Urgent Need of Revolution],* N. AM. INTELL. PROP. CORP. (Jan. 7, 2014), http://www.naipo.com/Portals/1/web_tw/Knowledge_Center/Industry_Economy/publish-179.htm [https://perma.cc/K94U-LST2].

[132] *Id.* (deciding whether to grant a motion for pre-action perpetuation of evidence, involves the "Intellectual Property Court consider[ing] the plaintiff's (patentee's) possibility of winning the case and the impact on the defendant's business. The court often believes that the patent holder is using this motion to harass the alleged infringer, resulting in extremely low approval rates of the motion.").

conduct,[133] which can render the patent unenforceable.[134] One of the primary purposes of a patent is its right to exclude others.[135] Having a patent deemed unenforceable is the last thing an employer wants. Therefore, employers planning to apply for US patents have an incentive to not purposefully misrepresent inventorship.

However, under Taiwanese[136] and Chinese patent law,[137] inventorship misrepresentation is not grounds for patent invalidation, nor is the patent's enforceability dependent on correct inventorship. The absence of these statutes not only reflects Taiwanese and Chinese patent laws' lack of emphasis on the correctness of inventorship, but also impacts the degree of attention employers spend on the correctness of inventorship.[138] If no legal consequences

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[133] *See* PerSeptive Biosystems, Inc. v. Pharmacia Biotech, Inc., 225 F.3d 1315, 1318 (Fed. Cir. 2000) ("Inequitable conduct includes affirmative misrepresentations of a material fact, failure to disclose material information, or submission of false material information, coupled with an intent to deceive.").

[134] Frank's Casing Crew & Rental Tools, Inc., v. PMR Techs., Ltd., 292 F.3d 1363, 1376-77 (Fed. Cir. 2002) (stating that when there is deceptive intent in naming the inventors, even if the correct inventorship can be established, the patent would still be unenforceable and that "a patent may not be enforced even by 'innocent' co-inventors." (citing Stark v. Advanced Magnetics, Inc., 119 F.3d 1551, 1556 (Fed. Cir. 1997))); Kingsdown Med. Consultants, Ltd. v. Hollister, Inc., 863 F.2d 867, 877 (Fed. Cir. 1988); 2 HORWITZ, *supra* note 125, § 10.13[8] ("A finding of the inequitable conduct renders the entire patent unenforceable.") (citing Therasense, Inc. v. Boston, Dickerson & Co., 649 F.3d 1276, 1288 (Fed. Cir. 2011)).

[135] 35 U.S.C. § 154(a)(1)-(2); Patent Act art. 58, para. 1 (2019) (Taiwan); Patent Law of the People's Republic of China art. 11 (2008).

[136] Patent Act art. 71 (2019) (Taiwan).

[137] *See* Rules for the Implementation of the Patent Law of the People's Republic of China Rule 65, para. 2 (2010).

[138] Yang, *supra* note 126, at 57 (stating that, in contrast, in Taiwan the Patent Act does not emphasize the importance of proper inventorship listing and arguing that because inventorship misrepresentation has no

arise from misrepresenting inventors, employers would tend to list inventors according to their best interests—whether it is listing investors or stock-holders of the company,[139] or listing non-inventive contributors for corporate political purposes[140]—instead of according to who the real inventors are.

Notably, misrepresenting inventorship information to the Taiwan Intellectual Property Office (TIPO) with deceptive intent can be deemed a crime subject to the provisions of the Criminal Code of Taiwan, Article 214.[141] But, the deterring effects of this crime still do not match the deterring effect that patent invalidation offers. Indeed, there has only been one criminal case[142] involving inventorship misrepresentation,[143] and the possibility of inventorship misrepresentation existing is still arguably high in

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serious consequences, in practice, some small or medium-sized corporations tend only to list the employer as the inventor).

[139] Mark Malek, *The Effect of Listing an Improper Inventor on a Patent Application*, WIDERMAN MALEK (June 10, 2013), https://www.legalteamusa.net/improper-inventor-on-a-patent-application/ [https://perma.cc/3WME-L8C5].

[140] Gattari, *supra* note 8, at 17-18.

[141] Criminal Code of Republic of China ch. 15, art. 214 (2019) (Taiwan) ("A person who causes a public official to make in a public document an entry which such a person knows to be false and causes injury to the public or another shall be sentenced to imprisonment for not more than three years, short-term imprisonment, or a fine of not more than . . . [15,000 yuan].").

[142] Taichung v. Hu, 2019 SIFAYUAN FAXUE JIANSUO XITONG (Taichung Dist. Ct. Aug. 13, 2019).

[143] Interestingly, it has been investigated in previous literature in Taiwan, that Chapter 15 of Criminal Code aims to punish *not* mainly direct private interests, *e.g.* creditor's right, but rather, the "public trust" or "(lowered) transaction cost" offered by authentic documents. In other words, it is the "signaling function" that is in concern for the law here. *See* Wu Yao-Zhong (吳耀宗), Weizao Wenshuhzue Baohu Fayee Chi Yanchiu (偽造文書罪保護法益之研究) [Research on the Legal Protected Interests of Forgery], 128 TAIWAN JURIST 120, 120-41 (2006).

Taiwanese patents owned by Taiwanese companies.[144] The problem lies with companies not having proper incentives to verify and disclose this information.

Employees are the ones most likely to know that inventorship misrepresentation exists.[145] But gifts blind the eyes. Employees will have financial reasons to keep their mouths shut.[146] Even if they do not have these gains, employees usually have no desire to risk their jobs by speaking out about a problem to their employers,[147] let alone doing so through filing a criminal complaint.

Nevertheless, even if employers do get convicted, the legal costs are arguably not significant. Under Taiwan's Criminal Code, misrepresenting inventors with deceptive intent can only lead to "imprisonment for not more than three years, short-term imprisonment, or a fine of not more than [15,000 NTD, or 500 USD.]"[148] The patent supposedly would still be intact if the inventorship errors are corrected.[149] But if a patent is deemed unenforceable due to

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[144] *See supra* Part II.C.

[145] Employees have inside information, and inventors usually know who contributed to the creation of the invention.

[146] For example, royalty payments or bonuses.

[147] *See* Frances J. Milliken et al., *An Exploratory Study of Employee Silence: Issues Employees Don't Communicate Upward and Why*, 40 J. MGMT. STUD. 1453, 1453 (2003) (quoting the words of a male respondent, "I raised a concern about some policies and I was told to shut up and that I was becoming a troublemaker. I would have pursued [the issue] further but presently I can't afford to risk my job. This has made me go into a detached mode, making me a 'yes man'").

[148] Criminal Code of Republic of China art. 214 (2019) (Taiwan).

[149] The consequences of inventorship error after patent issuance are not specifically stated in the provisions of the Patent Act (Taiwan) nor in its interpretation. *See* Patent Act art. 71 (2019) (Taiwan); Chuanleefa Chutiao Shihyee (專利法逐條釋義) [Interpretation of the Patent Act] 227 (2014) (Taiwan) (The correction of inventorship errors is not implied in its definition of "errors." An inventorship error or misrepresentation is arguably not a type of error that "can be obviously noticed as incorrect by a person having ordinary skill in the field of the

inventorship misrepresentation in the US, it is irreversible, and no remedies exist to revive the patent.[150]

More importantly, alleged patent infringers would also have little interest in disclosing inventorship misrepresentation information, even if they managed to obtain proof of such conduct. For unlike under the provisions of US law, proving the presence of inventorship misrepresentation under Taiwanese law provides no benefit to the alleged infringers, as it does not affect the enforceability or the validity of the allegedly infringed patent.[151]

B. Differences in Cultural Dimensions

The listing of inventors can be seen as a corporate decision[152] and can thus be subject to an organization's culture.[153] According to Hofstede's influential study, there are four cultural dimensions that influence organizational

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invention without relying on external references," nor is it an ambiguous statement "whose inherent meaning can be clearly understood by a person having ordinary skill in the field of the invention by referring to the specifications, claims, or drawings." Although such clarification "would help others better understand the content of the disclosed invention," changing the inventorship would, of course, "affect the interpretation of the patent's substantive content.").

[150] *See* Hoffman-La Roche Inc. v. Lemmon Co., 906 F.2d 684, 688-89 (Fed. Cir. 1990); 2 HORWITZ, *supra* note 125, § 10.13[9] (stating that that once a patent is deemed unenforceable under inequitable conduct, there is no remedy and it is irreversible).

[151] *Compare* 2 HORWITZ, *supra* note 125, § 10.13[9], *with* Patent Act art. 71 (2019) (Taiwan).

[152] Whom to list and to not list as an inventor is, by nature, a decision, and as discussed previously, this decision can be subject to corporate politics. Gattari, *supra* note 8, at 17-18; *see also supra* Part IV.

[153] *See generally* Kit-Fai Pun et al., *A Review of the Chinese Cultural Influences on Chinese Enterprise Management*, 2 INT'L J. MGMT. REV. 325, 326 (2000) (reviewing how Chinese cultural influences on Chinese enterprise decisions and management).

culture.[154] We argue that two of these cultural dimensions—power distance, and individualism/collectivism—influence a company's tendency to misrepresent its inventors.

When comparing the two cultural dimensions in this Section, we split the companies according to their geographical regions: the East and the West. We understand that by doing so, there is a certain degree of generalization. We are also clearly aware that companies have their differences in terms of organizational culture. However, this dichotomization is a compromise for the sake of our discussion and argument.

1. Power distance

Power distance "refers to cultural conceptions regarding the degree of power which authorities should have over subordinates,"[155] and can vary across culture.[156] In the East, companies tend to have higher power distances.[157] In these companies, employees are more likely to have their place in a hierarchy without the need for further justification,[158] and those that are in higher positions are to

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[154] The four dimensions are power distance, uncertainty avoidance, individualism/collectivism, and masculinity/femininity. GEERT HOFSTEDE, CULTURE'S CONSEQUENCES: INTERNATIONAL DIFFERENCES IN WORK RELATED VALUES (1980).

[155] Cynthia Lee et al., *Power-Distance, Gender, and Organizational Justice*, 26 J. MGMT 685, 687 (2000); *see also* HOFSTEDE, *supra* note 154.

[156] *See* Pun et al., *supra* note 153, at 329 tbl.1; *see also* Dickon Stone, *East vs. West: 10 Corporate Cultural Differences All Interns Abroad Should Know*, GOABROAD.COM (Jan. 8, 2019), https://www.goabroad.com/articles/intern-abroad/east-vs-west-corporate-cultural-differences-for-interns-abroad [https://perma.cc/UL96-84UJ].

[157] *See* Pun et al., *supra* note 153, at 332.

[158] *See* Stephen Bochner & Beryl Hesketh, *Power Distance, Individual/Collectivism, and Job-Related Attitudes in a Culturally*

be highly respected.[159] In these companies, orders and authorities are not easily questioned,[160] and when subordinates have achievements, they are expected to acknowledge their supervisors' guidance, even if the existence of such guidance is sometimes doubtful.[161]

Thus, in Eastern companies, when non-inventive, contributing supervisors ask to be listed as inventors, subordinates usually do not disobey their orders. Even if subordinates are aware of their mistakes, to save the "face" of their supervisors,[162] they tend not to call their supervisors out on them.[163] Furthermore, subordinates in Eastern companies do not necessarily disagree on listing non-inventive contributing supervisors as co-inventors because they may see the listing as a means to acknowledge their supervisors.[164]

Diverse Work Group, 25 J. CROSS-CULTURAL PSYCH. 233, 235-36 (1994) (stating that in workplaces with higher power distances, subordinates are more willing to accept hierarchical inequality).

[159] *See* Stone, *supra* note 156.

[160] *See* Bochner & Hesketh, *supra* note 158, at 236 (stating that individuals from countries high on power distance tend to be more submissive in the presence of a manager and are afraid of, or unwilling to, disagree with a superior).

[161] *Cf.* Huang Chen-Chieh (黃政傑), Yo Guochih Chouwen Kan Wuoguo Gaochiao Shueshu Chentzuh (由國際論文醜聞看我國高教學術政策) [A Discussion of Taiwan's Higher Education Teaching Policy from the International Paper Scandal], 3 TAIWAN EDUC. REV. MONTHLY 42, 42-45 (discussing that students in Taiwan are expected to list their advisors despite their little contribution to the academic research paper).

[162] Stone, *supra* note 156. *Cf.* Hsien Chin Hu, *The Chinese Concepts of "Face"*, 46 AM. ANTHROPOLOGIST (N.S.) 45, 45 (1944) (explaining the concept of "face" in Chinese-influenced cultures).

[163] Stone, *supra* note 156.

[164] *See* Bochner & Hesketh, *supra* note 158, at 236. *Cf.* Drone Techs. Inc. v. Parrot S.A., 838 F.3d 1283 (Fed. Cir. 2016) (arising out of a dispute where the Taiwanese husband allegedly acknowledged his wife's support by naming her as the inventor of the patent in dispute).

In Western companies, power distances tend to be relatively lower.[165] Pointing out the mistakes of supervisors in workplaces is a norm,[166] and supervisors usually do not take criticism too personally compared to their Eastern counterparts.[167]

Thus, if a supervisor in a Western company asks to be listed as an inventor despite having no inventive contributions, subordinates may immediately question the appropriateness of this request. Consequently, these differences resulting from different power distances between the companies affect their tendencies to misrepresent management-level employees as patent inventors.

2. Individualism/Collectivism

Individualism/collectivism refers to "the form of the relationship between the individual and the collectivity in a given society."[168] In Eastern companies, collective interests often consume the interests of individuals.[169] Harmony among co-workers is rather emphasized, and company achievements are preferably viewed as a collective effort rather than an individual accomplishment.[170] Hence, employers in Eastern companies are more likely to promote teamwork and evade conflict by listing everyone on the team as inventors, even though not everyone has contributed to the conceptualization of the invention.

In Western companies, individualism is emphasized more, and employees tend to proactively claim their credits.[171] Calling out on another's mistakes or wrongdoing, such as free-riding on an achievement of oneself, often leads

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[165] *See* Pun et al., *supra* note 153, at 332 tbl.2.
[166] Stone, *supra* note 156.
[167] *See id*.
[168] Bochner & Hesketh*, supra* note 158, at 236
[169] *Id*. at 236-37; Stone, *supra* note 156.
[170] Bochner & Hesketh, *supra* note 158, at 236-37.
[171] *See Id.*

to conflict. But since people in Western companies are relatively less afraid of conflicts and have a stronger emphasis on individuality,[172] employees in the Western companies may be less tolerant of inventorship misrepresentation.

V. SOLUTIONS TO INVENTORSHIP MISREPRESENTATION

To cut down on the undesirable social costs caused by inventorship misrepresentation, we propose two solutions: imposing legal costs, as discussed in Section A, and increasing inventive contribution transparency, as covered in Section B. Note that since there are already legal costs imposed on inventorship misrepresentation under US law,[173] the solution proposed in Section A is thus directed more towards Taiwanese and Chinese law. As for the proposal raised in Section B, it can be directed towards all three countries, since no countries have implemented similar requirements so far.

A. Imposing Legal Costs

The most direct way to reduce the incidence of inventorship misrepresentation in Taiwanese and Chinese patents is to impose legal costs, namely by making patents invalid or unenforceable. This solution corresponds to the causes mentioned in Part IV.A.3. If misrepresenting inventors results in serious legal consequences to the patent, employers will spend more effort on finding out whom the real inventors are.[174] Moreover, alleged infringers will then have an incentive to scrutinize the correctness of inventorship, as proof of inventorship misrepresentation can

[172] Stone, *supra* note 156.
[173] 2 HORWITZ, *supra* note 125, § 10.13[3][f].
[174] *See supra* Part IV.A. 3.

work as a defense in patent litigation.[175] With these legal costs, the proper listing of inventors will be emphasized more by employers and an employers' tendency to list inventors only in accord with their interests will be reduced

B. Increasing Inventive Contribution Transparency

The second solution is the increase of inventive information transparency. We propose that this can be achieved by requiring patent applicants to list not only all co-inventors, but also the co-inventor's respective *inventive* contributions. Preferably, we propose the mandatory disclosure of which claims are conceptualized by which co-inventor. This requirement is similar to the listing of contributions of each co-author in some academic publications.[176]

Admittedly, the listing of contribution is still, by nature, a self-disclosure. Thus, the duty to disclose this

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[175] *Cf.* 35 U.S.C. § 282. ("The following shall be defenses in any action involving the validity or infringement of a patent and shall be pleaded: (1) Noninfringement, absence of liability for infringement or unenforceability. . . ").

[176] *E.g.*, Megan K. O'Brien & Alaa A. Ahmed, *Asymmetric Valuation of Gains and Losses in Effort-Based Decision Making*, 14 PLOS ONE 10 e0223268 (2019) (available at https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6793877) (where the respective contributions of the authors are detailed as "Megan K. O'Brien, Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Validation, Visualization, Writing – original draft, Writing – review & editing* and Alaa A. Ahmed, Conceptualization, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – review & editing"); *but see* Gattari, *supra* note 8, at 18 (stating that "the determination of inventorship is substantially different than the determination of authorship for a publication."). Nevertheless, what we argue here is the analogy of disclosing specific contribution. Whether such contribution qualifies as inventive is another issue.

information needs to be established in order to achieve optimal results. However, there are still quite a few benefits associated with this requirement.

First, patent applicants need to ensure that each listed inventor has at least contributed to a part of the invention. This requirement reminds patent applicants to not misrepresent their inventors and eliminates the possibility of inventorship misrepresentation due to ignorance. [177]

Second, if patent applicants do list non-inventive contributions, either out of ignorance or out of other interests, patent examiners or patent agents and attorneys will still have the chance to point this out.[178] Alternatively, statutes requiring the examination of whether the listed contributions are inventive could be established.[179] Moreover, the statutes can further stipulate that the listing of non-inventive contributions is grounds for patent rejection. Of course, the patent examiner would still need to rely on the

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[177] *Cf.* TERI MOSER WOO & MARYLOU V ROBINSON, PHARMACOTHERAPEUTICS FOR ADVANCED PRACTICE NURSE PRESCRIBERS 1333 (4th ed. 2015) (stating that reminding patients can increase patient compliance, which can be analogized to reminding patent applicants the importance of listing the proper inventors may increase the patent applicant's compliance to the law and rules).

[178] Note that this does not prevent inventors from being left off of the patent.

[179] In the U.S., inventorship is presumed to be correct. MPEP § 2157 (9th ed. 10th rev., 2014). In Taiwan, inventorship only undergoes formal examination. CHUANLEEFA CHUTIAO SHIHYEE (專利法逐條釋義) [INTERPRETATION OF THE PATENT ACT] ch. 1, at 15 (2014) (stating that the Taiwan Intellectual Property Office (TIPO) will only conduct formal examinations, as opposed to substantial examinations, on whether the applicant has the right to apply, that is, merely relying on the inventor[ship] information provided by the applicant. The TIPO cannot determine—as this issue is a matter of law—the correctness of inventorship/applicant. If interested parties have doubts or believe that their rights and interests are infringed, they should resolve their issues through judicial relief procedures). In China, the patent office does not examine whether the named inventor has substantially contributed to the invention. Guidelines for Patent Examination § 4.1.2 (2010) (China).

information provided by the patent applicant. Nevertheless, as mentioned before, patent applicants that list people who have non-inventive contributions can then be identified. The downside of this proposal, however, is that it would make patent examiners bear a heavier burden than they already do.[180]

Third, as a side-benefit, the listing of contributions also increases the indicating strength of patents as job credentials. The increase in strength, we argue, is not only due to the lower incidences of misrepresented inventors,[181] but also due to the more detailed information provided by the increased transparency of inventive contributions. By matching an inventor to the specific claims she contributed, employers can learn more about the inventor's abilities.

VI. CONCLUSION

In this article, we demonstrated a more widespread existence of inventorship misrepresentation through indirect empirical evidence. In particular, we argue that the Taiwanese and Chinese patents owned by the Taiwanese and Chinese healthcare companies are more vulnerable to inventorship challenges compared to the US patents owned by their US counterparts. This conclusion is based on statistical results including, but not limited to, the findings that representative Taiwanese and Chinese companies have more than half of their 100-plus patents invented solely by management-level employees (instead of their R&D personnel), while none of the selected companies in the US have this phenomenon.[182]

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[180] *See* Saurabh Vishnubhakat & Arti K. Rai, *When Biopharma Meets Software: Bioinformatics at the Patent Office,* 29 HARV. J. L. & TECH 205, 211 (2015) (stating that "examiners have a very limited amount of time to examine patents.").
[181] *See supra* Part III.A. 1.
[182] *See supra* Part III.C. 1.a.

Contrary to what most people would think, inventorship misrepresentation is not only a matter between irritated subordinates and supervisors who want to take a slice of the pie. Inventorship misrepresentation results in severe external diseconomies such as the reduction of patent credential values and the reduction of incentives to innovate or to disclose inventions.

Due to the benefits of being listed as an inventor, it is not hard to understand why all those associated with a patent wish to be listed as its inventors. Nevertheless, we argue that additional factors, including the differences in legal landscapes and cultural dimensions, are present as well. These additional factors partially account for why Taiwanese and Chinese companies are more likely to misrepresent their inventors compared to US companies.

To alleviate the negative impacts of inventorship misrepresentation, we propose the imposition of legal costs and the increase of inventive contribution transparency across all three countries. The former can be achieved by tying the enforceability or the validity of the patent to accurate inventorship, while the latter can be attained by mandating the disclosure of each listed inventor's inventive contributions.

Although inventorship misrepresentation has been discussed in previous literature, our article offers additional empirical evidence that this phenomenon is arguably more widespread in some countries and further insight into the external diseconomies it creates – including the dilution of signaling modeled by Nobel laureate Michael Spence. By providing these new observations, we aim to emphasize the importance of listing inventors properly and hope that our article provides a reference for future legal amendments and policy developments in the US, Taiwan, and China.

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